

The Miami Bulletin

General Bulletin of Program Requirements and Course Descriptions

2023-2024



Miami University

General Bulletin of Program Requirements and Course Descriptions 2023-2024

To All New Students

This Bulletin contains the academic requirements that you must meet regarding admission, academic program requirements and graduation requirements, as you enter Miami University in 2023-2024. Miami, however, reserves the right to make changes to its admission and academic program requirements and to graduation requirements. You are encouraged to check regularly with your academic program advisor for up-to-date information.

The information contained in this Bulletin is subject to change. No part of this Bulletin should be construed as a contract or offer to contract. This Bulletin is intended only as an informational guide to Miami University. It is the student's responsibility to know and follow current requirements and procedures at the departmental, divisional, and university levels.

Accreditation and Policies

Miami University is accredited by the Higher Learning Commission, (Higher Learning Commission (HLC) or 800-621-7440 or i (info@hlcommission.org)nfo@hlcommission.org).

Miami University is approved by the State of Ohio Approving Agency for the training of veterans.

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

University Statement Asserting Respect for Human Diversity

Miami University is a community dedicated to intellectual engagement. Our campuses consist of students, faculty, and staff from a variety of backgrounds and cultures. By living, working, studying, and teaching, we bring our unique viewpoints and life experiences together for the benefit of all. This inclusive learning environment, based upon an atmosphere of mutual respect and positive engagement, invites all campus citizens to explore how they think about knowledge, about themselves, and about how they see themselves in relation to others. Our intellectual and social development and daily educational interactions, whether co-curricular or classroom related, are greatly enriched by our acceptance of one another as members of the Miami University community. Through valuing our own diversity, and the diversity of others, we seek to learn from one another, foster a sense of shared experience, and commit to making the university the intellectual home for us all.

We recognize that we must uphold and abide by University policies and procedures protecting individual rights and guiding democratic engagement. Any actions disregarding these policies and procedures, particularly those resulting in discrimination, harassment, or bigoted acts, will be challenged swiftly and collectively.

All who work, live, study, and teach in the Miami community must be committed to these principles of mutual respect and positive engagement that are an integral part of Miami's focus, goals, and mission.

University Statement of Non-Discrimination

Building and maintaining a diverse and inclusive community is an integral part of Miami University's mission and success. The University is committed to equal opportunity, affirmative action, and eliminating discrimination and harassment. Miami University does not discriminate on the basis of age, color, disability, gender identity or expression, genetic information, military status, national origin (ancestry), pregnancy, race, religion, sex/gender, status as a parent or foster parent, sexual orientation or protected veteran status in its application and admission processes, educational programs and activities, facilities, programs or employment practices.

Miami University does not permit and takes action to prevent harassment, discrimination and retaliation. Miami University immediately investigates and if it determines that a hostile environment has been created or discrimination or retaliation has occurred, takes action to prevent its recurrence and remedy its effects.

Requests for reasonable accommodations for disabilities related to employment should be directed to ADAFacultyStaff@miamioh.edu or 513-529-3560. Students with disabilities may contact the Miller Center of Student Disability Services, 304 Shriver Center, 513-529-1541 (V/TTY) and 513-529-8595 (fax). All other requests should be directed to the Section 504 and ADA Coordinator, Ms. Kenya Ash, 111 Hanna House, Miami University Oxford, Ohio 45056, 513-529-7157 or ashkd@miamioh.edu.

Miami University is committed to Web accessibility and strives to provide an accessible Web presence that enables all University community members and visitors full access to information provided on its websites. If you have questions or need assistance, contact Sean Poley, Director of Accessible Technology, 316 Shriver Center, Miami University, Oxford, Ohio 45056, 513-529-1225 or poleysa@miamioh.edu.

Title IX Coordinator- Title IX of the Education Amendments of 1972 is a federal law prohibiting discrimination on the basis of sex in higher education. Sex discrimination includes sexual harassment and sexual violence. The University's Title IX Coordinator is Ms. Kenya Ash, Associate Vice President Equity and Equal Opportunity, 111 Hanna House, Miami University, Oxford, Ohio 45056, 513-529-7157 or ashkd@MiamiOH.edu.

Deputy Title IX Coordinator for Athletics- Ms. Jennifer A. Gilbert, Associate Athletic Director/Senior Woman Administrator is the University's Deputy Title IX Coordinator for matters related to equality of treatment and opportunity in Intercollegiate Athletics. This includes athletic financial assistance, accommodation of interest and abilities and equity of athletic program benefits. Ms. Gilbert may be reached at Millett Assembly Hall, Miami University, Oxford, Ohio 45056, 513-529-3113 or jen.gilbert@MiamiOH.edu (gilberj2@MiamiOH.edu).

Deputy Title IX Coordinator for Students- Dr. Jayme Lewis-Flenaugh, Assistant Dean of Students is the University's Deputy Title IX Coordinator for matters related to student sexual and interpersonal violence. This includes sexual misconduct, sexual violence, and sexual coercion of students. Dr. Jayme Lewis-Flenaugh also serves as the coordinator for matters relating to student domestic violence, dating violence, and stalking. Dr. Jayme Lewis-Flenaugh may be reached at Student Health Services, 104 Warfield Hall, 451 E. Spring Street, Oxford, Ohio 45056, 513-529-1870 or TitleIX@MiamiOH.edu.

Deputy Title IX Coordinator for Regional Students- Dr. Bennyce Hamilton, Regional Director of Diversity, Equity and Inclusion Initiatives, is the University's Deputy Title IX Coordinator for matters related to regional student sexual and interpersonal violence. This includes sexual misconduct, sexual violence, and sexual coercion of students. Dr. Hamilton also serves as the coordinator for matters relating to regional student domestic violence, dating violence, and stalking. Dr. Hamilton may be reached at 114 Rentschler Hall, 1601 University Boulevard, Hamilton, Ohio 45011, or 144 Johnston Hall, 4200 N. University Boulevard, Middletown, Ohio 45042, 513-785-3283 or hamiltbe@miamioh.edu.

Sections 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act Coordinator- Section 504 and the ADA are federal laws prohibiting discrimination on the basis of disability. The University's Section 504 and ADA Coordinator is Ms. Kenya Ash, Associate Vice President Equity and Equal Opportunity, 111 Hanna House, Miami University, Oxford, Ohio 45056, 513-529-7157 or ashkd@MiamiOH.edu.

Smoke- and Tobacco-Free Environment

All Miami University campuses are designated as smoke- and tobacco-free environments. Smoking and tobacco use are prohibited in all Miami University-owned facilities and on the grounds of any University-owned property, including street parking and garages controlled by the University (will include inside personal vehicles parked on University property as of January 1, 2014), and sidewalks that adjoin University property. Refer to Part 4, Chapter 10, of The Student Handbook for the full text of Miami's smoke- and tobacco-free policy.

Table of Contents

General Information	11	English:Literature- Bachelor of Arts	117
About Miami	12	Environmental Earth Science - Bachelor of Science	119
Resources	13	Environmental Science Co-Major	120
Undergraduate and Graduate Majors and Degrees	19	Film Studies Co-major	122
Admission for Undergraduate Students	27	Food Systems and Food Studies Co-Major	122
Transfer Student Admission	30	French- Bachelor of Arts	123
Liberal Education at Miami	37	Geography and Sustainable Development- Bachelor of Arts	124
Perspectives Areas	38	Geology- Bachelor of Science	125
Signature Inquiries	45	German- Bachelor of Arts	126
Knowledge in Action	46	Global and Intercultural Studies Co-Major	126
Other Requirements	52	History- Bachelor of Arts	127
Academic Planning	55	Individualized Studies- Bachelor of Arts	128
Course Registration and Other Regulations	64	International Studies- Bachelor of Arts in International Studies	128
Grades	69	Italian Studies- Bachelor of Arts	132
Fees and Expenses	71	Journalism- Bachelor of Arts	133
Financial Aid, Awards and Scholarships	73	Latin American, Latino/a & Caribbean Studies- Bachelor of Arts	134
Graduate Awards and Other Financial Assistance for Graduate Students	78	Linguistics- Bachelor of Arts	135
Special Opportunities and Programs	81	Mathematics- Bachelor of Arts	137
The College of Arts and Science	88	Mathematics- Bachelor of Science	139
American Studies- Bachelor of Arts	94	Mathematics and Statistics- Bachelor of Science	141
Analytics Co-Major	96	Media and Communication - Bachelor of Arts	143
Anthropology- Bachelor of Arts	97	Medical Laboratory Science- Bachelor of Science	144
Biochemistry- Bachelor of Arts	99	Microbiology- Bachelor of Arts	145
Biochemistry- Bachelor of Science	99	Microbiology- Bachelor of Science	146
Biology- Bachelor of Arts	100	Neuroscience Co-Major	147
Biology- Bachelor of Science	101	Organizational Leadership- Bachelor of Arts	148
Botany- Bachelor of Arts	102	Philosophy- Bachelor of Arts	149
Botany- Bachelor of Science	103	Physics- Bachelor of Science	149
Chemistry- Bachelor of Arts	104	Political Science- Bachelor of Arts	150
Chemistry- Bachelor of Science	105	Premedical and Pre-Health Studies Co-Major	151
Classical Studies- Bachelor of Arts	106	Professional Writing- Bachelor of Arts	152
Critical Race and Ethnic Studies - Bachelor of Arts	107	Psychology- Bachelor of Arts	154
Data Analytics - Bachelor of Arts	108	Public Administration- Bachelor of Arts	156
Data Science and Statistics- Bachelor of Science	110	Public Health- Bachelor of Arts	157
Diplomacy and Global Politics- Bachelor of Arts	112	Quantitative Economics- Bachelor of Science	158
East Asian Languages and Cultures- Bachelor of Arts	113	Religion- Bachelor of Arts	158
Economics- Bachelor of Arts	114	Russian, East European, and Eurasian Studies- Bachelor of Arts	159
Energy Co-Major	115	Social Justice - Bachelor of Arts	160
English:Creative Writing- Bachelor of Arts	116	Sociology- Bachelor of Arts	160

Spanish- Bachelor of Arts	161	Medical Humanities Minor	185
Speech Pathology and Audiology- Bachelor of Science	162	Middle East, Jewish, and Islamic Studies Minor	186
Strategic Communication- Bachelor of Arts	163	Molecular Biology Minor	186
Sustainability Co-Major	164	Naval Science Minor	187
Urban and Regional Planning- Bachelor of Arts	165	Neuroscience Minor	187
Women's, Gender, and Sexuality Studies- Bachelor of Arts	166	Philosophy and Law Minor	188
Zoology- Bachelor of Arts	167	Physics Minor	188
Zoology- Bachelor of Science	167	Political Science Minor	188
Actuarial Science Minor	168	Rhetoric/Writing Minor	189
Aerospace Studies Minor	168	Russian Minor	189
American Studies Minor	169	Social Justice Minor	190
Anthropology Minor	169	Sociology Minor	190
Arabic Minor	170	Spanish Minor	191
Archaeology Minor	170	Statistical Methods Minor	191
Bioinformatics Minor	171	Statistics Minor	192
Chinese Minor	171	Urban and Regional Analysis Minor	192
Classical Studies Minor	172	Women's, Gender, and Sexuality Studies Minor	193
Comparative Religion Minor	172	Geographic Information Science (GIS) Certificate	193
Creative Writing Minor	172	Global Readiness Certificate	194
Criminology Minor	173	Premedical and Pre-Health Studies Certificate	195
Critical Race and Ethnic Studies Minor	174	College of Creative Arts	197
Data Analytics Minor	175	Arts Management and Arts Entrepreneurship - Bachelor of Arts in Arts Management and Arts Entrepreneurship	199
Economics Minor	175	Arts Management Co-Major	200
English Literature Minor	175	Department of Architecture and Interior Design	200
Ethics, Society, and Culture Minor	176	Architecture - Bachelor of Arts in Architecture	202
Film Studies Minor	177	Art and Architecture History - Bachelor of Arts in Art and Architecture History	202
French Minor	177	Interior Design - Bachelor of Fine Arts	203
Geography Minor	178	Department of Art	203
Geology Minor	178	Art and Architecture History - Bachelor of Arts in Art and Architecture History	205
German Minor	179	Art Education- Bachelor of Science in Art with Multi-Age Visual Arts Licensure	206
Gerontology Minor	179	Art Therapy Co-Major	207
Global Health Minor	180	Communication Design- Bachelor of Fine Arts	208
Global Perspectives on Sustainability Minor	180	Fashion Co-Major	209
History Minor	181	Studio Art - Bachelor of Arts in Studio Art	210
Horticulture Minor	182	Studio Art - Ceramics, Metals, Painting, Photography, Printmaking, and Sculpture- Bachelor of Fine Arts	211
Individualized Studies Minor	182	Department of Emerging Technology in Business + Design	213
Italian Minor	182	Emerging Technology in Business and Design - Bachelor of Arts in Emerging Technology in Business and Design	213
Japanese Minor	183	Games + Simulation - Bachelor of Science	216
Journalism Minor	183		
Latin American Latino/a & Caribbean Studies Minor	183		
Linguistics Minor	184		
Mathematics Minor	185		

Department of Music	216	Public Health- Bachelor of Science in Kinesiology, Nutrition, and Health	245
Music- Bachelor of Arts in Music	217	Department of Sport Leadership and Management	245
Music Composition - Bachelor of Music	219	Sport Coaching - Bachelor of Science in Sport Leadership and Management	245
Music Education- Bachelor of Music	220	Sport Communication and Media - Bachelor of Science in Sport Leadership and Management	246
Music Performance- Bachelor of Music	223	Sport Management - Bachelor of Science in Sport Leadership and Management	247
Department of Theatre	224	Department of Teaching, Curriculum, & Educational Inquiry	248
Theatre - Bachelor of Arts in Theatre	224	Chinese Education- Bachelor of Science in Education	249
Creative Arts Minors	225	French Education- Bachelor of Science in Education	250
Architecture and Interior Design Studies Minor	226	German Education- Bachelor of Science in Education	250
Art and Architecture History Minor	227	Latin Education- Bachelor of Science in Education	251
Arts Management Minor	227	Spanish Education- Bachelor of Science in Education	252
Art Therapy Minor	228	Integrated English Language Arts Education- Bachelor of Science in Education	253
Communication Design Minor	229	Integrated Mathematics Education- Bachelor of Science in Education	254
Dance Minor	229	Integrated Science Education - Bachelor of Science in Education	254
Digital Innovation Minor	230	Integrated Social Studies Education- Bachelor of Science in Education	256
Digital Marketing Minor	230	Middle Childhood Education- Bachelor of Science in Education	257
Emerging Technology in Business and Design Minor	230	Primary Education PK-5 - Bachelor of Science in Education	258
Fashion Minor	230	Minors	259
Games + Simulation Minor	231	Child Studies and Youth Development Minor	259
Museums and Society Minor	231	Coaching Minor	259
Music Composition Minor	232	Community-Based Leadership Minor	260
Music in Culture Minor	232	Disability Studies Minor	261
Music Performance Minor	232	Education, Teaching, and Learning Minor	261
Music Theatre Minor	233	Family Relationships Minor	262
Photography Minor	233	Health Behavior Minor	262
Studio Art Minor	234	Nutrition Minor	262
Theatre Arts Minor	234	Primary Special Education Minor with Licensure	263
Urban Design Minor	235	Special Education Minor	263
Esports Management Undergraduate Certificate	236	Sport Analytics Minor	263
College of Education, Health and Society	237	Sport Management Minor	264
Department of Educational Leadership	238	Child Life Specialist Certificate	264
Education Studies - Bachelor of Science in Education Studies	239	Fostering Just Communities Certificate	265
Department of Educational Psychology	240	Healthcare Sales Certificate	265
Inclusive Special Education- Bachelor of Science in Education with Licensure	240	Remote Teaching for K12 Certificate	265
Department of Family Science and Social Work	241		
Social Work- Bachelor of Science in Social Work	241		
Department of Kinesiology, Nutrition, and Health	242		
Kinesiology- Bachelor of Science in Kinesiology, Nutrition, and Health	243		
Nutrition- Bachelor of Science in Kinesiology, Nutrition, and Health	243		

Sport Analytics Certificate	266	Human Capital Management and Leadership- Bachelor of Science in Business	307
Teaching English to Speakers of Other Languages (TESOL) Endorsement Certificate	266	Information and Cybersecurity Management - Bachelor of Science in Business	307
College of Engineering and Computing	267	Marketing- Bachelor of Science in Business	308
Biomedical Engineering- Bachelor of Science in Engineering	269	Real Estate - Bachelor of Science in Business	309
Chemical Engineering- Bachelor of Science in Engineering	270	Supply Chain and Operations Management- Bachelor of Science in Business	309
Computer Engineering- Bachelor of Science in Engineering	272	Accountancy Minor	309
Computer Science - Bachelor of Arts in Computer Science	274	Arts Management Minor	310
Computer Science- Bachelor of Science in Computer Science	276	Business Minor	310
Cybersecurity - Bachelor of Science in Cybersecurity	279	Business Analytics Minor	311
Electrical Engineering- Bachelor of Science in Engineering	280	Climate Accounting and Engineering Minor	312
Engineering Management- Bachelor of Science in Engineering	281	Cybersecurity Management Minor	312
Mechanical Engineering- Bachelor of Science in Engineering	284	Economics Minor	313
Robotics Engineering - Bachelor of Science in Engineering	286	Entrepreneurship Minor	313
Smart Manufacturing Engineering - Bachelor of Science in Engineering	288	Finance Minor	313
Software Engineering- Bachelor of Science in Software Engineering	290	Human Capital Management and Leadership Minor	314
Bioinformatics Minor	292	Information Systems Minor	314
Climate Accounting and Engineering Minor	292	International Business Minor	315
Clinical Engineering Minor	293	Management Minor	316
Computer Science Minor	293	Marketing Minor	316
Electrical Engineering Minor	294	Real Estate Minor	317
Environmental Engineering Minor	294	Supply Chain Management Minor	317
Humanitarian Engineering and Computing Minor	295	Business in the Global Market Certificate	317
Mechanical Engineering Minor	296	Creativity Entrepreneurship Certificate	319
Paper Engineering Minor	296	Cybersecurity Management for Accountancy Certificate	320
Paper Science Minor	297	Deals Certificate	320
Process Control Minor	297	Foundations of Business Analytics Certificate	320
Regulatory Affairs Minor	297	Healthcare Sales Certificate	321
Advanced Manufacturing and Materials Evaluation Certificate	298	Social Entrepreneurship Certificate	321
Leadership Certificate	299	StartUp Entrepreneurship Certificate	321
Farmer School of Business	300	Undergraduate Certificate in Foundations of Analytics	321
Accountancy- Bachelor of Science in Business	303	College of Liberal Arts and Applied Science	322
Analytics Co-Major	304	Applied Biology - Bachelor of Science	323
Business Analytics- Bachelor of Science in Business	305	Communication Studies- Bachelor of Arts in Applied Communication	325
Business-Economics- Bachelor of Science in Business	305	Community Arts and Cultures - Bachelor of Arts	325
Entrepreneurship Co-Major	306	Criminal Justice- Bachelor of Science in Criminal Justice	326
Finance- Bachelor of Science in Business	306	Digital Commerce - Bachelor of Science in Commerce	327
		Engineering Technology- Bachelor of Science in Applied Science	327
		English Studies - Bachelor of Arts	332

Health Communication- Bachelor of Science in Applied Communication	333	Accountancy- Master of Accountancy	361
Health Information Technology- Bachelor of Science in Information Technology	334	Advanced Business Analytics Certificate	362
Hospitality Management - Bachelor of Science in Commerce	335	Advanced Manufacturing and Materials Evaluation Certificate	362
Information Technology- Bachelor of Science in Information Technology	335	Analytics Certificate	363
Integrative Studies- Bachelor of Integrative Studies	337	Architecture- Master of Architecture	363
Liberal Studies- Bachelor of Arts/Bachelor of Science	337	Art, Studio- Master of Fine Arts	366
Nursing- Bachelor of Science in Nursing	338	Athletic Training - Master of Athletic Training	367
Psychological Science- Bachelor of Arts	340	Biological Sciences- Master of Arts in Teaching	368
Sales Management - Bachelor of Science in Commerce	341	Biology- Master of Arts, Master of Arts in Teaching, Master of Science, Doctor of Philosophy, Certificate	369
Small Business Management- Bachelor of Science in Commerce	341	Biomedical Science - Master of Medical Science	371
Computer and Information Technology- Associate in Applied Science	341	Botany- M.A., M.S., Ph.D.	372
Computer Technology- Associate in Applied Science	342	Business Administration- Master of Business Administration	373
Criminal Justice- Associate in Applied Science	343	Business Analytics- Master of Science in Business Analytics	374
Electrical and Computer Engineering Technology- Associate in Applied Science	343	Business Management Certificate	374
Engineering Technology- Associate in Applied Science	344	Cell, Molecular and Structural Biology (CMSB)- M.S., Ph.D.	375
Mechanical Engineering Technology- Associate in Applied Science	345	Chemical and Biomedical Engineering- Master of Science in Chemical and Biomedical Engineering	376
Prekindergarten Education- Associate in Applied Science	345	Chemistry- Master of Science, Doctor of Philosophy	378
General Studies- Associate in Arts	346	Child Life Specialist Certificate	379
Commerce- Associate of Applied Business	346	Clinical Engineering - Master of Science in Clinical Engineering	379
Technical Study- Associate of Technical Study	347	College Teaching Certificate	380
Commerce Minor	347	Computer Science - Master of Computer Science, Master of Science in Computer Science	381
Communication Studies Minor	347	Conservation Biology Certificate	383
Criminal Justice Minor	348	Creative Writing- Master of Fine Arts	384
Cybersecurity Administration Minor	348	Curriculum and Instruction - Master of Education	384
Data Intelligence through Information Technology Minor	348	Ecology, Evolution and Environmental Biology- Doctor of Philosophy	385
Digital Commerce Minor	349	Ecology Certificate	385
English Studies Minor	349	Economics- Master of Arts	385
Forensic Investigation Minor	349	Education- M.A., M.A.T., M.Ed., M.S., Specialist in Education, Ph.D., Ed.D.	386
Hospitality Management Minor	349	Education, Teacher Education- Master of Education, Master of Arts in Teaching	386
Psychological Science Minor	350	Literacy and Language- Master of Education	388
Sales Management Minor	350	Transformative Education- Master of Education	388
Manufacturing Foundations Certificate	350	Foreign Language Education- Master of Arts in Teaching	388
The Graduate School	352	Integrated English Language Arts Education- Master of Arts in Teaching	391
Admission for Graduate Students	354		
Degree and Certificate Requirements	357		
Graduate Fields of Study	361		

Integrated Mathematics Education- Master of Arts in Teaching	393	Reading Endorsement Certificate	423
Integrated Social Studies Education- Master of Arts in Teaching	394	School Psychology- Master of Science, Specialist in Education	424
Science Education Areas- Master of Arts in Teaching	395	Social Work - Master of Social Work	425
Educational Leadership- Master of Education, M.S., Ph.D., Ed.D.	396	Spanish- Master of Arts	426
Electrical and Computer Engineering- Master of Science	398	Special Education- Master of Education	426
English- Master of Arts, M.A. in Teaching, Ph.D.	400	Speech-Language Pathology - Master of Arts, Master of Science	427
Entrepreneurship and Emerging Technology Certificate	401	Sport Analytics Certificate	428
Entrepreneurship and Emerging Technology - Master of Entrepreneurship and Emerging Technology	402	Sport Analytics - Master of Sport Analytics	429
Environmental Science - Master of Environmental Science	402	Sport Leadership and Management - Master of Science in Sport Leadership and Management	429
Esports Management Certificate	404	Sport Management Certificate	430
Esports Management - Master of Esports Management	404	Sport Psychology Certificate	430
French- Master of Arts	405	Statistics - Master of Science in Statistics	430
Geography- Master of Arts	405	Student Affairs in Higher Education- Master of Science	431
Geographic Information Sciences Certificate	406	Teaching English to Speakers of Other Languages (TESOL) Endorsement Graduate Certificate	431
Geology- Master of Arts, Master of Science, Doctor of Philosophy	406	Teaching of Writing Certificate	431
Gerontology- Master of Gerontological Studies, Doctor of Philosophy	406	Women's, Gender, and Sexuality Studies Certificate	431
History- Master of Arts	408	Courses of Instruction	433
Instructional Design and Educational Technology Certificate	409	General Course Information	433
Instructional Design and Technology- Master of Arts, Master of Education	409	Accountancy (ACC)	436
Kinesiology, Nutrition, and Health - Master of Science in Kinesiology, Nutrition, and Health	411	Aerospace Studies (AES)	438
Learning Sciences and Human Development - Master of Education	412	American Culture & English Program (ACE)	439
Management - Master of Science in Management	413	American Studies (AMS)	440
Mathematics- Master of Arts in Teaching, Master of Science	413	Anthropology (ATH)	442
Mechanical Engineering- Master of Science	414	Applied Communication (APC)	446
Mental Health Intervention Graduate Certificate	415	Applied Social Research (ASO)	446
Microbiology- M.S., Ph.D.	415	Arabic (ARB)	447
Music Performance - Master of Music	417	Architecture & Interior Design (ARC)	447
Nursing, Nursing Practice - Master of Science in Nursing, Doctor of Nursing Practice	419	Art (ART)	451
Philosophy- Master of Arts	420	Arts and Science (CAS)	459
Physician Associate Studies - Master of Medical Science	421	Asian/Asian American Studies (AAA)	460
Physics- Master of Science	421	Biological Sciences (BSC)	461
Political Science- Master of Arts	422	Biology (BIO)	462
Psychology- Master of Arts, Doctor of Philosophy	423	Business Analysis (BUS)	472
		Business Legal Studies (BLS)	473
		Chemical, Paper, & Biomedical Engineering (CPB)	474
		Chemistry & Biochemistry (CHM)	478
		Chinese (CHI)	482
		Classics (CLS)	484
		Commerce (CMR)	485

Community Arts (CMA)	488	Italian (ITL)	592
Comparative Media Studies (CMS)	488	Japanese (JPN)	593
Computer and Information Technology (CIT)	488	Journalism (JRN)	594
Computer Science & Software Engineering (CSE)	491	Kinesiology, Nutrition, and Health (KNH)	596
Creative Arts (CCA)	497	Korean (KOR)	602
Criminal Justice Studies (CJS)	498	Latin American Studies (LAS)	603
Critical Race and Ethnic Studies (CRE)	501	Latin Language & Literature (LAT)	604
Cybersecurity (CYB)	504	Liberal Arts & Applied Science (CLA)	604
Disability Studies (DST)	504	Liberal Studies (LST)	604
Economics (ECO)	505	Linguistics (LIN)	605
Educational Leadership (EDL)	508	Luxembourg (LUX)	605
Educational Psychology (EDP)	515	Management (MGT)	606
Education, Health and Society (EHS)	522	Marketing (MKT)	608
Electrical & Computer Engineering (ECE)	522	Mathematics (MTH)	610
Emerging Technology in Business + Design (IMS)	525	Mechanical & Manufacturing Engineering (MME)	615
Engineering & Computing (CEC)	533	Media and Communication (MAC)	620
Engineering Management (EGM)	535	Media, Journalism & Film Studies (MJF)	622
Engineering Technology (ENT)	535	Medical Science (MMS)	623
English (ENG)	538	Microbiology (MBI)	623
English Studies (EGS)	548	Military Science (MSC)	626
Entrepreneurship (ESP)	549	Music (MUS)	627
Environmental Sciences (IES)	552	Naval Science (NSC)	642
Family Science and Social Work (FSW)	556	Nonprofit and Community Studies (NCS)	643
Fashion (FAS)	562	Nursing (NSG)	644
Film Studies (FST)	563	Organizational Leadership (ORG)	649
Finance (FIN)	565	Philosophy (PHL)	650
French (FRE)	567	Physician Associate Studies (PAS)	652
Geography (GEO)	569	Physics (PHY)	657
Geology (GLG)	572	Political Science (POL)	660
German (GER)	575	Portuguese (POR)	666
Gerontology (GTY)	577	Pre-Law Studies (PLW)	666
Global Health Studies (GHS)	580	Premedical Studies (PMD)	666
Global & Intercultural Studies (GIC)	580	Psychological Science (PSS)	667
Graduate School Community (GSC)	581	Psychology (PSY)	667
Greek Language and Literature (GRK)	581	Religion, Comparative (REL)	672
History (HST)	581	Russian (RUS)	674
Honors (HON)	586	Social Justice Studies (SJS)	675
Humanities Center (HUM)	586	Sociology (SOC)	676
Information Systems & Analytics (ISA)	587	Spanish (SPN)	679
Integrative Studies (BIS)	590	Speech Pathology & Audiology (SPA)	682
Interdisciplinary (IDS)	591	Sport Leadership and Management (SLM)	684
International Studies (ITS)	591	Statistics (STA)	689

Strategic Communication (STC)	691
Teaching, Curriculum, & Educational Inquiry (TCE)	693
Theatre (THE)	702
University Studies (UNV)	705
Western Program (WST)	706
Women's, Gender & Sexuality Studies (WGS)	706
Awards, Scholarships, and Prizes	711
Graduate Awards	724
Index	725

General Information

Introduction

The *General Bulletin 2023-2024* is the academic guide for new students at Miami University.

The *Student Handbook* contains the official policies of the University.

This Bulletin contains the requirements that you must meet for graduation as you enter Miami University in 2023-2024. Miami, however, reserves the right to make changes to its programs. It is your responsibility to check regularly with your academic program advisor for up-to-date information. Consult your academic division's advising office for specific information on academic policies and procedures, degree programs, and requirements.

Mission of Miami University

"The Engaged University"

Miami University, a student-centered public university founded in 1809, has built its success through an unwavering commitment to liberal arts undergraduate education and the active engagement of its students in both curricular and co-curricular life. It is deeply committed to student success, builds great student and alumni loyalty, and empowers its students, faculty and staff to become engaged citizens who use their knowledge and skills with integrity and compassion to improve the future of our global society.

Miami provides the opportunities of a major university while offering the personalized attention found in the best small colleges. It values teaching and intense engagement of faculty with students through its teacher-scholar model, by inviting students into the excitement of research and discovery. Miami's faculty are nationally prominent scholars and artists who contribute to Miami, their own disciplines and to society by the creation of new knowledge and art. The University supports students in a highly involved residential experience on the Oxford campus and provides access to students, including those who are time-and-place bound, on its regional campuses. Miami provides a strong foundation in the traditional liberal arts for all students, and it offers nationally recognized majors in arts and sciences, business, education, engineering, and fine arts, as well as select graduate programs of excellence. As an inclusive community, Miami strives to cultivate an environment where diversity and difference are appreciated and respected.

Miami instills in its students intellectual depth and curiosity, the importance of personal values as a measure of character, and a commitment to life-long learning. Miami emphasizes critical thinking and independent thought, an appreciation of diverse views, and a sense of responsibility to our global future.

Miami University Values Statement

Miami University is a scholarly community whose members believe that a liberal education is grounded in qualities of character as well as intellect. We respect the dignity of other persons, the rights and property of others, and the right of others to hold and express disparate beliefs. We believe in honesty, integrity, and the importance of moral conduct. We defend the freedom of inquiry that is the heart

of learning and combine that freedom with the exercise of judgment and the acceptance of personal responsibility.

I Am Miami

For more than 200 years, Miami has strived to create a sense of place that goes well beyond its stunningly beautiful environment. A place where all who come know they are experiencing something special and where all feel welcome. Miami is a place where people can develop a sense of who they are and what they value by working and studying with, listening to and caring for others.

"I Am Miami" is the phrase we use to define the culture to which we aspire and who we are as Miamians.

In 2002, the Miami Board of Trustees endorsed the Values Statement presented above, which that has since inspired an expanded version, that today, is our Code of Love and Honor. Named for our traditional Love and Honor greeting, which, in turn comes from our fight song chorus, "Love and Honor to Miami ... " Our code begins with the words, "I Am Miami," thus uniting Miami tradition and values.

Code of Love and Honor

I Am Miami.

I believe that a liberal education is grounded in qualities of character and intellect.

I stand for honesty, integrity, and the importance of moral conduct.

I respect the dignity, rights, and property of others and their right to hold and express disparate beliefs.

I defend the freedom of inquiry that is the heart of learning.

I exercise good judgment and believe in personal responsibility.

I welcome a diversity of people, ideas, and experiences.

I embrace the spirit, academic rigor, opportunities, and challenges of a Miami Experience, preparing me to make the world a better place.

I demonstrate Love and Honor by supporting my fellow Miamians.

And because I Am Miami,

I act through my words and deeds in ways that reflect these values and beliefs.

With a deep sense of accomplishment and gratitude,

I will Love, Honor, and make proud those who help me earn the joy and privilege of saying,

"To think that in such a place, I led such a life."

Brief History

An act of Congress signed by George Washington in 1792 stipulated that a university be located in the Miami Valley north of the Ohio River. The official act to establish Miami University was passed on February 17, 1809. Miami is the tenth oldest public university in

the nation and its name reflects the history of the tribe that once inhabited the area known as Ohio's Miami Valley.

Delayed by the War of 1812, instruction began in 1824 with a president, two faculty, and 20 students. Enrollment grew rapidly, reaching 250 by 1839.

In the 1830s, William Holmes McGuffey wrote the first of his *Eclectic Readers* while a Miami professor. Among the many talented young students was Benjamin Harrison, who graduated in 1852; he was elected the 23rd president of the United States in 1888.

A few years after the Civil War, with changed conditions and advancing prices, the income of the university became insufficient to support its work. Miami closed in 1873, opening 12 years later when resources had accumulated and the state of Ohio began a policy of appropriating public funds for support.

Coeducation began in 1888; by 1903 there were more than 100 women on campus - one third of the total enrollment. Our first African American student, Nelly Craig, graduated in 1905.

Many other milestones have been reached. The concept of artist-in-residence began here. Beginning in 1835, four national fraternities were founded here, giving Miami a nickname, "Mother of Fraternities." Another nickname is "Cradle of Coaches," referring to the coaching success of so many former players and coaches. Ohio's first intercollegiate football game was played at Miami in 1888 against the University of Cincinnati.

In the beginning, the course of study at Miami was strictly classical. Over the years, new academic divisions were added to meet the changing needs of students and society: education in 1902, business in 1927, fine arts in 1929, graduate programs in 1947, engineering and applied science in 1959, interdisciplinary studies in 1974, and professional studies and applied sciences in 2013.

In 1974, Miami acquired the Western College for Women, a 120-year-old private institution adjoining the Oxford campus.

Miami's Middletown and Hamilton campuses opened in 1966 and 1968, respectively. Also in 1968, Miami opened a European center, now named John E. Dolibois European Campus, in Luxembourg. Miami's Voice of America Learning Center in West Chester opened in 2009.

A number of campus buildings are listed in the National Register of Historic Places, including Elliott, Stoddard, and Peabody halls, and the Western College for Women Historic District. The McGuffey Museum is a National Historic Landmark.

About Miami

Miami is a public university of Ohio. Approximately 16,500 undergraduates and 2,400 graduate students are enrolled at the Oxford campus. Each year about 220 of the undergraduates attend one or two semesters at the John E. Dolibois European campus in Differdange, Luxembourg. Two regional campuses in the nearby cities of Hamilton and Middletown enroll nearly 4,100 additional students.

Miami's Voice of America Learning Center services several hundred undergraduates and graduate students each session in a multipurpose instructional facility that also offers customized training

opportunities for business, industry, school districts, and government agencies.

Academic Divisions and Programs

Miami has seven academic divisions: College of Arts and Science; Farmer School of Business; College of Creative Arts, College of Education, Health and Society; College of Engineering and Computing, College of Liberal Arts and Applied Science, and the Graduate School. Programs leading to associate, bachelor's, master's, Specialist in Education, and doctoral degrees are offered. Major areas, degrees, and certificates are listed beginning later in this section. Graduate certificates are also available.

Location

The main campus of Miami University is in Oxford, Ohio, just 35 miles northwest of Cincinnati and 45 miles southwest of Dayton. Both Cincinnati and Dayton international airports are within an hour's drive. U.S. Route 27 and S.R. 73 are the main highways to Oxford.

Oxford is a classic college town with a population of about 8,000 (excluding students). Uptown, adjacent to campus, are small shops and local eateries.

The university covers more than 2,400 acres in Oxford. Preservation of nature throughout the campus and community coupled with Miami's architectural continuity - modified Georgian design - explains why the campus is regarded as one of the most beautiful in the nation.

University Officers, Deans, and Chairs

Board of Trustees

The Board of Trustees consists of nine voting members, up to six non-voting National Trustees and two student non-voting members. The nine voting members are appointed one each year for nine-year terms by the governor of Ohio, with the advice and consent of the Senate. A term expires on the last day of February of the year listed. National Trustees are appointed by the Board for 3-year terms (maximum two terms). The two student non-voting members are appointed for two-year staggered terms by the governor, with the advice and consent of the Senate. A list of members can be found at miamioh.edu/about-miami/leadership/president/bot/membership/.

President's Executive Cabinet

A list of cabinet members can be found at miamioh.edu/about-miami/leadership/president/pec/.

Academic and Division Deans

A list of deans can be found at miamioh.edu/academic-affairs/about/deans/.

Academic Departments and Chairs

A list of departments and chairs can be found at miamioh.edu/academic-affairs/about/chairs-directors/.

Graduate School

A list of graduate school staff can be found at miamioh.edu/graduate-school/about/staff/.

Graduate Council

The Graduate Council is composed of 13 faculty members elected by the graduate faculty and three graduate students selected by the Graduate Student Association. The council works with administrative officers in establishing policies and procedures affecting graduate education, reviewing new courses and curricula, and maintaining standards for all programs. A list of representatives can be found at miamioh.edu/graduate-school/faculty-staff-resources/grad-council/.

Graduate Program Directors

A list of graduate program directors can be found at miamioh.edu/graduate-school/faculty-staff-resources/grad-program-directors/.

Resources

Center for Student Diversity and Inclusion

2030 Armstrong Student Center, 513-529-6504
<https://www.miamioh.edu/student-life/student-diversity-inclusion/>

Miami University's Center for Student Diversity and Inclusion (CSDI) is responsible for the development and implementation of programs, initiatives, and experiential learning opportunities designed to enhance the personal/professional development, retention, and overall student experience, of under-represented student populations at Miami University. In addition, the CSDI is a center of excellence and is committed to the preparation of students for leadership, experiential learning opportunities, and successful matriculation. In accordance with Miami University's mission, the Center for Student Diversity and Inclusion actively creates an inclusive, welcoming, and affirming environment by providing direct services, support, and resources to students. We foster holistic development through transformational learning opportunities, mentorship, and engagement opportunities that empower students to explore and celebrate their identity, engage in intercultural dialogue, and build leadership skills. The Center embodies a commitment to diversity/multiculturalism as expressed through, but not limited to, ability, age, ethnicity, gender, race, religion, sexual orientation, and socioeconomic differences and advocates for equity in order for all identities to learn, grow, and succeed.

Computer and Information Technology Services

Information Technology Services (IT Services)

IT Help: 513-529-7900 | [MiamiOH.edu/ITChat](https://miamioh.edu/ITChat)
IT Help Self Service: [MiamiOH.edu/KnowIT](https://miamioh.edu/KnowIT)
myMiami web portal: [mymiami.MiamiOH.edu](https://mymiami.miamioh.edu)

IT Services is the central IT organization at Miami, providing tools and services to all Miami students, faculty, and staff. Visit their site at [MiamiOH.edu/IT](https://miamioh.edu/IT).

Technology Support

Students can find technology and do-it-yourself support information via Miami's searchable, self-serve Knowledge Base ([MiamiOH.edu/KnowIT](https://miamioh.edu/KnowIT)). IT Help also provides 24/7 support via phone (513-529-7900)

or chat ([MiamiOH.edu/ITChat](https://miamioh.edu/ITChat)). System status can be checked at [MiamiOH.edu/ITStatus](https://miamioh.edu/ITStatus).

Web-Based Services

myMiami ([mymiami.MiamiOH.edu](https://mymiami.miamioh.edu)), the University's web portal, gives students a convenient springboard for finding links to - register for classes, pay bills, check email, access course materials, view University announcements, and much more. Students are encouraged to set myMiami as their browser's home page. Miami parents and family members also have a dedicated portal to view information their students have shared with them, including grades, financial aid, meal plan info, and more (<https://www.miamioh.edu/familyinfo>).

Student Computers

Laptop computers are available through the Student Laptop Program ([MiamiOH.edu/miaminotebook](https://miamioh.edu/miaminotebook)) managed by the MiTech, Miami tech store in Shriver Center. On-campus warranty support and other services are provided free or at a discount for computers purchased through the Student Laptop Program. Students who purchase computers outside of the program can still download free software provided by IT Services, including VPN and MUprint, from [MiamiOH.edu/StudentSoftwareGuide](https://miamioh.edu/StudentSoftwareGuide). In addition, students can go to [MiamiOH.edu/GetOffice](https://miamioh.edu/GetOffice) to download a FREE copy of the latest version of Microsoft Office on up to five different devices.

Printing

Miami provides "Pay4Print" printers in many labs, libraries, and other locations on campus through the MUprint utility. Please see the IT Help Knowledge Base for details.

English Language Learner Writing Center

King Library, 513-529-0097
<https://www.miamioh.edu/ellwc>

The English Language Learner Writing Center ensures opportunities for multilingual writers to become proficient users of Academic English and thus successful students. The Center offers free one-on-one consultations at the B.E.S.T. Library, Peabody Hall, 18, and the Farmer School of Business, 3064. For students who are unable to visit the ELLWC in person, we offer written online appointments. Through collaborative peer interaction, multilingual writers will learn how to identify and correct grammar issues, including unusual word choices, misused English articles, prepositions, tenses, and other errors. Visiting the English Language Learner Writing Center helps students enhance the overall grammar correctness of their English academic writing. To learn more about these services and to schedule an appointment, visit our website.

Global Initiatives

214 MacMillan, 513-529-8600
Global@MiamiOH.edu

The mission of Global Initiatives is aligned with Miami University's commitment to advance global learning. Global Initiatives promotes the dynamic, comprehensive internationalization of the University through the infusion of multicultural and comparative perspectives in global learning, scholarship, teaching, and service. Support focuses on user- and constituent-friendly services with a commitment to efficiency. Global Initiatives acts as the connective tissue for all

internationalization realms at Miami University: Leadership and structure; curriculum and co-curriculum; faculty and staff support; mobility; partnerships and fellowships; and institutional policy and commitment.

Global Initiatives administers a broad array of credit and non-credit programs and services that broaden the traditional Miami classroom experience. Credit programs are led by Miami University faculty and include local, online, domestic and study-abroad and study-away credit workshops. Non-credit opportunities include online courses and programs serving the wider community, such as the Institute for Learning in Retirement and the Global Partner Summer School.

Units include Education Abroad, the Miami University John, E. Dolibois European Center (MUDEC), International Student and Scholar Services (including the English Language Learner Writing Center in the International Student Center), Continuing Education, and the Center for American and World Cultures. The Global Initiatives office is also an authorized passport application acceptance agency.

Graduate Student Associations

Graduate School
102 Roudebush Hall, 513-529-3734
www.MiamiOH.edu/graduate-studies/

The **Graduate Student Association (GSA)** represents all graduate students and promotes their academic, social, and economic aims. It maintains open channels of communication with other student organizations and with academic and administrative units of the university.

The association sponsors a Travel Assistance Fund to reimburse graduate students for travel expenses to professional meetings, conventions, conferences, and workshops.

The **Graduate Students of Color Association (GSCA)** aids graduate students by sponsoring academic programming, social, and cultural events from a diverse perspective. It also serves as an avenue of communication with the Graduate School and as a liaison between students of color and the university.

The purpose of the **Graduate Student Pride Association (GSPA)** is first and foremost to provide a safe and inclusive space for LGBTQ+ and queer graduate and professional students at Miami University. Safe spaces cultivate a community for marginalized groups and are thus vital to LGBTQ+ and queer graduate students. Furthermore, GSPA will represent and give voice to the concerns of LGBTQ+ and queer graduate and professional students at Miami University.

The International **Graduate Student Association (IGSA)** primarily serves international graduate students but is open to all graduate students. The purpose of this group is to provide a community for graduate students who are in the US for their advanced degrees. This group advocates for international students to university leaders and plans social events for international graduate students.

Housing

Campus Services Center
34 Nellie Craig Walker Hall, 513-529-5000
www.MiamiOH.edu/Housing

Limited on-campus housing is available for graduate students. Single graduate students may also apply to live in a residence hall

or in Heritage Commons; provisions are the same for graduate and undergraduate students.

Heritage Commons provides apartment-style university housing for upper-class students. The complex is comprised of 108 fully furnished apartments featuring four private bedrooms, two bathrooms, a living room, and an equipped kitchen. Exclusive parking is available for Heritage Commons residents.

Many graduate students rent private apartments in Oxford or neighboring areas.

Contract and Deposit

All students living in university housing sign a housing contract, an agreement to pay room rent and board, pay a per semester residential fee, and pay a one-time \$330 University Contract Confirmation deposit.

Dining Facilities

Our residence halls are served by multiple "all you care to eat" buffets, as well as several à la carte, food service locations operated by the University.

Howe Writing Center

King Library, 513-529-6100
<https://www.miamioh.edu/hcwe/hwc/index.html>

The mission of the Howe Writing Center is to ensure that Miami supports its students in developing as effective writers in college, across varied contexts and genres, and fully prepares all of its graduates to excel as purposeful and persuasive writers in their careers, communities, and personal lives. As part of the Howe Center for Writing Excellence, the Howe Writing Center provides one-to-one consultations for all Miami writers at all stages of the writing process, whether they are first-semester undergraduates, seniors completing their honors theses, or graduate students preparing their dissertations. Our carefully trained undergraduate and graduate student consultants offer both written online and live online consulting. We also support student writing through writing contests, writing-centered events, and research focused on student writing and consulting. Visit our website for more information about all of our programs or to make an appointment.

Libraries

www.lib.MiamiOH.edu

King Library: 513-529-4141, 513-529-2800

Walter Havighurst Special Collections: King Library, 513-529-3323

Miami University Archives and Western College Memorial Archives: 513-529-6720

Amos Music Library: 120 Center for Performing Arts, 513-529-2299

Wertz Art and Architecture Library: 7 Alumni Hall, 513-529-6638

Gardner-Harvey Library: Middletown campus, 513-727-3222

Rentschler Library: Hamilton campus, 513-785-3235

Southwest Ohio Regional Depository: Middletown campus,
513-727-3474

With three facilities on the Oxford campus and one on each regional campus, the Libraries are here to support students, faculty, and staff in their research and academic success in-person and online. Each library offers a variety of collaborative and private study spaces; equipment for checkout like laptops, textbooks, cameras, and iPads; public computers; and printers. King Library also features a Makerspace, multimedia production studio, and cafe, and houses the Walter Havighurst Special Collections and University Archives. Access hundreds of thousands of digital resources like journal articles, e-books, videos, databases, and documents online, 24/7, at Lib.MiamiOH.edu. Research help is available via chat, email, text, phone, or virtual or in-person consultation. Stop by and discover your Libraries!

Museums

Richard and Carole Cocks Art Museum (RCCAM): 801 S. Patterson Ave., 513-529-2232

<https://miamioh.edu/cca/art-museum/>

The angular limestone and glass Richard and Carole Cocks Art Museum (RCCAM), designed by Walter Netsch of Skidmore, Owings, and Merrill, houses the university's permanent collection of more than 17,500 art objects from all parts of the world by internationally known artists. Rotating exhibitions, public lectures, gallery talks, performances, and other special events are offered throughout the year, in person and online. Permanent galleries include Art History at a Glance, Global Perspectives, and the Charles M. Messer Leica Camera Collection. The RCCAM is situated within scenic Sculpture Park grounds, and is accredited by the American Alliance of Museums.

Internships and independent studies are available through several academic departments. As a teaching museum, multiple courses at Miami University are supported at the RCCAM. Collections not on display can be accessed with sufficient advance notice for teaching and research. You can also volunteer to assist with events and activities at the museum. Inquiries regarding group visits and from schools are welcomed.

McGuffey House and Museum: 401 E. Spring St., 513-529-8380

William Holmes McGuffey compiled the first four volumes of the *Eclectic Readers* while a Miami faculty member from 1826 to 1836. His National Historic Landmark house serves as a teaching museum for University and regional history, nineteenth-century domestic architecture and material culture, personal items of the McGuffey family, a rare collection of *McGuffey Readers*, and for the history of literacy, reading and schooling.

Science Museums include:

Karl E. Limper Geology Museum, 8 Shideler Hall, 513-529-3220
Willard Sherman Turrell Herbarium, 79 Upham Hall, 513-529-2755

Hefner Museum of Natural History, 100 Upham Hall, 513-529-4617

The mission of the Museum is to inspire global stewardship by exploring the connections between people, the nature of their neighborhood, and the world. We serve students of all majors through tours, classroom presentations, and special events. The Museum also provides opportunities to earn a range of certifications,

conduct real-world capstone projects, develop practical skills through independent study, and participate in volunteer and intern activities that generate exciting resume lines.

Western College Museum: Patterson Place, Patterson Ave.,
513-529-4400

Western College Museum houses a permanent collection of paintings, silver, and furnishings. Patterson Place, located on the northwest corner of the Western College for Women Historic District, also serves as the office for Western College Alumnae Association, Inc.

Office of Equity and Equal Opportunity

Hanna House
219 E. Spring Street
Oxford, Ohio 45056
513 529-7157 – Office

OEEO@MiamiOH.Edu

<https://miamioh.edu/diversity-inclusion/oeeo/index.html>
Office Hours - M-F 8:00a-5:00p
Summer Office Hours - M-F 7:30a-4:30p

The mission of the Office of Equity and Equal Opportunity (OEEO) is to promote fairness and justice, ensure that each member of the Miami University community is and feels included, and foster a diverse and welcoming environment that is equally accessible for all who live, learn, work and participate in activities at Miami University.

Ohio Writing Project

Department of English
302 Bachelor Hall, 513-529-5245
www.MiamiOH.edu/owp

The Ohio Writing Project (OWP) is one of the longest-running and largest sites of the National Writing Project. Founded in 1980, Miami's OWP values teacher knowledge, develops teachers as writers, and empowers teacher leaders to enact change in writing and literacy instruction in all content areas. OWP has offered workshops and inservice to over 100,000 K-16 teachers.

As part of the Miami University English Department, OWP supports K-12 teachers across the region and celebrates the professionalism, expertise, and talent of educators. Through workshops, school professional development, writing groups, book studies, and conferences, OWP provides a professional community for teachers based on shared writing, professional readings and practical teaching.

The OWP oversees the Master of Arts in Teaching English Degree, an innovative 32-hour degree focused on classroom research conducted under the direction of faculty advisors and OWP mentors. The OWP also recently created the Certificate in the Teaching of Writing, a Miami University graduate certificate program focused on teaching writing in K-12 classrooms.

As a site of the National Writing Project, OWP collaborates with K-12 teachers and universities across the nation. The National Writing Project, founded at Berkeley in 1973, is devoted to improving the teaching of writing and learning from kindergarten through college.

One Stop

100 Nellie Craig Walker Hall, 513-529-0001
MiamiOH.edu/OneStop

The One Stop serves as the virtual and in-person one stop service center for the Miami University community by providing best in class in-person, telephone, email, online and outreach student-centric services. The One Stop provides essential information, answers questions, counsels and provides problem resolution for current and former students, parents/families, alumni, faculty, staff, various departments, and the broader university community in the areas of registration, enrollment, financial aid, student records, billing, and payment. For questions about Veteran Benefits or Eligible Dependent Benefits, Miami's Veteran Point of Contact can be located also at the One Stop.

Parking

Campus Services Center
34 Nellie Craig Walker Hall, 513-529-2224
<http://www.miamioh.edu/parking/>

The University and the City of Oxford are compact and interdependent, with most locations accessible to pedestrians. Miami University discourages students from bringing cars to Oxford. Students who desire transportation will find that transit services provided by the Butler County Regional Transit Authority provide an efficient alternative to a personal vehicle (see Transportation).

A parking permit is required to park on Miami University's campus at all times. Please contact Parking and Transportation Services for questions concerning eligibility for or to purchase a parking permit. Visitors to campus may purchase daily parking permits online or use the parking garages or meters on campus.

Psychology Clinic

Department of Psychology
39 Psychology Bldg., 513-529-2423

The Psychology Clinic provides individual psychotherapy, group psychotherapy and psychological assessment to Miami students as well as children and adults from the community. All students, including those who are part-time or from other campuses, are eligible for services. The Psychology Clinic serves as a training clinic for doctoral students in Clinical Psychology program in the Department of Psychology. Therapists receive extensive supervision from licensed psychologists for all services provided. Fees are nominal, and all records are confidential.

Safety

University Police: Police Services Center,
4945 Oxford Trenton Road
Non-Emergency/24 Hours: 513-529-2222
EMERGENCY (police, fire, medical): 911

Police Administration and Records: 513-529-2223
Lost-and-Found Property: 513-529-2225
Fingerprinting Services: 513-529-2226

Miami is committed to maintaining a safe learning environment for all students and members of the university community. While Miami's campus is relatively safe, crime does occur on campus. Each member of the university community has a responsibility to contribute to

the well-being of the community. Miami University Police officers are fully sworn and armed law enforcement officers, empowered to investigate alleged criminal activity, search and arrest as authorized by law, and use necessary and reasonable force to enforce the law and protect persons and property. They evaluate reported crimes, conduct investigations, and effect arrests

Annual Security and Fire Safety Report

As part of the University's commitment to maintaining a healthy and safe living, learning, and working environment, we encourage you to read Miami University's Annual Security & Fire Safety Report at <http://miamioh.edu/campus-safety/annual-report/index.html>, and includes, among other things, the following: Campus policies regarding: Safety bulletins and timely warnings; Emergency notification and response; Emergency procedures; and Reporting criminal activity; Information on crime prevention programs; Campus policies and information on sexual assault and interpersonal violence prevention programs, and procedures to follow when sexual assault, interpersonal violence, domestic and dating violence, or stalking offenses occur; Miami University's Fire Safety Report, including fire statistics in residence halls, emergency procedures, and safety advice for students living both on and off campus; Crime Statistics for the most recent three years at all Miami campuses; Campus policies concerning facility safety and access; Campus policies concerning law enforcement; Campus policies for reporting non-campus criminal activity; Campus policies regarding the sale, possession and use of alcohol and illegal drugs; and Information on drug and alcohol education programs. Each year, email notification of this website is made to all faculty, staff, and enrolled students. Written notification is also provided to prospective students and employees. Hard copies of the Annual Security & Fire Safety Report may be obtained from the Miami University Police Department at (513) 529-2223.

Drug Free Schools and Communities Act

In compliance with the Drug Free Schools and Communities Act, the Miami University Annual Security and Fire Safety Report also includes information regarding the university's educational programs related to drug and alcohol abuse prevention; sanctions for violations of federal, state, and local laws and university policy; a description of health risks associated with alcohol and other drug use; and a description of available treatment programs for Miami University students and employees. A complete description of these topics, as provided in Miami University's Annual Security and Fire Safety Report, is available online at: <https://miamioh.edu/campus-safety/annual-report/alcohol-drug-policies/index.html>.

Emergency Notification and Response

In the event of an emergency, contact Miami University Police at 911 to initiate the emergency messaging system.

Emergency Messaging System - Notification of an Immediate Threat

Miami University maintains multiple systems for alerting the Miami community about campus emergencies and will use some or all of those systems, depending on the circumstances. The Miami Emergency Text Messaging System is available to all Miami University students, faculty, and staff. To receive this service, individuals must sign up through the University Police at www.units.miamioh.edu/psf/police/emergencytextmessaging.

Emergency Procedures

Miami University has established emergency procedures for a number of events that range from chemical spills to severe weather that involve individual as well as collective action to respond safely. Information to guide responses to a variety of potential dangers is available at <https://www.miamioh.edu/campus-safety/emergency-procedures/index.html>. For more information contact Environmental Health and Safety: 55 Hughes Hall, 513-529-2829.

Scripps Gerontology Center

396 Upham Hall, 513-529-2914
www.scripps.MiamiOH.edu

Scripps Gerontology Center is a leading source of local, state, national, and international information about the impact of aging on society, and the opportunities and challenges associated with aging populations. Recognized as an Ohio Center of Excellence, the mission of Scripps Gerontology Center is to do work that makes a positive difference in the lives of aging individuals, their families and communities, and to meet the needs of aging societies. They accomplish this through excellence in research, education, and service.

Scripps works with the Department of Sociology & Gerontology providing core leadership, administrative support, and hands-on research experience to students. This unique relationship with the gerontology graduate programs helps provide a vigorous academic learning environment led by engaged, innovative faculty and research scholars. For information about graduate degrees and research opportunities, contact the Center's main office.

Speech and Hearing Clinic

Department of Speech Pathology and Audiology
 2 Bachelor Hall, 513-529-2500
www.MiamiOH.edu/spa

The Department of Speech Pathology and Audiology operates this clinic. The Clinic's mission is to promote excellence in clinical training of future speech-language-hearing professionals and to provide comprehensive assessment and treatment services for individuals with speech, language, or hearing disorders. There is a fee for services. The clinic complies with (HIPAA) regulations regarding patient records.

Student Counseling Service

500 Harris Hall Drive, 513-529-4634
<http://MiamiOH.edu/counseling/>

The Student Counseling Service provides assessment and psychological services to full-time Oxford campus students. The services include initial consultations (first appointment), individual counseling, group counseling and skill building workshops, alcohol and drug assessments, outreach programs, and consultation services. There is a nominal fee for students after the 3rd individual session. All records are confidential and are not a part of a student's academic record. All clinical staff are licensed or supervised by licensed mental health professionals.

Miller Center for Student Disability Services (SDS)

304 Shriver Center, sds@miamioh.edu, 513-529-1541, 7-1-1 (Ohio Relay)
www.MiamiOH.edu/SDS

The Miller Center for Student Disability Services coordinates accommodations, auxiliary aids, accessible technology and support services to ensure students with disabilities have an equitable Miami University classroom and campus life experience. Access planning is available for a diverse group of students including those with learning, psychological, medical, physical, sensory, attention and autism spectrum disabilities. Students must self-disclose disability to receive services.

Student Health Services

Health Services
 500 Harris Drive, 513-529-3000

The Student Health Service (SHS) provides general outpatient and primary care for registered Miami University Students of all three campuses. Services provided include examination and treatment for illness and minor injuries, women's health and immunizations. We provide laboratory services to our students and also accept outside orders from other providers. The health center will submit claims to the student's insurance company for all medical and laboratory services provided. Your insurance card and Student ID card are required when visiting the SHS.

Hospitalization and emergency care are available at McCullough-Hyde Memorial Hospital (513-523-2111). Emergency medical assistance, call 911. Non emergent, urgent care needs can be met after hours via Oxford Urgent Care or Urgent Care of Hamilton.

For immunization, health form completion and health screening requirements, please refer to the Miami Student Handbook.

Hours of operation are M-F with Saturday hours during fall and spring sessions with minor variations per academic session. Please refer to the SHS website [@shsMiamiOH.edu](mailto:shsMiamiOH.edu).

Student Wellness

Office of Student Wellness
 Clinical Health Sciences and Wellness Building
 Room 1212
 513-529-8544
<http://MiamiOH.edu/student-life/student-wellness>

The Office of Student Wellness offers programs to students on the Oxford campus related to Alcohol and Substance Abuse; Sexual Assault; Healthy Relationships; Sexual Health; Mental and Emotional Promotion, and building lifelong wellness. Sanctioned education classes are facilitated by staff for students found in violation of the Student Code of Conduct regarding alcohol and drug use. The Office of Student Wellness is also home to the student organizations HAWKS, Active Minds, Miami Hope, SASS, and MARs. These organizations present programs on a variety of requested health related topics to student groups, residence halls, and academic classes. Members of these organizations serve as representatives on campus and in the greater community to promote comprehensive

health and safety initiatives and to serve as advocates for overall health and wellness.

Transportation

Campus Services Center
34 Nellie Craig Walker Hall, 513-529-2224
www.MiamiOH.edu/parking

Students, faculty and staff may use the regional and campus routes of the Butler County Transit Authority (BCRTA) for no fare when they present their valid Miami ID card upon boarding. See BCRTA's web site at <http://www.butlercountyrta.com/> for routes and times.

- BCRTA provides daily bus service, including weekends and evenings, throughout campus and to off-campus areas in Oxford. Call the Bus Information Hotline at 513-785-5237 or toll-free 855-42-BCRTA for information.
- Miami's Regional campuses are also served by regional routes in the BCRTA system.
- BCRTA provides ADA transport service for students unable to ride fixed bus routes due to temporary or permanent disabilities daily when the bus service is in operation. Call 513-785-5237 or toll-free 855-42-BCRTA for ADA service.
- BCRTA SafeRide provides service to and from campus during evening hours. Call 513-785-5237 or toll-free 855-42-BCRTA for SafeRide service.
- Airport transportation to the Northern Kentucky/Cincinnati airport is available for Thanksgiving, winter, and spring breaks. For more information, contact the Miami University Box Office at (www.MiamiOH.edu/BoxOffice, or 513-529-3200).

For More Information

Except for the regional campuses, all addresses are:

Miami University
Oxford, OH 45056
Phone: 513-529-1809 (general information)
www.MiamiOH.edu

Admission, Undergraduate: Office of Admission, 301 S. Campus Ave., 513-529-2531.

Admission, Graduate: Graduate School, 102 Roudebush, 513-529-3734.

Center for Student Diversity and Inclusion: 2030 Armstrong Student Center, 513-529-6504.

Community Service: Office of Community Engagement and Service, Hanna House, 513-529-2961.

Disability Services: Office of Disability Resources, 304 Shriver Center, 513-529-1541.

Education Abroad: Education Abroad Office, 214 MacMillan, 513-529-8600, EducationAbroad@MiamiOH.edu.

Equity and Equal Opportunity: Office of Equity and Equal Opportunity, Hanna House, 219 E. Spring Street, 513-529-7157.

Fees and Expenses: One Stop, 100 Nellie Craig Walker Hall, MiamiOH.edu/OneStop.

Financial Aid, Loans, Grants, Scholarships: One Stop, 100 Nellie Craig Walker Hall, MiamiOH.edu/OneStop.

Global Initiatives: 214 MacMillan Hall, 513-529-8600, Global@MiamiOH.edu.

Greentree Health Science Academy: 5757 Innovative Drive, Middletown, OH 45005, 513-933-3960.

Hamilton Campus: Miami University Hamilton, 1601 University Blvd., Hamilton, OH 45011, 513-785-3000.

Honors Program: 101 Old Manse, 410 E. High Street, 513-529-3399.

Intercollegiate Athletics: 230 Millett Hall, 513-529-3113.

International Students: International Student and Scholar Services, 214 MacMillan, 513-529-8600, MiamiOH.edu/international.

I.T. Services: Support Desk: 513-529-7900 or ITHelp@MiamiOH.edu (ithelp@miamioh.edu).

Liberal Education Office: 315 Laws Hall, 513-529-7135.

Middletown Campus: Miami University Middletown, 4200 N. University Blvd., Middletown, OH 45042, 513-727-3200 or 1-86-MIAMI-MID (Toll free).

MiTech Walk in Support: Located in the Miami University Bookstore, ground floor.

Miami University Dolibois European Center (MUDEC): Oxford Office, 214 MacMillan Hall, 513-529-8600, Luxembourg@MiamiOH.edu.

Parking, Motor Vehicle, and Bicycle Regulations: Campus Services Center, 34 Nellie Craig Walker Hall, 513-529-2224.

Recreational Sports: Recreational Sports Center, 513-529-4732.

Registration: One Stop, 100 Nellie Craig Walker Hall, MiamiOH.edu/OneStop.

Residence and Dining Halls: Campus Services Center, 34 Nellie Craig Walker Hall, 513-529-5000.

Residency: One Stop, 100 Nellie Craig Walker Hall, MiamiOH.edu/OneStop.

Student Employment: Department of Human Resources, 15 Roudebush Hall, 513-529-8722.

Student Organizations: Student Activities Office, 2026 Armstrong Student Center, 513-529-2266.

Student Responsibility and Regulations: See *The Student Handbook*, published online each academic year and available at www.MiamiOH.edu/handbook.

Veterans Certifying Official: One Stop, 100 Nellie Craig Walker Hall, MiamiOH.edu/OneStop.

Voice of America Learning Center: 7847 VOA Park Drive, West Chester, OH 45069, 513-895-8862.

Undergraduate and Graduate Majors and Degrees

The following charts list all majors and degrees, minors, and certificate programs offered by Miami University. Descriptions appear elsewhere in this Bulletin. **Note:** Returning former students whose degree programs have been discontinued should consult with their academic departments or divisions.

Undergraduate and Graduate Majors and Degrees

Major	Undergraduate Degree(s)	Graduate Degree(s)
Accountancy	Bachelor of Science in Business	Master of Accountancy
American Studies	Bachelor of Arts	
Anthropology	Bachelor of Arts	
Applied Biology	Bachelor of Science	
Architecture	Bachelor of Arts in Architecture	Master of Architecture
Art, Studio	Bachelor of Fine Arts, Bachelor of Arts in Studio Art	Master of Fine Arts
Art and Architecture History	Bachelor of Arts in Art and Architecture History	
Art Education	Bachelor of Science in Art	
Arts Management and Arts Entrepreneurship	Bachelor of Arts in Arts Management and Arts Entrepreneurship	
Athletic Training		Master of Athletic Training
Biochemistry	Bachelor of Arts, Bachelor of Science	
Biological Science		Master of Arts in Teaching
Biology	Bachelor of Arts, Bachelor of Science	Master of Arts, Master of Science, Doctor of Philosophy
Biomedical Engineering	Bachelor of Science in Engineering	
Biomedical Science		Master of Medical Science
Botany	Bachelor of Arts, Bachelor of Science	Master of Arts, Master of Science, Doctor of Philosophy
Business Administration (part-time)		Master of Business Administration
Business Analytics	Bachelor of Science in Business	Master of Science in Business Analytics
Business Economics	Bachelor of Science in Business	
Cell, Molecular and Structural Biology (CMSB)		Master of Science, Doctor of Philosophy
Chemical and Biomedical Engineering		Master of Science in Chemical and Biomedical Engineering
Chemical Engineering	Bachelor of Science in Engineering	
Chemistry	Bachelor of Arts, Bachelor of Science	Master of Science, Doctor of Philosophy
Chinese Education	Bachelor of Science in Education	
Classical Studies	Bachelor of Arts	
Clinical Engineering		Master of Science in Clinical Engineering
Communication Design	Bachelor of Fine Arts	
Communication Studies	Bachelor of Arts in Applied Communication	
Community Arts and Cultures	Bachelor of Arts	
Computer Engineering	Bachelor of Science in Engineering	
Computer Science	Bachelor of Arts in Computer Science, Bachelor of Science in Computer Science	Master of Computer Science, Master of Science in Computer Science
Criminal Justice	Bachelor of Science in Criminal Justice	
Critical Race and Ethnic Studies	Bachelor of Arts	
Curriculum and Instruction		Master of Education
Cybersecurity	Bachelor of Science in Cybersecurity	
Data Analytics	Bachelor of Arts	
Data Science and Statistics	Bachelor of Science	
Digital Commerce	Bachelor of Science in Commerce	
Diplomacy and Global Politics	Bachelor of Arts	

East Asian Language and Cultures	Bachelor of Arts	
Ecology, Evolution and Environmental Biology (EEEB)		Doctor of Philosophy
Economics	Bachelor of Arts	Master of Arts
Education Studies	Bachelor of Science in Education Studies	
Educational Leadership		Doctor of Education, Doctor of Philosophy
Educational Technology		Master of Education
Electrical and Computer Engineering		Master of Science
Electrical Engineering	Bachelor of Science in Engineering	
Emerging Technology in Business & Design	Bachelor of Arts in Emerging Technology in Business & Design	
Engineering Management	Bachelor of Science in Engineering	
Engineering Technology	Bachelor of Science in Applied Science	
English		Master of Arts, Master of Arts in Teaching, Doctor of Philosophy
English/Creative Writing	Bachelor of Arts	Master of Fine Arts
English/Literature	Bachelor of Arts	
English Studies	Bachelor of Arts	
Entrepreneurship and Emerging Technology		Master of Entrepreneurship and Emerging Technology
Environmental Earth Science	Bachelor of Science	
Environmental Science		Master of Environmental Science
Esports Management		Master of Esports Management
Finance	Bachelor of Science in Business	
Foreign Language Education		Master of Arts in Teaching
French	Bachelor of Arts	Master of Arts
French Education	Bachelor of Science in Education	
Games + Simulation	Bachelor of Science	
Geography		Master of Arts
Geography and Sustainable Development	Bachelor of Arts	
Geology	Bachelor of Science	Master of Arts, Master of Science, Doctor of Philosophy
German	Bachelor of Arts	
German Education	Bachelor of Science in Education	
Gerontological Studies		Master of Gerontological Studies
Health Communication	Bachelor of Science in Applied Communication	
Health Information Technology	Bachelor of Science in Information Technology	
History	Bachelor of Arts	Master of Arts
Hospitality Management	Bachelor of Science in Commerce	
Human Capital Management and Leadership	Bachelor of Science in Business	
Inclusive Special Education	Bachelor of Science in Education	
Individualized Studies	Bachelor of Arts	
Information and Cybersecurity Management	Bachelor of Science in Business	
Information Technology	Bachelor of Science in Information Technology	
Instructional Design & Technology		Master of Arts
Integrated English Language Arts Education	Bachelor of Science in Education	Master of Arts in Teaching
Integrated Mathematics Education	Bachelor of Science in Education	Master of Arts in Teaching
Integrated Science Education	Bachelor of Science in Education	
Integrated Social Studies Education	Bachelor of Science in Education	Master of Arts in Teaching
Integrative Studies	Bachelor of Integrative Studies	
Interior Design	Bachelor of Fine Arts	
International Studies	Bachelor of Arts in International Studies	
Italian Studies	Bachelor of Arts	

Journalism	Bachelor of Arts	
Kinesiology	Bachelor of Science in Kinesiology, Nutrition, & Health	
Kinesiology, Nutrition, and Health		Master of Science in Kinesiology, Nutrition, and Health
Latin American Latino/a and Caribbean Studies	Bachelor of Arts	
Latin Education	Bachelor of Science in Education	
Learning Sciences and Human Development		Master of Education
Liberal Studies	Bachelor of Arts, Bachelor of Science	
Linguistics	Bachelor of Arts	
Literacy and Language		Master of Education
Management		Master of Science in Management
Marketing	Bachelor of Science in Business	
Mathematics	Bachelor of Arts, Bachelor of Science	Master of Arts in Teaching, Master of Science
Mathematics and Statistics	Bachelor of Science	
Mechanical Engineering	Bachelor of Science in Engineering	Master of Science
Media and Communication	Bachelor of Arts	
Medical Laboratory Science	Bachelor of Science	
Microbiology	Bachelor of Arts, Bachelor of Science	Master of Science, Doctor of Philosophy
Middle Childhood Education	Bachelor of Science in Education	
Music	Bachelor of Arts in Music	
Music Composition	Bachelor of Music	
Music Education	Bachelor of Music	
Music Performance	Bachelor of Music	Master of Music
Nursing	Bachelor of Science in Nursing	Master of Science in Nursing
Nursing Practice		Doctor of Nursing Practice
Nutrition	Bachelor of Science in Kinesiology, Nutrition, & Health	
Organizational Leadership	Bachelor of Arts	
Philosophy	Bachelor of Arts	Master of Arts
Physician Associate Studies*		Master of Medical Science
Physics	Bachelor of Science	Master of Science
Political Science	Bachelor of Arts	Master of Arts
Primary Education PK-5	Bachelor of Science in Education	
Professional Writing	Bachelor of Arts	
Psychological Science	Bachelor of Arts	
Psychology	Bachelor of Arts	Master of Arts, Doctor of Philosophy (Master of Arts required)
Public Administration	Bachelor of Arts	
Public Health	Bachelor of Arts, Bachelor of Science in Kinesiology, Nutrition, & Health	
Quantitative Economics	Bachelor of Science	
Real Estate	Bachelor of Science in Business	
Religion	Bachelor of Arts	
Robotics Engineering	Bachelor of Science in Engineering	
Russian, Eastern European, and Eurasian Studies	Bachelor of Arts	
Sales Management	Bachelor of Science in Commerce	
School Leadership		Master of Education
School Psychology		Master of Science, Specialist in Education
Science Education (seven areas)		Master of Arts in Teaching
Small Business Management	Bachelor of Science in Commerce	
Smart Manufacturing Engineering	Bachelor of Science in Engineering	

Social Gerontology		Doctor of Philosophy
Social Justice	Bachelor of Arts	
Social Work	Bachelor of Science in Social Work	Master of Social Work
Sociology	Bachelor of Arts	
Software Engineering	Bachelor of Science in Software Engineering	
Spanish	Bachelor of Arts	Master of Arts
Spanish Education	Bachelor of Science in Education	
Special Education		Master of Education
Speech-Language Pathology		Master of Arts, Master of Science
Speech Pathology and Audiology	Bachelor of Science	
Sport Analytics		Master of Sport Analytics
Sport Coaching	Bachelor of Science in Sport Leadership and Management	
Sport Communication and Media	Bachelor of Science in Sport Leadership and Management	
Sport Leadership and Management		Master of Science in Sport Leadership and Management
Sport Management	Bachelor of Science in Sport Leadership and Management	
Statistics		Master of Science in Statistics
Strategic Communication	Bachelor of Arts	
Supply Chain and Operations Management	Bachelor of Science in Business	
Student Affairs in Higher Education		Master of Science
Theatre	Bachelor of Arts in Theatre	
Transformative Education		Master of Education
Urban and Regional Planning	Bachelor of Arts	
Women's, Gender, and Sexuality Studies	Bachelor of Arts	
Zoology	Bachelor of Arts, Bachelor of Science	

* Miami University has applied for Accreditation - Provisional from the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA). Miami University anticipates matriculating its first class in May of 2023, pending achieving Accreditation - Provisional status at the September 2022 ARC-PA meeting. Accreditation - Provisional is an accreditation status granted when the plans and resource allocation, if fully implemented as planned, of a proposed program that has not yet enrolled students appear to demonstrate the program's ability to meet the ARC-PA Standards or when a program holding accreditation-provisional status appears to demonstrate continued progress in complying with the Standards as it prepares for the graduation of the first class (cohort) of students.

Minors

Information about these programs is available in the academic division chapters.

Minor	Academic Division
Accountancy	Business
Actuarial Science	Arts and Science
Aerospace Studies	Arts and Science
American Studies	Arts and Science
Anthropology	Arts and Science
Arabic	Arts and Science
Archaeology	Arts and Science
Architecture and Interior Design Studies	Creative Arts
Art and Architecture History	Creative Arts
Art Therapy	Creative Arts
Arts Management	Business; Creative Arts
Bioinformatics	Engineering and Computing
Business	Business
Business Analytics	Business

Child Studies and Youth Development	Education, Health, and Society
Chinese	Arts and Science
Classical Studies	Arts and Science
Climate Accounting and Engineering	Business; Engineering and Computing
Clinical Engineering	Engineering and Computing
Coaching	Education, Health, and Society
Commerce	Liberal Arts and Applied Science
Communication Design	Creative Arts
Communication Studies	Liberal Arts and Applied Science
Community-Based Leadership	Education, Health, and Society
Computer Science	Engineering and Computing
Creative Writing	Arts and Science
Criminal Justice	Liberal Arts and Applied Science
Criminology	Arts and Science
Critical Race and Ethnic Studies	Arts and Science
Cybersecurity Administration	Liberal Arts and Applied Science
Cybersecurity Management	Business
Dance	Creative Arts
Data Analytics	Arts and Science
Data Intelligence Through Information Technology	Liberal Arts and Applied Science
Digital Commerce	Liberal Arts and Applied Science
Digital Innovation	Business
Digital Marketing	Creative Arts
Disability Studies	Education, Health, and Society
Economics	Arts and Science, Business
Education, Teaching and Learning	Education, Health, and Society
Electrical Engineering	Engineering and Computing
Emerging Technology in Business and Design	Creative Arts
English Literature	Arts and Science
English Studies	Liberal Arts and Applied Science
Entrepreneurship	Business
Environmental Engineering	Engineering and Computing
Ethics, Society, and Culture	Arts and Science
Family Relationships	Education, Health, and Society
Fashion	Creative Arts
Film Studies	Arts and Science
Finance	Business
Forensic Investigation	Liberal Arts and Applied Science
French	Arts and Science
Games + Simulation	Creative Arts
Geography	Arts and Science
Geology	Arts and Science
German	Arts and Science
Gerontology	Arts and Science
Global Health	Arts and Science
Global Perspectives on Sustainability	Arts and Science
Health Behavior	Education, Health, and Society
History	Arts and Science
Horticulture	Arts and Science
Hospitality Management	Liberal Arts and Applied Science
Human Capital Management and Leadership	Business
Humanitarian Engineering and Computing	Engineering and Computing

Individualized Studies	Arts and Science
Information Systems	Business
International Business	Business
Italian	Arts and Science
Japanese	Arts and Science
Journalism	Arts and Science
Latin American Latino/a and Caribbean Studies	Arts and Science
Linguistics	Arts and Science
Management	Business
Marketing	Business
Mathematics	Arts and Science
Mechanical Engineering	Engineering and Computing
Medical Humanities	Arts and Science
Middle East, Jewish, and Islamic Studies	Arts and Science
Molecular Biology	Arts and Science
Museums and Society	Creative Arts
Music Composition	Creative Arts
Music in Culture	Creative Arts
Music Performance	Creative Arts
Music Theatre	Creative Arts
Naval Science	Arts and Science
Neuroscience	Arts and Science
Nutrition	Education, Health, and Society
Paper Engineering	Engineering and Computing
Paper Science	Engineering and Computing
Philosophy and Law	Arts and Science
Photography	Creative Arts
Physics	Arts and Science
Political Science	Arts and Science
Primary Special Education	Education, Health, and Society
Process Control	Engineering and Computing
Psychological Science	Liberal Arts and Applied Science
Real Estate	Business
Regulatory Affairs	Engineering and Computing
Religion	Arts and Science
Rhetoric/Writing	Arts and Science
Russian	Arts and Science
Sales Management	Liberal Arts and Applied Science
Social Justice	Arts and Science
Sociology	Arts and Science
Spanish	Arts and Science
Special Education	Education, Health, and Society
Sport Analytics	Education, Health, and Society
Sport Management	Education, Health, and Society
Statistical Methods	Arts and Science
Statistics	Arts and Science
Studio Art	Creative Arts
Supply Chain Management	Business
Theatre Arts	Creative Arts
Urban and Regional Analysis	Arts and Science
Urban Design	Creative Arts
Women's, Gender, and Sexuality Studies	Arts and Science

Associate's Degree Programs

Except for the Associate in Arts, these programs are available only on the regional campuses in Hamilton and Middletown.

Program	Associate's Degree
Commerce	Associate of Applied Business
Computer and Information Technology	Associate in Applied Science
Computer Technology (continuation option for CSE)	Associate in Applied Science
Criminal Justice	Associate in Applied Science
Electrical and Computer Engineering Technology	Associate in Applied Science
General Studies	Associate in Arts
Mechanical Engineering Technology	Associate in Applied Science
Prekindergarten Education	Associate in Applied Science
Technical Study	Associate of Technical Study

Undergraduate Certificate Programs

Programs available on all campuses:

Program	Academic Division
Advanced Manufacturing and Materials Evaluation	Engineering and Computing
Business in the Global Market	Business
Child Life Specialist	Education, Health and Society
Creativity Entrepreneurship	Business
Cybersecurity Management for Accountancy	Business
Deals	Business
Esports Management Undergraduate Certificate	Creative Arts
Fostering Just Communities	Education, Health and Society
Foundations of Business Analytics	Business
Geographic Information Science	Arts and Science
Global Readiness	Global Initiatives
Healthcare Sales	Business
Leadership	Engineering and Computing
Manufacturing Foundations	Liberal Arts and Applied Science
Premedical and Pre-Health Studies	Arts and Science
Remote Teaching for K12	Education, Health and Society
Social Entrepreneurship	Business
Sport Analytics	Education, Health, and Society
StartUp Entrepreneurship	Business
Teaching English to Speakers of Other Languages (TESOL) Endorsement Certificate	Education, Health and Society

Graduate Certificate/Endorsement Programs

Program	Academic Area
Child Life Specialist Graduate Certificate	Department of Family Science & Social Work
College Teaching	Departments of Graduate School and CELTUA
Conservation Biology	Department of Biology
Ecology	Departments of Biology, Geography, Geology & Environmental Earth Science, Microbiology
Esports Management Graduate Certificate	Department of Emerging Technology in Business & Design
Geographic Information Science	Department of Geography
Graduate Certificate in Advanced Business Analytics	Department of Information Systems and Analytics
Graduate Certificate in Advanced Manufacturing and Materials Evaluation	Department of Mechanical & Manufacturing Engineering
Graduate Certificate in Analytics	Department of Information Systems and Analytics

Graduate Certificate in Business Management	Department of Business Analytics
Graduate Certificate in Entrepreneurship and Emerging Technology	Department of Emerging Technology in Business and Design
Instructional Design and Educational Technology	Department of Educational Psychology
Mental Health Intervention	Department of Educational Psychology
Reading Endorsement Certificate	Department of Teaching, Curriculum, & Educational Inquiry
Sport Analytics	Department of Sport Leadership & Management
Sport Management Graduate Certificate	Department of Kinesiology and Health
Sport Psychology	Department of Kinesiology and Health
Teaching English to Speakers of Other Languages (TESOL) Endorsement	Department of Teaching, Curriculum, & Educational Inquiry
Graduate Certificate	
Teaching of Writing	Department of English
TESOL Endorsement	Department of Teaching, Curriculum, & Educational Inquiry
Women's, Gender, and Sexuality Studies	Department of Women's, Gender, and Sexuality Studies

Admission for Undergraduate Students

Office of Admission

Nellie Craig Walker Hall
TTY accessible: 513-529-2531
www.MiamiOH.edu/admission/

About Admission

Miami's official admission policy is in The Student Handbook, available online at www.MiamiOH.edu/handbook.

Miami's Oxford campus is selective admission, admitting only a portion of those who apply.

Admission information for international students and for Hamilton and Middletown campuses appears later in this chapter.

First-Year Admission Standards

First-year admission to the Oxford campus is based upon many variables including but not limited to: high school performance (curriculum, grade point average, and class rank), test scores (ACT and/or SAT), essay, extracurricular/work experiences, and letters of recommendation. Personal interviews are not utilized.

Students who have not earned a state-certified high school diploma or have not earned a General Educational Development (GED) certificate must submit descriptions of their curriculum and educational resources used during the last four years. If sufficient information to assess academic achievement and ability is not provided, samples of work in such areas as English, mathematics, natural science, social studies, foreign language, and fine arts may be requested.

Special abilities, talents, and achievements, as well as diversity of the student body, are also considered in making admission decisions. The university believes that diversity enhances the quality of education its students receive. Diversity may include socioeconomic factors, under-enrolled minority group members, career interests, artistic abilities, geographical backgrounds, and other special characteristics.

For information about open admission for first-time students to Hamilton and Middletown campuses, see that section in this chapter and the Hamilton and Middletown Campuses section.

High School Preparation

To be admitted to Miami, you must have ordinarily earned a state-certified high school diploma or have a General Educational Development (GED) certificate. Alternatively educated students without a GED certificate can be considered for admission by presenting credentials that demonstrate equivalent levels of academic achievement, ability, and performance. (Please contact the appropriate admission office for guidelines.)

All candidates are also expected to have completed:

- four units of college preparatory English
- four units of college preparatory mathematics

- four units of college preparatory natural science (including both a physical and a biological science)
- three units of college preparatory social studies (including one unit of history)
- one unit of fine arts, including art, drama, dance, or music, either appreciation or performance

Making up Requirements

If you have otherwise qualified for admission, but not fulfilled these unit prerequisites, you must complete them before you graduate with a baccalaureate degree from Miami. These regular courses will count toward graduation, and many of them can fulfill other university requirements. Normally, students complete these prerequisites within their first 64 credit hours of college work.

The following courses will fulfill the requirements:

English: Complete the English composition requirement of the Miami Plan; no additional courses are required.

Natural Science, Social Studies: Complete natural science and social science requirements of the Miami Plan; no additional courses are required.

Mathematics: Complete a mathematics course of at least three credit hours at the level of MTH 104 or higher, or complete a statistics course of at least three credit hours at the level of STA 125 or higher.

Fine Arts: Complete the fine arts requirement of the Miami Plan; no additional courses are required.

Exceptions

These prerequisites are not required in order to earn a two-year degree. Students who continue their studies to earn a baccalaureate degree, however, are required to fulfill these standards.

Students graduating from high school prior to 1986 must have completed 17 units of study; at least 10 of those units must include any combination of English, speech, mathematics, science, history, and social studies.

Students who qualify for admission by earning the General Educational Development (GED) certificate must submit a transcript of completed high school course work to evaluate fulfillment of these standards. Credentials of alternatively educated students will be evaluated to determine fulfillment of these standards.

ACT or SAT Test Scores

Miami has suspended its test score requirement for students applying through Fall 2025. Students who choose to opt in for Miami to consider scores in application review may submit test scores directly from the testing agency, or a student may self-report test scores through the student's applicant status portal. If a student accepts Miami's offer of admission after opting in for test scores to be considered, Miami requires official ACT or SAT test scores be sent directly from the testing agency prior to enrolling.

Housing Requirement

First- and second-year students admitted to the Oxford campus (except those who reside with their parents or legal guardians; are at least 21 years of age; or are married or reside with dependent

children) must live in a university residence hall. For information, about the housing requirement for transfer students, see "Transfer Student Admission."

See more about residence halls in the General Information section.

Medical and Insurance Requirements

Students must present proof of Ohio K-12 grade immunization requirements (please refer to our website at www.miamioh.edu/health for a list of requirements). Failure to meet immunization requirements will prevent course registration. TB screening is required annually for students who are arriving from or have recently traveled to a high risk country for longer than 6 weeks. High burden countries are as defined by the World Health Organization. Screening will be scheduled by Student Health Services and completed after arrival to campus.

You must provide proof of health insurance coverage every year by completing the electronic Health Insurance Waiver form between July 1st and August 1st. If you are not covered by another policy, you will be charged for the insurance the university makes available. The insurance rate is in the Fees and Expenses chapter.

Commuters

First-year students who live within commuting distance and reside in the home of their parents, legal guardians, or spouses may apply to the Oxford campus. See First Year Admission Standards for information regarding admission.

Miami Regionals in Hamilton, Middletown and West Chester are commuter campuses with an open enrollment policy for first-time freshmen. Students not accepted to the Oxford campus may begin their Miami studies by commuting to one of the Regional locations. After fulfilling minimum requirements through the Regional Campuses, students may submit a request to entirely change their campus to Oxford or remain a Regional Campus student with permission to take one or two classes in Oxford.

Spring Semester, Summer and Winter Admission

First year students may be admitted for fall and spring semesters and are eligible for early enrollment the preceding summer or winter terms. Admission to some programs in the College of Creative Arts and Nursing is available only in the fall semester except by special permission.

Notification and Acceptance

Dates for notification of admission and your confirmation of acceptance are listed online (www.MiamiOH.edu/admission/) and in your admission packet.

As a member of the National Association of College Admission Counseling, Miami University supports the *Statement of Principles of Good Practice* and "permits candidates to choose, without penalty, among offers of admission and financial aid until May 1. Candidates admitted under an early decision program are recognized exceptions to this provision." (Section II, A, 6).

Dates for transfer student notification of admission and confirmation of enrollment are listed online (www.MiamiOH.edu/admission/transfer) and in the transfer admission packet.

New Student Orientation

All first-year students are required to attend a one-and-a-half day orientation program; at least one family member is encouraged to attend the program with their student. Orientation sessions are held during May and June for fall semester entry and in January for spring semester entry. The program provides an opportunity to learn more about the academic and student life and to register for classes.

Orientation program information is mailed to all incoming first-year students after they have confirmed their enrollment. Students register online for the program at orientation@MiamiOH.edu.

If a student cannot attend a fall orientation session in May or June, the student must attend August orientation and participate in advising and registration at that time. Please direct all questions about orientation, please call 513-529-9771 or email orientation@MiamiOH.edu. Also, visit our website for complete dates and details about all Orientation programs (www.MiamiOH.edu/orientation).

International students attend orientation approximately 1-2 weeks prior to the start of classes. Contact international@MiamiOH.edu for more information.

Non-degree Student Admission

High school students (College Credit Plus program): This state program provides opportunity for eligible middle and high school students (grades 7-12) to earn high school and college graduation credit through successful completion of college courses. Courses are open on a space-available basis. Questions regarding eligibility and admission should be directed to the Hamilton campus admission office. University housing is not available to students in this program. Prospective students should consult with their high school counselors.

Senior citizens: Individuals who are 60 years of age or older and have resided in the state of Ohio for at least one year can audit any course without charge if permission is granted by the instructor and facilities are available. Any special course requirements or fees are the responsibility of the student. Formal admission and registration are not required.

Visiting (transient) students: A student who attends another college or university, has been in attendance at the school during the past 12 months, is in good standing, and receives permission from that institution to attend Miami University.

Unclassified students: Students who have bachelor's degrees from other colleges or universities and do not want to get an additional degree from Miami may apply as unclassified students. Admission is granted as facilities are available.

International Student Admission

Basic requirements for admission of international students to undergraduate study include:

- Completion of formal secondary education in a pre-university curriculum that culminates in the award of a secondary school diploma or certificate which is generally recognized as the educational qualification necessary to gain admission to higher studies in your own country.
- Adequate financial support will be required for admitted international students to demonstrate the ability to meet the financial responsibility of attending Miami University and to receive appropriate visa eligibility documents.
- English language ability sufficient for you to undertake a full course of study. See the following section, "English Proficiency."

English Proficiency

International applicants (non-immigrants) whose native language is not English are required to submit evidence of English proficiency prior to their admission. In most cases, applicants will need to present satisfactory scores on the Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS). Information concerning these examinations and location of test centers can be obtained at www.toefl.org or www.ielts.org.

Students admitted through the American Culture and English (ACE) Program are conditionally admitted to Miami University as non-degree seeking students. For a student's status to change from conditional admission to regular, degree-seeking enrollment, students must complete the ACE core curriculum with a B- or higher in each of the required English language classes (ACE 112 and ACE 113) and with a passing grade (C or higher) in the American culture course. If a student does not achieve a grade of B- or higher in both ACE 112 and ACE 113, or does not receive a grade of C or higher in the American culture course, the student's enrollment status will remain conditional and the student will be required to retake the pertinent course(s) during his/her second semester. In addition to these courses, students with TOEFL of 60-64 take one additional course: ACE 051 (4) - Academic English Structure & Application, which supplements the other ACE courses in terms of foundational language support and includes a one-hour tutorial that supports students with their culture course. If the student does not earn grades of B- or higher in ACE 112 and ACE 113 and does not receive a grade of C or higher in the American culture course at the conclusion of the second semester, that student has not met the requirements of conditional admission and will not be allowed further enrollment at any Miami University campus.

Undergraduate international students, like all Miami undergraduates, must satisfy the freshman English requirement. Students will initially be placed in the appropriate English courses based on test scores or other English proof of proficiency received at the time of admission. Additional proficiency tests will be administered before or during international student orientation to determine English course placement.

ENG 107 (4) is designed to provide foundational skills for international students in written English. Upon successful completion, students will be placed in ENG 108 or 109. ENG 108 is a pre-freshman level course designed to provide international students with basic competence in written academic English. ENG 108 is followed by ENG 109, a first-year composition course that is similar to ENG 111 except ENG 109 concentrates on special needs of non-native speakers.

An additional speaking proficiency test will be administered either before or during international student orientation to determine

whether or not the student is in need of speaking support within the context of the student's required acculturation course. Upon review of each student's speaking sample, students will be assigned to one of the following courses. These courses are NOT part of a sequence, and students will take only one of these courses in their time at Miami. CAS 116 (3) is designed to support academic English speaking and listening skills, while supporting students in acclimation and acculturation to US educational culture as well as Miami University culture. UNV 101 is a transition course for first year students designed to establish a foundation for academic and co-curricular success at Miami.

Non-native English speakers may pursue additional practice in the use of written and spoken English through electives offered through the College of Arts & Science (CAS 131, CAS 133, CAS 134), as well as targeted support in writing through the English Language Learners Writing Center located at the Howe Writing Center in King Library.

Selective Admission

Student Handbook, under Selective Admission.

Conditional Admission

A student who is competitive for admission, but does not meet the minimum English language proficiency requirement, may be offered conditional admission. Conditional admission is only granted through approved intensive English language programs, including the Miami University American Culture and English (ACE) Program. For a student's status to be changed from conditional admission to regular enrollment, the student must complete and fulfill all criteria established by the approved program.

Information and Application

Information and application forms for prospective international undergraduate students are available online at MiamiOH.edu/admission/international. Students can also contact the office at:

Office of International and Transfer Admission
301 S. Campus Ave.
Miami University
Oxford, Ohio 45056-3434
U.S.A.
Phone: 513-529-2531
Fax: 513-529-0682
E-mail: goglobal@MiamiOH.edu
What's App: (001) 513-757-0756

Miami University Regionals Locations

Miami University Regionals are commuter campuses of Miami University, a highly-regarded public university with a national reputation. Regional locations include the Hamilton campus, the Middletown campus, and the Voice of America Learning Center (VOALC) in West Chester.

Miami Regionals includes the division of the College of Liberal Arts & Applied Science (CLAAS). CLAAS is home to twelve academic departments offering certificate, associate and bachelor degrees.

Many students earn their bachelor's degree by taking classes entirely at regional locations. Students may also earn select degrees online through Miami University Regionals. After meeting the required

criteria, students who begin on the regional campuses may change their campus and complete their degree on the Oxford campus.

Miami University Regionals Admission Standards

Miami University Regionals have an open admission policy for first-time freshmen. You must have graduated from a state-chartered high school or equivalent to be admitted. Alternatively, educated students without a High School Equivalency Diploma can demonstrate academic achievement by submitting a description of the curriculum, educational resources used during the last four years, and other information necessary to assess ability. ACT or SAT scores are not required, but placement exams may be requested.

A beginning freshman or transfer student admitted to Miami University Regionals may partially or fully change campus (take the majority of credit hours in Oxford) as a matriculated Miami University student with at least a 2.00 cumulative grade point average, an acceptable conduct record, and after earning at least 16 hours of graded Miami University college-level coursework (not including developmental 00_classes, CLEP, AP and College Credit Plus credit). At least one Fall or Spring semester must be completed on a regional campus. Winter term credits and grades cannot be utilized for Spring campus change as they are not posted until after the Spring semester begins. Students who want exceptions to these requirements granted must submit their request on the Change of Campus form.

More information is available in the chapter about Miami University Regionals (College of Liberal Arts and Applied Science). To receive further details about admission, contact:

Office of Admission
Miami University Hamilton
1601 University Blvd.
Hamilton, OH 45011

Office of Admission
Miami University Middletown
4200 N. University Blvd.
Middletown, OH 45042

Miami University Regionals website MiamiOH.edu/regionals/

Miami Regionals Admission email MURAdmission@MiamiOH.edu

Miami Regionals Admission phone number 513-785-3111

Transfer Student Admission

A transfer student is anyone who wishes to enroll in an undergraduate degree program at Miami and who has attended a college or university other than Miami after graduating from high school. If you have registered for one or more courses at another college after high school regardless of whether or not credit was granted, or entered the military, you must apply for admission as a transfer student. If you have earned Advanced Placement credit or college credit while attending high school or during the summer following your admission to Miami, you are not considered a transfer student.

Information on transfer admission and services can be found in the *Transfer Viewbook*, available from the Office of International and Transfer Admission.

Admission Requirements

You are required to have earned a high school diploma, be in good standing in all respects at your prior institution(s), and have a minimum of 2.00 GPA on your college courses to be eligible for transfer admission. Transfer students are responsible for meeting all requirements that are in effect when they first enroll as degree candidates.

Admission Prerequisites

If you graduated from high school after 1985, you are required to complete admission prerequisites to earn a baccalaureate degree. These are listed under “High School Preparation” in this chapter. If you did not complete these specific curriculum standards in high school or at the college(s) you attended, you must fulfill them in the same manner described for beginning freshmen.

Housing Requirement

If you are a freshman or sophomore transfer student who has registered for nine or more credit hours, you are required to live in university housing. You are not *required* to live in university housing if you will commute from your parents' or legal guardian's home; if you are married or live with dependent children; have matriculated full-time for at least two years at another institution, or if you are at least 21 years of age before the first day of classes. For students not required to live in University housing, University housing is not guaranteed.

Limited Admission to Programs

Transfer admission to some programs is limited. These programs include:

College of Creative Arts: Contact the appropriate department as soon as possible for specific requirements.

Incoming first-year and transfer students pursuing a major in Architecture, Art (studio), Art Education, Communication Design (graphic design), Games + Simulation, Interior Design, Music, Music Composition, Music Education, Music Performance, or Theatre are required to submit a **portfolio** and/or schedule an **audition/interview** by the admission application deadline. This is in addition to completing the common Application for admission to Miami University.

No portfolio is required for students pursuing a major in Art and Architecture History or Emerging Technology in Business and Design.

Portfolio and/or Audition Information

- Architecture or Interior Design
- Art, Art Education, or Communication Design
- Games + Simulation
- Music, music Composition, Music Education, or Music Performance
- Theatre

Farmer School of Business: To be admitted to the Farmer School of Business as a transfer student from another college/university,

a student must have earned 30 graded credit hours of college or university transfer credit post high school graduation. Students must have also earned an overall GPA of 3.50 or higher in all graded credit hours earned after high school graduation, which must include MTH 141 or MTH 151 and ECO 201 equivalents (via AP, college credit plus, or transfer courses). More information is available at: <http://miamioh.edu/fsb/admission/transfer/index.html>. Questions may be directed to the FSB Student Services Office at (513) 529-1712.

Transfer and Articulation Policy

Institutional Transfer

The Ohio Department of Higher Education in 1990, following a directive of the 119th Ohio General Assembly, developed the Ohio Articulation and Transfer Policy to facilitate students' ability to transfer credits from one Ohio public college or university to another in order to avoid duplication of course requirements. A subsequent policy review and recommendations produced by the Articulation and Transfer Advisory Council in 2004, together with mandates from the 125th Ohio General Assembly in the form of Amended Substitute House Bill 95, have prompted improvements of the original policy. Additional legislation from the 125th Ohio General Assembly also initiated the development of a statewide system for articulation agreements among state institutions of higher education for transfer students pursuing teacher education programs.

Action by the 126th Ohio General Assembly led to the establishment of criteria, policies, and procedures for the transfer of technical courses completed through a career-technical education institution; and standards for the awarding of college credit based on Advanced Placement (AP) test scores.

Legislation from the 130th Ohio General Assembly required public institutions of higher education to: use baseline standards and procedures in the granting of college credit for military training, experience, and coursework; establish an appeals process for resolving disputes over the awarding of credit for military experience; provide specific assistance and support to veterans and service members; adopt a common definition of a *service member* and *veteran*; and establish a credit articulation system in which adult graduates of public career-technical institutions who complete a 900 clock-hour program of study and obtain an industry-recognized credential approved by the Chancellor shall receive 30 college technical credit hours toward a technical degree upon enrollment.

While all public colleges and universities are required to follow the Ohio Articulation and Transfer Policy, independent colleges and universities in Ohio may or may not participate in the transfer policy. Therefore, students interested in transferring to independent institutions are encouraged to check with the college or university of their choice regarding transfer agreements. In support of improved articulation and transfer processes, the Ohio Department of Higher Education has established an articulation and transfer clearinghouse to receive, annotate, and convey transcripts among public colleges and universities. This system is designed to provide standardized information and help colleges and universities reduce undesirable variability in the transfer credit evaluation process.

Acceptance of Transfer and Articulated Credit

To recognize courses appropriately and provide equity in the treatment of incoming transfer students and students native to

the receiving institution, transfer credit will be accepted for all successfully completed college-level courses completed in and after Fall 2005 from Ohio public institutions of higher education. Students who successfully completed Associate of Arts (AA) or Associate of Science (AS) degrees prior to Fall 2005 with a 2.00 or better overall grade-point average would also receive credit for all college-level courses they have passed). While this reflects the baseline policy requirement, individual institutions may set equitable institutional policies that are more accepting.

Pass/Fail courses, credit-by-examination credits, experiential learning courses, and other non-traditional credit courses that meet these conditions will also be accepted and posted to the student record.

Application of Transfer and Articulated Credit

Application of credit is the decision process performed by the receiving institution to determine how the credits accepted and recorded on the student's official academic transcript will or will not apply toward program and degree requirements. While the receiving institution makes this decision, it will do so within the parameters of this Policy.

The following guidelines and requirements shall govern the application of transfer and articulated credit:

Ohio Transfer 36

The Ohio Department of Higher Education's Articulation and Transfer Policy established the Ohio Transfer 36, which may be a subset or the entire set of a public higher education institution's general education curriculum in Associate of Arts (AA), Associate of Science (AS) and baccalaureate degree programs. Students in applied associate degree programs may complete some individual Ohio Transfer 36 courses within their degree program or continue beyond the degree program to complete the entire OT 36. The Ohio Transfer 36 contains 36-40 semester or 54-60 quarter hours of course credit in English composition (minimum of 3 semester or 5 quarter hours); mathematics, statistics and logic (minimum of 3 semester or 3 quarter hours); arts and humanities (minimum of 6 semester or 9 quarter hours); social sciences (minimum of 6 semester or 9 quarter hours); and natural sciences (minimum of 6 semester or 9 quarter hours). Oral communication and interdisciplinary areas may be included as additional options. Additional elective hours from among these areas make up the total hours for a completed Ohio Transfer 36. Courses for the Ohio Transfer 36 should be 100- and 200-level general education courses commonly completed in the first two years of a student's course of study. Each public university and technical and community college is required to establish and maintain an approved Ohio Transfer 36.

Ohio Transfer 36 course(s) or the full OT 36 completed at one college or university will automatically meet the requirements of individual Ohio Transfer 36 course(s) or the full Ohio Transfer 36 at another college or university once the student is admitted. Students may be required, however, to meet additional general education requirements at the institution to which they transfer. For example, a student who completes the Ohio Transfer 36 at Institution S (sending institution) and then transfers to Institution R (receiving institution) is said to have completed the Ohio Transfer 36 portion of Institution R's general education program. Institution R, however, may have general education courses that go beyond its Ohio Transfer 36. State policy initially required that all courses in the Ohio Transfer 36 be completed to receive its benefit in transfer. However, subsequent policy revisions

have extended this benefit to the completion of individual Ohio Transfer 36 courses on a course-by-course basis.

Ohio Transfer 36 for Miami University

Important: Please refer to the Courses of Instruction section for a full course description and other details.

Code	Title	Credit Hours
English		6
Select six hours of the following including a second writing course:		
EGS 215	Workplace Writing	
ENG 111	Composition and Rhetoric	
ENG 112	Composition and Literature	
Mathematics and Statistics		3
Select three hours of the following:		
MTH 119	Quantitative Reasoning	
MTH 122	College Algebra	
MTH 124	Trigonometry	
MTH 125	Precalculus	
MTH 141	Business Calculus	
MTH 151	Calculus I	
MTH 249	Calculus II	
MTH 251	Calculus II	
STA 261	Statistics	
Arts/Humanities		3
Select at least three hours of the following:		
AMS/MUS 285	Introduction to African American Music	
ARC 188	Ideas in Architecture	
ARC 221	History of Architecture I	
ARC 222	History of Architecture II	
ART 181	Concepts in Art	
ART 187	Art and Society: Prehistoric to Medieval	
ART 188	Art and Society: Renaissance to Modern	
MUS 185	Multicultural Perspectives in Music	
MUS 189	Captivating Sounds: The Beauty of Western Music	
MUS 211	History of Western Music	
MUS 225	And the Beat Goes On. . . The History of Rock and Roll	
THE 101	Introduction to Theatre: Drama and Analysis	
THE 191	Experiencing Theatre	
Select three hours from the following:		
AMS 205	Introduction to American Cultures	
AMS/ENG 246	Native American Literature	
CLS 101	Greek Civilization in its Mediterranean Context	
CLS 121	Introduction to Classical Mythology	

EDL 204	Sociocultural Studies in Education	
ENG 122	Popular Literature	
ENG 123	Introduction to Poetry	
ENG 124	Introduction to Fiction	
ENG 125	Introduction to Drama	
ENG 134	Introduction to Shakespeare	
ENG 251	Introduction to European Literature	
ENG/LAS 254	Caribbean, Latin American and Latinx Literatures	
ENG 272	English Literature to 1660	
ENG 273	English Literature 1660-1900	
ENG 274	English Literature 1901 to Present	
ENG 275	American Literature to 1900	
ENG 276	American Literature 1900 to the Present	
FST 201	Film History and Analysis	
GER 231	Enchanted Worlds: Folk and Literary Fairy Tales	
HST 111	Survey of American History to 1877	
HST 112	Survey of American History: From 1877 to the Present	
HST 197	World History to 1500	
LAS/HST 215	Latin America in the United States	
LAS 208	Introduction to Latin America	
PHL 103	Society and the Individual	
PHL 105	Theories of Human Nature	
PHL 131	Introduction to Ethics	
REL 275	Introduction to the Critical Study of Biblical Literature	
RUS 137	Magic and Power in Russian Folklore	
Social Sciences		6
Select six hours from two different areas of the following:		
ATH 155	Introduction to Anthropology	
ATH 175	Global Cultural Diversity	
ATH 185	Cultural Diversity in the U.S.	
ECO 131	Economic Perspectives on Inequality in America	
ECO 201	Principles of Microeconomics	
ECO 202	Principles of Macroeconomics	
EDP 101	Psychology Of The Learner	
EDP 201	Human Development and Learning in Social and Educational Contexts	
FSW 261	Diverse Family Systems Across the Life Cycle	
GEO 101	Global Forces, Local Diversity	
GEO 111	World Regional Geography: Patterns and Issues	
GEO 201	Geography of Urban Diversity	
GTY 154	Aging in American Society	
ITS 201	Introduction to International Studies	
MJF 105	Media, Culture and You	
POL 142	American Politics and Diversity	
POL 221	Comparative Politics	
POL 241	American Political System	

POL 271	World Politics
PSY 111	Introduction to Psychology
SOC 151	Social Relations in the U.S.
SOC 153	Sociology in a Global Context
SPA 223	Theories of Language Development
WGS 201	Introduction to Women's Studies

World Cultures and Intercultural Perspectives

Select six hours of the following: 6

ATH 175	Global Cultural Diversity
CLS 101	Greek Civilization in its Mediterranean Context
GEO 111	World Regional Geography: Patterns and Issues
HST 197	World History to 1500
IDS 159	Strength Through Cultural Diversity
ITS 201	Introduction to International Studies
LAS 208	Introduction to Latin America
POL 221	Comparative Politics
POL 271	World Politics

Diversity, Equity and Inclusion

Select three hours. 3

AMS 205	Introduction to American Cultures
ATH 185	Cultural Diversity in the U.S.
LAS/HST 215	Latin America in the United States
SOC 153	Sociology in a Global Context

Natural Sciences

Select six hours. One course must include a laboratory. 6

BIO 115	Biological Concepts: Ecology, Evolution, Genetics, and Diversity
or MBI 115	Biological Concepts: Ecology, Evolution, Genetics, and Diversity
or BIO 116	Biological Concepts: Structure, Function, Cellular, and Molecular Biology
or MBI 116	Biological Concepts: Structure, Function, Cellular and Molecular Biology
BIO 121	Environmental Biology
BIO 131	Plants, Humanity, and Environment
BIO 161	Principles of Human Physiology
BIO 171	Human Anatomy and Physiology
BIO 176	Ecology of North America
BIO 191	Plant Biology
CHM 111	Chemistry in Modern Society
CHM 111L	Chemistry in Modern Society Laboratory
CHM 141	College Chemistry
CHM 144	College Chemistry Laboratory
GEO 121	Earth's Physical Environment
GLG 111	The Dynamic Earth
GLG 115L	Understanding the Earth
GLG 121	Environmental Geology
GLG 141	Geology Of U.S. National Parks
MBI 111	Microorganisms and Human Disease
MBI 121	The Microbial World

MBI 123	Experimenting with Microbes
PHY 101	Physics and Society
PHY 103	Concepts in Physics Laboratory
PHY 111	Astronomy and Space Physics
PHY 121	Energy and Environment
PHY 191	General Physics with Laboratory I
PHY 192	General Physics with Laboratory II

Total Credit Hours 36

Transfer Assurance Guides (TAGS)

Transfer Assurance Guides (TAGs) comprise Ohio Transfer 36 courses and additional courses required for an academic major called TAG courses. A TAG is an advising tool to assist Ohio universities and community and technical college students in planning for specific majors and making course selections that will ensure comparable, compatible, and equivalent learning experiences across Ohio's public higher education system. A number of area-specific TAG pathways in meta majors including the arts, humanities, business, communication, education, health, mathematics, science, engineering, engineering technologies, and the social sciences, and foreign languages have been developed by faculty teams.

TAGs empower students to make informed course selection decisions and plans for their future transfer. Advisors at the institution to which a student wishes to transfer should also be consulted during the transfer process. Students may elect to complete the full TAG or any subset of courses from the TAG. Because of specific major requirements, early identification of a student's intended major is encouraged. More information can be found on the Ohio Department of Higher Education website <http://www.ohiohighered.org/transfer/tag>.

Career-Technical Assurance Guides (CTAGS)

Collaboration among the Ohio Department of Higher Education, the Ohio Department of Education, and other key stakeholders led to the development of policies and procedures to create statewide discipline specific articulation agreements and further ensure that students completing coursework at an adult or secondary career-technical institution can transfer agreed-upon technical courses/programs to any Ohio public institution of higher education "without unnecessary duplication or institutional barriers."

Career-Technical Assurance Guides (CTAGs) are statewide articulation agreements that guarantee the recognition of learning which occurs at public adult and secondary career-technical institutions and have the opportunity for the award of college credit toward technical courses/programs at any public higher education institution. CTAGs serve as advising tools, identifying the statewide content guarantee and describing other conditions or obligations (e.g., program accreditation or industry credential) associated with the guarantee. For more information, visit the Ohio Board of Regents website <http://www.ohiohighered.org/transfer/ct2>.

One-Year Option Credit Award

The One-Year Option builds upon Ohio's articulation and transfer system to help more adults accelerate their preparation for work by earning a technical associate degree. Consistent with the philosophy of the Career-Technical Assurance Guides (CTAGs), the One-Year

Option guarantees that college credit will be awarded for college-level learning that occurs through adult programs at career-technical centers.

Adults who complete a career-technical education program of study consisting of a minimum of 900 clock-hours and achieve an industry-recognized credential approved by the Chancellor shall receive thirty (30) semester hours of technical course credit toward a standardized Associate of Technical Study Degree (ATS) upon matriculation at a public institution of higher education that confers such a degree. The 30 semester hours will be awarded as a block of credit rather than credit for specific courses. Proportional credit is awarded toward the ATS degree for adults who complete a program of study between 600 and 899 clock hours.

The credit earned through the One-Year Option will be applied to ATS degrees bearing the following standardized degree titles:

1. Associate of Technical Study in Building and Industrial Technology
2. Associate of Technical Study in Business Technology
3. Associate of Technical Study in Health and Allied Health Technology
4. Associate of Technical Study in Information Technology
5. Associate of Technical Study in Services Technology

Military Transfer Assurance Guides (MTAGs)

In response to the legislative requirement (Ohio Revised Code 3333.164) to create a military articulation and transfer assurance guide for college credit that is earned through military training, experience, and coursework, college credit will be granted to students with military training, experience, and/or coursework that is recognized by the American Council on Education (ACE) or regionally accredited military institutions, such as the Community College of the Air Force.

In order to streamline the awarding, transferability, and applicability of college credit, service members and veterans are guaranteed to earn certain types of credit(s) or course(s) as specified in the Military Transfer Assurance Guides (MTAGs), which are based on the endorsed baseline standards and procedures by the Chancellor. Equivalent course(s), credits for courses, or block of credit is to be awarded and applied towards general education and/or major course requirements at the receiving institution in accordance with the MTAG guarantee. There is some training, experience, and coursework that the receiving institution may be able to award college credit only toward general or free electives.

In addition, public institutions of higher education shall ensure that appropriate equivalent credit is awarded for military training, experience, and coursework that meet the baseline standards and procedures according to the Ohio Revised Code 3333.164. This requirement goes beyond credit/course awarded based on the MTAG alignment process. More information will be forthcoming and posted on the Ohio Department of Higher Education website <http://www.ohiohighered.org>.

Apprenticeship Pathway Programs

The Apprenticeship Pathways initiative advocates for individuals completing apprenticeships by incorporating their learning into academic credit, thereby saving them time and money and

encouraging them to advance their academic credentials to contribute to a strong, educated workforce.

Ohio apprenticeship programs partner with public community colleges to provide technology-specific statewide articulation agreements that recognize non-traditional prior learning. College credit is awarded toward a technical associate degree. Each agreement simplifies student advising by outlining how apprenticeship training in a certain pathway applies to an applied associate degree and lists remaining courses required to complete the degree. The application of the credit toward a technical associate degree in these agreements is guaranteed at the participating receiving institution.

Conditions for Transfer Admission

1. Graduates with associate degrees from Ohio's public institutions of higher education and a completed, approved Ohio Transfer 36 shall be admitted to a public institution of higher education in Ohio, provided their cumulative grade-point average is at least 2.0 for all previous college-level courses. Further, these students shall have admission priority over graduates with an out-of-state associate degree and other transfer students with transferable and/or articulated college credit.
2. Associate degree holders who have not completed the Ohio Transfer 36 from an Ohio public institution of higher education will be eligible for preferential consideration for admission as transfer students as long as the institution's admission criteria, such as the minimum academic standards, space availability, adherence to deadlines, and payment of fees, are fairly and equally applied to all undergraduate students.
3. In order to encourage completion of the baccalaureate degree, students who are not enrolled in or who have not earned an Associate of Arts (AA) or Associate of Science (AS) degree but have earned 60 semester/90 quarter hours or more of credit toward a baccalaureate degree with a cumulative grade-point average of at least a 2.0 for all previous college-level courses will be eligible for preferential consideration for admission as transfer students as long as the institution's admission criteria, such as the minimum academic standards, space availability, adherence to deadlines, and payment of fees, are fairly and equally applied to all undergraduate students.
4. Students who have not earned an associate degree or who have not earned 60 semester/90 quarter hours of credit with a grade-point average of at least a 2.0 for all previous college-level courses will be eligible for admission as transfer students on a competitive basis.
5. Incoming transfer students admitted to a college or university shall compete for admission to selective programs, majors, and units on an equal basis with students native to the receiving institution.

Admission to a given institution, however, does not guarantee that a transfer student will be automatically admitted to all majors, minors, or fields of concentration at the institution. Once admitted, transfer students shall be subject to the same regulations governing applicability of catalog requirements as native students. Furthermore, transfer students shall be accorded the same class standing and other privileges as native students on the basis of the number of credits earned. All residency requirements must be completed at the receiving institution.

Responsibilities of Students

To maximize transfer credit application, prospective transfer students must take responsibility for planning their course of study to meet both the academic and non-academic requirements of the institution to which they desire to articulate or transfer credit as early as possible. The student is responsible to investigate and use the information, advising, and other available resources to develop such a plan. Students should actively seek program, degree, and transfer information; meet with an advisor from both the current and receiving institutions to assist them in preparing a course of study that meets the academic requirements for the program/degree to which they plan to transfer; use the various electronic course/program transfer and applicability database systems, including Ohio Transfer to Degree Guarantee web resources; and select courses/programs at their current institution that satisfy requirements at the receiving institution to maximize the application of transfer credit. Specifically, students should identify early in their collegiate studies an institution and major to which they desire to transfer. Furthermore, students should determine if there are foreign language requirements or any special course requirements that can be met during the freshman or sophomore year. This will enable students to plan and pursue a course of study that will better articulate with the receiving institution's major.

Appeals Process

Following the evaluation of a student transcript from another institution, the receiving college institution will provide the student with a Statement of Transfer Credit Applicability (Degree Audit Report). A student disagreeing with the application of transfer credit by the receiving institution must file his/her appeal in writing within ninety (90) days of receipt of the statement of transfer credit applicability. The institution shall respond to the appeal within 30 days of the receipt of the appeal at each appeal level.

Student Complaints Following Transfer Appeals at the Receiving Institution

After a student exhausts the appeals process at the receiving institution and chooses to pursue further action, the Ohio Department of Higher Education (ODHE) responds to formal written complaints related to Ohio Articulation and Transfer Policy against public, independent non-profit, and proprietary institutions of higher education in Ohio. While the ODHE has limited authority over colleges and universities and cannot offer legal advice or initiate civil court cases, staff will review written complaints submitted through its established process and work with student complainants and institutions.

Transfer Credit Evaluations

Evaluations of academic transfer credit are conducted by the Office of the University Registrar based upon course equivalencies approved by the Ohio Department of Higher Education, Miami's academic departments and the general guidelines articulated below. Students are encouraged to confer with their academic advisor to determine whether the credit satisfies specific curriculum requirements within their plan(s) of study.

Only coursework that is transcribed on an institution's official transcript issued by the institution's registrar's office or similar

authorizing designee and sent directly from the transcribing institution to Miami University will be eligible for transfer credit consideration. Transfer credit will be awarded from eligible originating institutions based on the content, level, course value, length of study, and applicability of the course to Miami offerings.

All transferred coursework approved for transfer credit is posted on the student's Miami academic record at Miami University without grade. Posted transfer work will not be removed from the academic record.

Applicability of accepted transfer work will be determined by the University's academic departments/divisions and in accordance with the Ohio Articulation and Transfer Policy established by the Ohio Department of Higher Education.

International Transfer Credit Eligibility

For foreign institutions not holding regional U.S. accreditation, Miami looks to quality assurance bodies and Ministries of Education as a baseline for accepting and awarding transfer credit. Quality assurance bodies and Ministries of Education have been authorized to operate by their respective governments as either agencies of the government or as private entities (Council for Higher Education Accreditation). For the purpose of this policy, such agencies are referred to as accrediting bodies, and institutions authorized by such agencies are referred to as Institutions of Higher Education (IHE).

To determine if credit from a foreign institution is eligible for transfer evaluation, Miami University will review criteria, including but not limited to, admission requirements, grades, length of program and program type (including degree or non-degree), credential qualifications/requirements, and course level/content at the originating institution and comparatively analyze those factors with Miami requirements to determine if credit from the foreign institution is eligible for evaluation and transfer.

Nontraditional Transfer Credit Eligibility

A maximum of 32 semester hours of non traditional credit may be awarded, and only 20 of the 32 semester hours may be in correspondence coursework.

Courses taken at U.S. military services schools will be accepted as nontraditional transfer credit on the basis of the publication, "Guide to the Evaluation of Educational Experience in the Armed Services," prepared by the American Council on Education (ACE). Nontraditional transfer credit will also be awarded for military training and experience in the Armed Services based on the evaluation by ACE for students entering the University fall 2012 or after.

Nontraditional credit earned through non-collegiate sponsored instruction that has been evaluated by (ACE) (listed in the National Guide), will be accepted for transfer. The appropriate academic department may evaluate the course for Miami equivalent Miami credit.

Exceptions to the 32 semester hour maximum of nontraditional credit include:

1. Credit earned either by taking national standardized examinations, such as CLEP, International Baccalaureate, or

Advanced Placement tests which are recognized by an academic department of Miami University as equivalent to one or more of its course offerings, or by taking proficiency examinations administered by an academic department at Miami. (See policy "Registration" section "Proficiency Examinations").

2. Credit earned through portfolio submission.

Transfer Credit Appeal

A student may appeal a transfer credit evaluation by submitting a Transfer Appeal Form to the Office of the University Registrar. The Office of the University Registrar will work with the appropriate academic division/department to review and consider the appeal and will notify the student of the appeal decision.

Applying a Transfer Course to the Miami Plan

If you believe a course taken at another university or college satisfies the spirit of the Miami Plan for Liberal Education requirement, but does not correspond to a specific course, you may petition the Liberal Education Council to apply the course toward the Miami Plan. Obtain a petition from the Office of Liberal Education or its website (www.MiamiOH.edu/liberal-ed), request the chair of the appropriate Miami department to evaluate your transfer course, and then present the petition to the Office of Liberal Education. A syllabus of the course must be attached to the petition.

Capstones are designed to culminate your baccalaureate study and are rarely taken off-campus or transferred from another institution. Students who plan to transfer any course to meet the Capstone requirement must obtain permission from the Office of Liberal Education before they take the course.

If the English composition requirement (Foundation I) was waived for you by another school, Miami's English department will evaluate your eligibility for a similar waiver. In most cases, students are asked to submit a portfolio of their writing. Contact the English department for detailed instructions on preparing your portfolio. The department will notify the University Registrar and the Office of Liberal Education of its decision. No petition is required for this procedure.

Liberal Education at Miami

Office of Liberal Education

315A/B Laws Hall

Phone: 513-529-7135

www.MiamiOH.edu/liberal-ed

The Miami Plan: Global. Innovative. Impactful.

Miami University was founded in 1809 on the belief that a liberal education provides the best possible experience for life in a changing world. "Liberal," from the Latin *liberalis*, means "free" - the kind of education that free and democratic citizens should attain. Miami's emphasis on global and innovative liberal education continues and is now referred to as the Miami Plan (MP). All students entering Miami in Fall 2023 or later participate in new MP requirements.

The Miami Plan enhances specialized studies in any major or professional field and provides contexts for exploring social, academic, political, and professional choices. The MP empowers students to creatively transform the future with the tools to question assumptions, design solutions, exchange views with others, and become better global citizens. The overall MP experience develops transferable skills in Miami's "Four Pillars" that embody the values and mission of a Miami education.

- Civic-Mindedness and Social Engagement
- Critical and Integrative Thinking
- Collaboration and Innovation
- Communication and Expression

The three main components of the MP are the Perspectives Areas, Signature Inquiries, and Knowledge in Action.

1. Perspectives Areas (39 hours minimum)

These courses broaden students' intellectual skills by equipping them to examine issues from the perspectives of different academic disciplines and interdisciplinary departments and to engage with different cultural perspectives. The Global Citizenship Perspectives Area sets Miami's liberal education experience apart from programs at other universities. Students will be prepared to bring new perspectives to bear on problems addressed in their future professional and civic life.

Formal Reasoning and Communication (9 hours)

- Composition (3 hours)
- Advanced Writing (3 hours)
- Mathematics and Formal Reasoning (3 hours)

Science and Society (12 hours minimum)

- Social Sciences (6 hours)
- Natural Sciences (6 hours minimum; must include one laboratory course).

Arts and Humanities (6 hours)

- Creative Arts (3 hours)
- Humanities (3 hours)

Global Citizenship (12 hours)

- Diversity, Equity and Inclusion (3 hours)
- Intercultural Consciousness (3-6 hours)
- Global Inquiry (3-6 hours)

2. Signature Inquiries (9 hours)

Miami's Signature Inquiries are curricular innovations designed around 5 major areas for topic-based inquiry, pushing the boundaries of pedagogy. These courses encourage faculty and students working in different academic areas to connect in addressing vital and important needs in today's world that require understanding and solutions from a variety of disciplines. Signature Inquiries guide students to areas of study beyond their primary major(s). They feature authentic, active learning and application of knowledge, and are interdisciplinary at minimum in the course readings, activities, or methodologies. Best of all they are designed for the benefit of non-majors who can employ prior knowledge or skills from these courses into other fields.

Requires 9 hours minimum from 3 different departments/programs that can "double dip" with the Perspectives Areas requirement. Students may choose to concentrate on one topic, or they can take hours from different topic areas that include:

- *Sustainability and Resilience*
- *Power, Justice, and Social Change*
- *Technology, Information, and Society*
- *Creativity, Storytelling, and Design*
- *Global Health and Wellness*

3. Knowledge in Action (3 hours minimum)

Throughout their education, but especially as they approach graduation, students are encouraged to look to the horizons at their future in the world. Students participate in experiential learning and, as culmination of their Miami education, a Miami Senior Capstone course. These experiences place a special emphasis on applying knowledge and skills they've gained during their time at Miami to settings beyond Miami.

Experiential Learning (0+ hours)

- The EL requirement carries no specific credit hour minimum and can be fulfilled by coursework, service learning, independent study, internships, student teaching, performance or portfolio projects.

Senior Capstone (3 hours)

- The SC requirement is met by completing 3 hours in an approved Senior Capstone course during a student's senior year (minimum of 93 hours registered or earned).

Global Miami Plan Students (Pre-2023)

For students who enrolled prior to Fall 2023, please see the appropriate Bulletin year for Global Miami Plan requirements.

Students enrolled under the Global Miami Plan (pre-2023) may opt to fulfill their liberal education requirements with the new Miami Plan outlined here. Contact the Divisional advising offices for details.

For more information regarding the Miami Plan, or the old Global Miami Plan (pre-2023), please visit the Office of Liberal Education website: www.MiamiOH.edu/liberal-ed

Perspectives Areas

Perspectives Area (PA) courses are listed below according to the area(s) they satisfy. Some PA courses will appear in two or more areas, but these hours cannot "double dip." For example, ATH 185 is classified as a PA course in the Social Sciences and Diversity, Equity, and Inclusion (DEI), but students may use to fulfill **one** Perspective Areas requirement only. PA courses can, however, "double dip" with Signature Inquiry hours. So - for example - ATH 185 can only count as either PA Social Science **or** DEI, but with either of those, it can also "double dip" as Signature Inquiry hours.

Frequency of Course Offerings: Course scheduling patterns are subject to change and are determined by each program, department, or college. Frequency of offerings can change without notice, and students should always consult the Banner schedule for any given semester. However, every Miami Plan course should be offered at least once every 4 semesters, if not more.

Advising: Please consult with an Academic Advisor for specific questions regarding course scheduling, degree maps, and Miami Plan requirements.

Perspectives Area 1: Formal Reasoning and Communication (9 hours)

Mathematics and Formal Reasoning (PA1A - 3 hours)

Code	Title	Credit Hours
ARC 212	Principles of Environmental Systems	3
CMR 282	Computer-Based Business Analysis	3
CSE 151	Computers, Computer Science, and Society	3
CSE 163	Introduction to Computer Concepts and Programming	3
CSE 243	Problem Analysis Using Computer Tools	3
IMS 222	Introduction to Interaction Design and Development	3
LIN 201	Introduction to Linguistics	3
MTH 115	Mathematics for Teachers of Grades P-6	4
MTH 119	Quantitative Reasoning	4
MTH 121	Finite Mathematical Models	3
MTH 135	Introductory Mathematics for Science Applications	3
MTH 141	Business Calculus	5

MTH 151	Calculus I	4
MTH 249	Calculus II	5
MUS/IMS 221	Music Technologies	3
PHL 273	Formal Logic	4
STA 261	Statistics	4
THE 257	Stagecraft and Theatre Technologies	3

Composition (PA1B - 3 hours)

Code	Title	Credit Hours
ENG 109	Composition and Rhetoric for Second-Language Writers	4
ENG 111	Composition and Rhetoric	3

Advanced Writing (PA1C - 3 hours)

Code	Title	Credit Hours
AAA/AMS/CRE/LAS/WGS 211	Writing with Purpose: Interdisciplinary Inquiry and Communication	3
AMS 206	Approaches to American Culture	3
ART 285	Writing and the Visual Arts	3
ATH 231	Foundations of Cultural Anthropology	4
BIO 115 & BIO 116	Biological Concepts: Ecology, Evolution, Genetics, and Diversity and Biological Concepts: Structure, Function, Cellular, and Molecular Biology	8

and two of the following (need the W modifier):

BIO 203	Introduction to Cell Biology	
or BIO 204	Evolution of Plant Biodiversity: Genes to Biosphere	
or BIO 206	Evolutionary Biology	
or BIO 209	Fundamentals of Ecology	
or BIO 305	Human Physiology	
BIS/EGS 305	Integrative Writing in Global Contexts	3
BUS/ENG 284	Professional Communication for Business	3
CHM 375	Analytical Chemistry for Majors	3
CJS 282	Writing in Criminal Justice	3
CRE 211	Writing with Purpose: Interdisciplinary Inquiry and Communication	3
CRE/SJS 287	Anti-Racism Social Movements: From ideas to action	3
ECO 311 & ECO 315 & ECO 317	Examining Economic Data and Models and Intermediate Microeconomic Theory and Intermediate Macroeconomic Theory	9

and any two ECO courses at the 400 level (not including the capstone course)

EDP 324	Research and Applied Writing Across the Disciplines	3
EGS 215	Workplace Writing	3
EGS 301	Writing and the Professions	3
EGS 319	Medical Writing	3

ENG/IMS 224	Professional Communication & Digital Rhetoric	3
ENG 225	Advanced Composition	3
ENG 226	Introduction to Creative Writing: Short Fiction and Poetry	3
ENG/STC 285	Professional Communication for Data Analytics	3
ENG 298	Introduction to Literary and Cultural Studies	3
ENG 313	Technical Writing	3
ENG 315	Business Writing	3
FRE 301 & FRE 303 or FRE 310	Culture & Interpretation and Modern and Contemporary Literature and Life Texts in Context	6
FSW 304 & FSW 418/ FSW 518	Professionalism and Ethics for Practice and Program Development and Evaluation	6
FSW 333	Writing For Helping Professions	3
GEO 201 & GEO 451/ GEO 551	Geography of Urban Diversity and Urban and Regional Planning	6
GEO 211	Global Sustainable Futures	3
GLG 204 & GLG 301 or GLG 357	Survival on an Evolving Planet and Sedimentology and Stratigraphy Igneous/Metamorphic Petrology	7
GTU 354	Issues & Controversies in Aging	3
HST 206	Introduction to Historical Inquiry	3
IMS 317	Writing for Games	3
ITS 202	Problem Solving in International Studies	3
JRN 201	Reporting and News Writing I	3
MAC 212	Media, Representation, and Society	3
MBI 201 & MBI 365	General Microbiology and Molecular and Cell Biology	7
MBI 255	Modern Microbiology Applications	4
MTH 331	Proof: Introduction to Higher Mathematics	3
MUS 313	Writing About Small Screen Sounds	3
NSG 301	Theory-Based Nursing Practice	3
PHL 245	Writing Philosophy	3
PSY 294	Writing and Research Methods in Psychology	4
REL 201	Methods for the Study of Religion	3
SPN 316	Intermediate Spanish Composition	3
STC 359	Advanced Strategic Communication Writing	3
TCE 284	Writing for Educators	3
THE 316	Dramaturgy	3
THE 418/THE 518	Playwriting	3

Perspectives Area 2: Science and Society (12 hours minimum) Social Sciences (PA2A - 6 hours)

Code	Title	Credit Hours
AAA 201	Intro to Asian/ Asian Amer	3
AAA 207	Asia and Globalization	3
AAA/PSY 210	Psychology Across Cultures	3
ASO 201	Introduction to Applied Social Research	3
ATH 145	Lost Cities & Ancient Civilizations	3
ATH 155	Introduction to Anthropology	3
ATH 175	Global Cultural Diversity	3
ATH 185	Cultural Diversity in the U.S.	3
ATH 190	Emergent Controversies: Anthropological Perspectives	1-4
ATH 235	Imagining and Encountering the Anthropological Other	3
ATH 313	Latin American Archaeology	3
ATH 327	Pokemon and J-Pop in Global and Local Contexts	3
CJS 101	Introduction to the Criminal Justice Studies	3
CMR 106	Introduction to Business and the Economy	3
CRE/SOC/SLM 279	African Americans in Sport	3
ECO 131	Economic Perspectives on Inequality in America	3
ECO 201	Principles of Microeconomics	3
ECO 202	Principles of Macroeconomics	3
EDL 203	Introduction to Critical Youth Studies	3
EDL 232	Introduction to Community-Based Leadership	3
EDP 101	Psychology Of The Learner	3
EDP 201	Human Development and Learning in Social and Educational Contexts	3
EDP 256	Psychology of the Exceptional Learner	3
EDP/DST/SOC 272	Introduction to Disability Studies	3
EDP 279	Technology + Media Literacy and Learning	3
EDP 366	Cross-cultural Examination of the United States and China within an Educational Context	3
FSW 206	Social Welfare Policies & Programs	4
FSW 245	Children and Families: Ages Conception - 12	3
FSW 261	Diverse Family Systems Across the Life Cycle	3
GEO 101	Global Forces, Local Diversity	3
GEO 111	World Regional Geography: Patterns and Issues	3
GEO/SJS 159	Creating Global Peace	3
GEO 201	Geography of Urban Diversity	3
GEO/ITS/SOC 208	The Rise of Industrialism in East Asia	3

GEO/AMS 352	Geographies of Urban Change	3
GIC 101	Global and Intercultural Studies	3
GIC 301	Approaches to Global and Intercultural Studies: Globalization and Belonging	3
GTY 154	Aging in American Society	3
IDS 159	Strength Through Cultural Diversity	3
ITS 201	Introduction to International Studies	3
KNH 125	Introduction to Public Health	3
KNH 188	Physical Activity and Health	3
KNH 214	Global Well-Being	3
KNH 242	Personal Health	3
LAS 208	Introduction to Latin America	3
LIN 210	Special Topics in Language Awareness	3
MGT 111	Introduction to Business	3
MJF 205	Introduction to Comm & Tech	3
POL 142	American Politics and Diversity	3
POL 221	Comparative Politics	3
POL 241	American Political System	3
POL 271	World Politics	3
PSY 111	Introduction to Psychology	3
SJS/SOC 165	Social Justice Perspectives	3
SOC 151	Social Relations in the U.S.	3
SOC 153	Sociology in a Global Context	3
SOC 257	Population	3
SPA 127	Introduction to Communication Disorders	3
SPA 223	Theories of Language Development	3
STC 136	Introduction to Interpersonal Communication	3
WGS 201	Introduction to Women's Studies	3

Natural Sciences (PA2B - 6 hours minimum; must include 1 lab course)

Code	Title	Credit Hours
ATH 255	Introduction to Biological Anthropology	4
BIO 101	Biotechnology: Coming of Age in the 21st Century	3
BIO/MBI 115	Biological Concepts: Ecology, Evolution, Genetics, and Diversity	4
BIO/MBI 116	Biological Concepts: Structure, Function, Cellular, and Molecular Biology	4
BIO 121	Environmental Biology	3
BIO 126	Evolution: Just a theory?	3
BIO 131	Plants, Humanity, and Environment	3
BIO 155	Field Botany	3
BIO 161	Principles of Human Physiology	4
BIO 171	Human Anatomy and Physiology	4
BIO 176	Ecology of North America	3
BIO 191	Plant Biology	4
CHM 111	Chemistry in Modern Society	3

CHM 111L	Chemistry in Modern Society Laboratory	1
CHM 121	Introduction to Forensic Chemistry	4
CHM 131	Chemistry of Life Processes	4
CHM 141	College Chemistry	5
& CHM 144	and College Chemistry Laboratory	
CHM 141R	College Chemistry	6
& CHM 144	and College Chemistry Laboratory	
CHM 144	College Chemistry Laboratory	2
CHM 144M	College Chemistry Laboratory for Majors	2
GEO 121	Earth's Physical Environment	4
GEO 122	Geographic Perspectives on the Environment	3
GLG 111	The Dynamic Earth	3
GLG 115L	Understanding the Earth	1
GLG 121	Environmental Geology	3
GLG 141	Geology Of U.S. National Parks	3
GLG 307	Water and Society	3
IES 186	Sustainable Farming and Food	3
IES 278	Introduction to Food Systems	3
IES 278L	Understanding Food Systems Laboratory	1
KNH 102	Food, Nutrition & Health	3
MBI 111	Microorganisms and Human Disease	3
MBI 121	The Microbial World	3
MBI 123	Experimenting with Microbes	1
MBI 131	Community Health Perspectives	3
MBI 143	Parasitology and Mycology Labs	1
MBI 161	Elementary Medical Microbiology	4
PHY 101	Physics and Society	3
PHY 103	Concepts in Physics Laboratory	1
PHY 111	Astronomy and Space Physics	3
PHY 121	Energy and Environment	3
PHY 131	Physics for Music	3
PHY 141	Physics in Sports	3
PHY 161	Physics for the Life Sciences with Laboratory I	4
PHY 162	Physics for the Life Sciences with Laboratory II	4
PHY 181	General Physics I	4
PHY 182	General Physics II	4
PHY 183	General Physics Laboratory I	1
PHY 184	General Physics Laboratory II	1
PHY 191	General Physics with Laboratory I	5
PHY 192	General Physics with Laboratory II	5

Perspectives Area 3: Arts and Humanities (6 hours)

Creative Arts (PA3A - 3 hours)

Code	Title	Credit Hours
ARC 107	Global Design	3
ARC 188	Ideas in Architecture	3
ARC 221	History of Architecture I	3
ARC 222	History of Architecture II	3
ART 162	Arts of Africa, Oceania and Native America	3
ART 181	Concepts in Art	3
ART/AMS 183	Images of America	3
ART 187	Art and Society: Prehistoric to Medieval	3
ART 188	Art and Society: Renaissance to Modern	3
ART 189	History of Western Dress	3
ART 195	Introduction to Art Education	3
ART 233	Global Perspectives on Dress	3
ART 256	Design, Perception & Audience	3
ART 276	Introduction to the Art of the Black Diaspora	3
ART 283	Modern America	3
ART 286	History of Asian Art, China, Korea, and Japan	3
CCA 111	Innovation, Creativity and Design Thinking	3
CCA 121	Introduction to the Integrated Arts and Culture	3
FAS 281	Contemporary Fashion History of 20th-21st Century	3
IMS 254	Design Thinking & Design Principles Applied	3
MUS/AMS 135	Understanding Jazz, Its History and Context	3
MUS 184	Opera: Passport to the Liberal Arts	3
MUS 186	Global Popular Music	3
MUS 189	Captivating Sounds: The Beauty of Western Music	3
MUS 204	Brazilian Culture Through Music and Film	3
MUS 206	Tracking Sounds: A History of Film Music	3
MUS 211	History of Western Music	3
MUS/IMS 221	Music Technologies	3
MUS 225	And the Beat Goes On. . . The History of Rock and Roll	3
MUS/AMS 285	Introduction to African American Music	3
MUS/WGS 287	Enter the Diva: Women in Music	3
THE 123	Acting for the Non-Major: Text and Performance	3
THE 131	Principles of Acting	3

THE 191	Experiencing Theatre	3
THE 257	Stagecraft and Theatre Technologies	3
THE 351	Dance as Culture	3

Humanities (PA3B - 3 hours)

Code	Title	Credit Hours
AAA/REL 203	Global Religions of India	3
AAA/ENG/FST 249	Asian & Asian American Cinema	3
AMS 205	Introduction to American Cultures	3
AMS 207	America: Global and Intercultural Perspectives	3
AMS/AAA/ENG 248	Asian American Literature	3
AMS 305	American Icons	3
ARC 221	History of Architecture I	3
ARC 222	History of Architecture II	3
ART/AMS 183	Images of America	3
ART 283	Modern America	3
CHI 251	Traditional Chinese Literature in English Translation	3
CHI 252	Modern Chinese Literature in English Translation	3
CHI/JPN 255	Drama In China/Japan:Eng Trans	3
CHI 257	Chinese Satire	3
CHI 261	Forbidden Romance in Modern Chinese Culture	3
CLS 101	Greek Civilization in its Mediterranean Context	3
CLS 102	Roman Civilization: From City to Empire	3
CLS 121	Introduction to Classical Mythology	3
EDL 204	Sociocultural Studies in Education	3
EDL 351	Leadership Ethics in Community Contexts	3
ENG 122	Popular Literature	3
ENG 123	Introduction to Poetry	3
ENG 124	Introduction to Fiction	3
ENG 125	Introduction to Drama	3
ENG 129	Books You Need To Read	3
ENG 134	Introduction to Shakespeare	3
ENG 163	Literature and Travel	3
ENG/DST 169	Disability and Literature	3
ENG/IMS 171	Humanities and Technology	3
ENG/FST 220	Literature and Film	3
ENG/FST 221	Shakespeare and Film	3
ENG 237	GLBTQ Literature	3
ENG/IMS 238	Narrative and Digital Technology	3
ENG/AMS 246	Native American Literature	3
ENG 251	Introduction to European Literature	3
ENG/LAS 254	Caribbean, Latin American and Latinx Literatures	3
ENG/RUS 256	Empire and Utopia in Russian Literature	3

ENG 263	Literature and Medicine	3
ENG/IES 264	Environmental Literature	3
ENG/AAA 269	Colonial & Postcolonial Literature	3
ENG 272	English Literature to 1660	3
ENG 273	English Literature 1660-1900	3
ENG 274	English Literature 1901 to Present	3
ENG 275	American Literature to 1900	3
ENG 276	American Literature 1900 to the Present	3
ENG/FST/WGS 356	Women and Gender in Film	3
FRE 131	Masterpieces of French Culture in Translation	3
FRE 202	Critical Analysis of French Culture	3
FST 201	Film History and Analysis	3
FST/IDS 206	Diversity and Culture in American Film	3
GER 151	The German-American Experience	3
GER 231	Enchanted Worlds: Folk and Literary Fairy Tales	3
GER 232	The Holocaust in German Literature, History, and Film	3
GER/FST 261	German Film in Global Context	3
GER 272	Cinemas and Cultures of Central and Eastern Europe	3
GER 321	Cultural Topics in German-Speaking Europe Since 1870	3
GER 322	Comparative Study of Everyday Culture: German-Speaking Europe and the U.S.A.	3
HST 111	Survey of American History to 1877	3
HST 112	Survey of American History: From 1877 to the Present	3
HST 197	World History to 1500	3
HST 198	World History Since 1500	3
HST/CRE 221	African-American History	3
HST/CRE 224	Africa to 1884	3
HST/CRE 225	The Making of Modern Africa	3
HST 229	The World Wars	3
HST 231	Genocides in the 20th Century	3
HST 244	Raiders of the Lost Archive	3
HST 245	Making of Modern Europe, 1450-1750	3
HST/ATH/CLS/ POL/REL/RUS 254	Introduction to Russian and Eurasian Studies	3
HST 296	World History Since 1945: Conflict and Community	3
IMS 203	Applied Digital Humanities	3
IMS 211	Introduction to Game Studies	3
ITL 221	Italy, Matrix of Civilization	3
JPN 231	Japanese Tales of the Supernatural in English Translation	3
JPN/CHI 255	Drama In China/Japan:Eng Trans	3
JPN 261	Global Godzilla & Hello Kitty: Japanese Popular Culture in Global Context	3
JRN 101	Journalism and American Life	3
LAS/HST 215	Latin America in the United States	3
MAC 202	The Smartphone and Society	3
MJF 105	Media, Culture and You	3
MUS/WGS 287	Enter the Diva: Women in Music	3
PHL 103	Society and the Individual	3
PHL 104	Purpose or Chance in the Universe	3
PHL 105	Theories of Human Nature	3
PHL 131	Introduction to Ethics	3
POR/FST/LAS 204	Brazilian Culture Through Music and Film	3
POR/WGS/FST 383	Brazilian Women through Literature and Film	3
REL 101	Introduction to the Study of Religion	3
REL 133	Imagining Russia	3
REL/AAA 203	Global Religions of India	3
REL 275	Introduction to the Critical Study of Biblical Literature	3
REL 286	Global Jewish Civilization	3
REL 314	Social and Religious History of the Jewish People	3
RUS 137	Magic and Power in Russian Folklore	3
RUS/ENG 256	Empire and Utopia in Russian Literature	3
RUS 257/ENG 267	Communism and Catastrophe in Modern Russian Literature	3
SPN 315	Intro to Hispanic Literatures	3
SPN 381	Language and Society: Past and Present	3
WGS 202	Introduction to GLBT Studies	3
THE 101	Introduction to Theatre: Drama and Analysis	3
WST 201	Self and Place	3

Perspectives Area 4: Global Citizenship (12 hours)

Diversity, Equity and Inclusion (PA4A - 3 hours)

Code	Title	Credit Hours
AMS 205	Introduction to American Cultures	3
ATH 185	Cultural Diversity in the U.S.	3
AMS/AAA/ENG 248	Asian American Literature	3
CRE 151	Introduction to Critical Race and Ethnic Studies	3
ECO 131	Economic Perspectives on Inequality in America	3
EDL/DST 315	Disability History in America	3
GEO 201	Geography of Urban Diversity	3
GTU 154	Aging in American Society	3
HST/CRE 221	African-American History	3
LAS/HST 215	Latin America in the United States	3
LIN 202	American Dialects, Culture, and Identity	3

MUS/AMS 285	Introduction to African American Music	3
SLM 378	Sport, Power and Inequality	3
SOC 151	Social Relations in the U.S.	3
SPA 312	American Deaf Cultures	3
TCE 191	Threshold Concepts of Teaching, Curriculum, and Educational Inquiry	3
THE 351	Dance as Culture	3

Intercultural Consciousness (PA4B - 3 hours minimum)

Code	Title	Credit Hours
AAA 201	Intro to Asian/ Asian Amer	3
AAA/ENG/FST 249	Asian & Asian American Cinema	3
AAA/ENG/WGS 351	Cultural Politics of Gender and Sexuality in Asian/America	3
AMS/FST/ITL 222	Italian American Culture	3
AMS/REL 241	Religions of the American Peoples	3
AMS 301	American Identities	3
AMS 302	Immigrant America	3
AMS 305	American Icons	3
AMS/LAS 315	Latin American Diaspora: Communities, Conditions and Issues	3
AMS/ENG 348	Ethnic American Literatures	3
AMS/HST/WGS 382	Women in American History	3
AMS/HST/WGS 392	Sex and Gender in American Culture	3
ART/AMS 183	Images of America	3
ART 187	Art and Society: Prehistoric to Medieval	3
ART 188	Art and Society: Renaissance to Modern	3
ART 286	History of Asian Art, China, Korea, and Japan	3
ART 309	The Arts of African Peoples	3
ASO 201	Introduction to Applied Social Research	3
ATH 304	Native North America: Anthropological Perspectives	3
ATH 313	Latin American Archaeology	3
ATH 327	Pokemon and J-Pop in Global and Local Contexts	3
CLS 102	Roman Civilization: From City to Empire	3
CMR 244	Introduction to Global Business	3
CRE/SOC/SLM 279	African Americans in Sport	3
CRE/SOC 348	Race and Ethnic Relations	3
CRE/FSW/SOC 362	Family Poverty	3
CRE/HST 386	Race in U.S. Society	3
DST/EDP/SOC 272	Introduction to Disability Studies	3
DST/EDP/SOC/ WGS 375	(Dis)Ability Allies: To be or not to be? Developing Identity and Pride from Practice	3

EDL 203	Introduction to Critical Youth Studies	3
EDL 204	Sociocultural Studies in Education	3
EDL/AAA 334	Transnational Youth Cultures	3
ENG 163	Literature and Travel	3
ENG/DST 169	Disability and Literature	3
ENG/WGS 232	Women Writers	3
ENG/WGS 237	GLBTQ Literature	3
ENG/AMS 246	Native American Literature	3
ENG/LAS 254	Caribbean, Latin American and Latinx Literatures	3
ENG 263	Literature and Medicine	3
ENG/CRE 336	African American Writing, 1746-1877	3
ENG/CRE 337	African American Writing, 1878-1945	3
ENG/CRE 338	African American Writing, 1946-Present	3
ENG/FST/WGS 356	Women and Gender in Film	3
ENG 386	Studies in Drama and Performance	3
FRE 301	Culture & Interpretation	3
FST/IDS 206	Diversity and Culture in American Film	3
FST 282	Sexualities and Film	3
FST/ITL 362	Mafia and Cinema	3
FSW 206	Social Welfare Policies & Programs	4
FSW/WGS 361	Couple Relationships: Diversity and Change	3
FSW/CRE/SOC 362	Family Poverty	3
GEO/WGS 302	Geography and Gender	3
GEO/WGS 309	Native American Women	3
GER 151	The German-American Experience	3
GER 231	Enchanted Worlds: Folk and Literary Fairy Tales	3
GER 252	The German-Jewish Experience	3
GIC 228	Cuba In Transition	6
GIC 301	Approaches to Global and Intercultural Studies: Globalization and Belonging	3
GTY 110	Opening Minds through Art (OMA) Volunteer Experience	1
GTY 254	Global Aging	3
GTY 310	Opening Minds through Art (OMA) Leadership Experience	2
HST 372	Native American History since 1840	3
IDS 159	Strength Through Cultural Diversity	3
IDS 253	Voices Intergroup Dialogue	3
IMS 384	Rhetoric of Games	3
ITL 279	Made in Italy	6
JPN 261	Global Godzilla & Hello Kitty: Japanese Popular Culture in Global Context	3
KNH 214	Global Well-Being	3
LAS/AMS 315	Latin American Diaspora: Communities, Conditions and Issues	3
LAS/CRE/WGS/ ATH 325	Identity, Race, Gender, Class	3
LUX 101	Intercultural Perspectives in Action	3
MUS 185	Multicultural Perspectives in Music	3
MUS/WGS 287	Enter the Diva: Women in Music	3

MUS 385	The Roots of Black Music: Blues, Gospel and Soul	3	AMS 207	America: Global and Intercultural Perspectives	3
MUS/AMS 386	The History and Development of Hip Hop Culture in America	3	ARC 107	Global Design	3
NSG 306	Healthcare Delivery in Central America: Belize	3-6	ART 162	Arts of Africa, Oceania and Native America	3
POL 142	American Politics and Diversity	3	ART 276	Introduction to the Art of the Black Diaspora	3
PSY/AAA 210	Psychology Across Cultures	3	ART 309	The Arts of African Peoples	3
PSY 325	Psychology of Prejudice and Minority Experience	3	ART/CRE 335	Arts of West Africa	3
REL/AAA 203	Global Religions of India	3	ASO 201	Introduction to Applied Social Research	3
REL/AMS 241	Religions of the American Peoples	3	ATH/FST 135	Film as Ethnography	1
REL/WGS 313	Marriage Across Cultures	3	ATH 145	Lost Cities & Ancient Civilizations	3
REL 342	Religious Pluralism in Modern America	3	ATH 155	Introduction to Anthropology	3
REL 365	Arabian Gulf Economies in Social Transition	6	ATH 175	Global Cultural Diversity	3
RUS 137	Magic and Power in Russian Folklore	3	ATH 235	Imagining and Encountering the Anthropological Other	3
RUS/ENG 255	Love and Death in Nineteenth-Century Russian Literature	3	ATH 307	The Middle East: Anthropological Perspectives	3
RUS/ENG 256	Empire and Utopia in Russian Literature	3	ATH 327	Pokemon and J-Pop in Global and Local Contexts	3
RUS 257/ENG 267	Communism and Catastrophe in Modern Russian Literature	3	ATH/FST 345	Global Media, Ethnography, and Film	3
SJS/SOC 165	Social Justice Perspectives	3	ATH 358	Travelers, Migrants, and Refugees: Transnational Migration and Diasporic Communities	3
SJS 215	EMPOWER I: Educational and Economic Justice and Service-Learning	3	ATH 361	Language and Power	3
SLM 246	Sport, Management, and Culture in the Global Marketplace	3	CEC 266	Globalization and Engineering in Heavy Metal Music	3
SOC/WGS 203	Sociology of Gender	3	CHI 257	Chinese Satire	3
SOC/CRE/FSW 362	Family Poverty	3	CIT 231	Healthcare Information Technology Around the World	3
SPN 322	Issues Affecting Hispanic Health Care in the U.S.	3	CJS 245	Human Trafficking and Contemporary Slavery	3
SPN 331	Spanish for Community Work	3	CMR 244	Introduction to Global Business	3
SPN 361	Marginalized Voices	3	CRE 156	Introduction to Africa	4
STC 236	Intercultural Communication	3	EDL/TCE 312	Foundations of Education in Global Contexts	3
TCE 205	Race, Cultural Diversity, and Equity in Education	3	EDL/AAA 334	Transnational Youth Cultures	3
TCE/FSW 225	Family School and Community Connections	3	EDP 366	Cross-cultural Examination of the United States and China within an Educational Context	3
THE 393	Topics in Intercultural Perspectives and Global Theatre and Performance	3	ENG 108	U.S. Cultures & Composition for Second-Language Writers	4
WGS 201	Introduction to Women's Studies	3	ENG 163	Literature and Travel	3
WGS 202	Introduction to GLBT Studies	3	ENG 251	Introduction to European Literature	3
WGS 301	Women and Difference: Intersections of Race, Class, and Sexuality	3	ENG/LAS 254	Caribbean, Latin American and Latinx Literatures	3
WST 123	Biology and Society	3	ENG/AAA 269	Colonial & Postcolonial Literature	3
Global Inquiry (PA4C - 3 hours minimum)			FRE 131	Masterpieces of French Culture in Translation	3
			FRE 202	Critical Analysis of French Culture	3
Code	Title	Credit Hours	GEO 101	Global Forces, Local Diversity	3
AAA 201	Intro to Asian/ Asian Amer	3	GEO 111	World Regional Geography: Patterns and Issues	3
AAA 207	Asia and Globalization	3	GEO/SJS 159	Creating Global Peace	3
AAA/ENG/FST 249	Asian & Asian American Cinema	3			

GEO/ITS/SOC 208	The Rise of Industrialism in East Asia	3
GER 232	The Holocaust in German Literature, History, and Film	3
GER/FST 261	German Film in Global Context	3
GER 322	Comparative Study of Everyday Culture: German-Speaking Europe and the U.S.A.	3
GHS 101	Introduction to Global Health	3
GIC 101	Global and Intercultural Studies	3
GIC 228	Cuba In Transition	6
HST 197	World History to 1500	3
HST 198	World History Since 1500	3
HST 229	The World Wars	3
HST 231	Genocides in the 20th Century	3
HST 245	Making of Modern Europe, 1450-1750	3
HST 296	World History Since 1945: Conflict and Community	3
IES/ITL 231	Italian Food Cultures in Context	3
IMS 397	Inside the Startup Environment (SF)	3
ITL 221	Italy, Matrix of Civilization	3
ITL 279	Made in Italy	6
ITS 201	Introduction to International Studies	3
JRN 333	International Journalism	3
KNH 214	Global Well-Being	3
LAS 208	Introduction to Latin America	3
MUS/AMS 135	Understanding Jazz, Its History and Context	3
MUS 186	Global Popular Music	3
POL 221	Comparative Politics	3
POL 271	World Politics	3
POR/FST/LAS 204	Brazilian Culture Through Music and Film	3
REL 133	Imagining Russia	3
REL 286	Global Jewish Civilization	3
REL 365	Arabian Gulf Economies in Social Transition	6
SJS/GEO 159	Creating Global Peace	3
SLM 248	Global Sport Perspectives	3
SOC 153	Sociology in a Global Context	3
SPN 351	Historical Perspectives on Current Issues	3
SPN 381	Language and Society: Past and Present	3
TCE 202	Global Childhood Education: Diversity, Education & Society	3
TCE 205	Race, Cultural Diversity, and Equity in Education	3
TCE 221	Teaching English Language Learners in PK-12: Culture & Second Language Acquisition	3
WGS 201	Introduction to Women's Studies	3

Signature Inquiries

Signature Inquiries are a 9-hour component of the Miami Plan that guide students' Perspectives Area course selections organized in 5 crucial topics for today's world. Students may take hours from different topic areas, or they may choose to concentrate their courses within only one topic area. Of the 9 credit hours, students take courses from three distinct programs/departments. Courses may be at any level, 100-400.

Signature Inquiries are designed to "double dip" with Perspectives Areas. For example, ATH 185 is a Signature Inquiry course with the Perspectives Area designations of Diversity, Equity, and Inclusion and Global Inquiry. So it can count not only for 3 Signature Inquiry hours, but also 3 hours of either Social Science or Diversity, Equity, and Inclusion.

Frequency of Course Offerings: Course scheduling patterns are subject to change and are determined by each program, department, or college. Frequency of offerings can change without notice. However, every Miami Plan course should be offered at least once every 4 semesters, if not more.

Advising: Please consult with an Academic Advisor for specific questions regarding course scheduling, degree maps, and Miami Plan requirements.

Signature Inquiry Topics and Courses:

(Note: You may take any combination of courses from any of these topic areas for a minimum of 9 hours. See your Departmental advisor for specific recommendations related to your major or program)

Sustainability and Resilience

Code	Title	Credit Hours
CEC 112	Imagination, Ingenuity, and Impact II	2
CEC 222	Socio-Environmental Responsibility in Engineering and Computing	3
ENG/IES 264	Environmental Literature	3
GLG 307	Water and Society	3
GTU 254	Global Aging	3
IES/ITL 231	Italian Food Cultures in Context	3

Power, Justice, and Social Change

Code	Title	Credit Hours
ATH 185	Cultural Diversity in the U.S.	3
CEC 111	Imagination, Ingenuity and Impact I	2
CEC 222	Socio-Environmental Responsibility in Engineering and Computing	3
CLS 102	Roman Civilization: From City to Empire	3
ECO 131	Economic Perspectives on Inequality in America	3
EDL 232	Introduction to Community-Based Leadership	3
GER 231	Enchanted Worlds: Folk and Literary Fairy Tales	3

GTU 154	Aging in American Society	3
GTU 354	Issues & Controversies in Aging	3
HST 229	The World Wars	3
HST 296	World History Since 1945: Conflict and Community	3
ITL 221	Italy, Matrix of Civilization	3
LIN 202	American Dialects, Culture, and Identity	3
MJF 105	Media, Culture and You	3
PHL 131	Introduction to Ethics	3
RUS 137	Magic and Power in Russian Folklore	3
RUS 256	Empire and Utopia in Russian Literature	3
SLM 378	Sport, Power and Inequality	3
SOC/SJS 165	Social Justice Perspectives	3
SOC/GTY 318	Social Forces and Aging	3
SPA 312	American Deaf Cultures	3
TCE 191	Threshold Concepts of Teaching, Curriculum, and Educational Inquiry	3

Technology, Information, and Society

Code	Title	Credit Hours
APC 312	Computer-mediated Communication and Social Media	3
CEC 111	Imagination, Ingenuity and Impact I	2
CEC 112	Imagination, Ingenuity, and Impact II	2
GTU 354	Issues & Controversies in Aging	3
JRN 101	Journalism and American Life	3
MTH 135	Introductory Mathematics for Science Applications	3

Creativity, Storytelling, and Design

Code	Title	Credit Hours
AMS 305	American Icons	3
CLS 102	Roman Civilization: From City to Empire	3
FRE 301	Culture & Interpretation	3
GER 231	Enchanted Worlds: Folk and Literary Fairy Tales	3
HST 244	Raiders of the Lost Archive	3
JPN 261	Global Godzilla & Hello Kitty: Japanese Popular Culture in Global Context	3
LIN 202	American Dialects, Culture, and Identity	3
MJF 105	Media, Culture and You	3
MUS 185	Multicultural Perspectives in Music	3
RUS 137	Magic and Power in Russian Folklore	3
RUS 256	Empire and Utopia in Russian Literature	3
RUS 257/ENG 267	Communism and Catastrophe in Modern Russian Literature	3

Global Health and Wellness

Code	Title	Credit Hours
APC 311	Science and Medicine in Public Communication	3
GTU 154	Aging in American Society	3
GTU 254	Global Aging	3
HST 237	Plagues, Pandemics, & Peoples	3
KNH 102	Food, Nutrition & Health	3
SLM 246	Sport, Management, and Culture in the Global Marketplace	3
SLM 248	Global Sport Perspectives	3
SOC/GTY 318	Social Forces and Aging	3

Knowledge in Action

Knowledge in Action (total of 3+ credits) includes Experiential Learning and Senior Capstones: Throughout their education, but especially as they approach graduation, students are encouraged to look to the farther horizons of their future in the world. Students participate in experiential learning and, as part of the culmination of their Miami education, a Miami Capstone course. These experiences place a special emphasis on applying knowledge and skills they've gained during their time at Miami to settings beyond Miami.

Frequency of Course Offerings: Course scheduling patterns are subject to change and are determined by each program, department, or college. Frequency of offerings can change without notice. However, every Miami Plan course should be offered at least once every 4 semesters, if not more.

Advising: Please consult with an Academic Advisor for specific questions regarding course scheduling, degree maps, and Miami Plan requirements. Students must have earned 93 hours before completion of their Senior Capstone for it to count.

Senior Capstone (3 hours)

The Miami Plan Senior Capstone (SC), completed near the end of baccalaureate studies, integrates liberal learning with specialized knowledge. Each SC presumes a significant scholarly background of specialized study in a major as well as in liberal education course work. The Senior Capstone does more than culminate years of baccalaureate study: it culminates a student's liberal education.

Ordinarily, a Senior Capstone is taken at Miami and is completed in the senior year (minimum of 93 hours registered or earned). Students who plan to transfer any course to meet the SC requirement must obtain permission from the Office of Liberal Education **before** they take the course. The SC may be completed in or outside students' majors; in some departments, the SC may be a requirement of the major.

Students may propose their own Senior Capstone Experience. See the Office of Liberal Education website (www.MiamiOH.edu/liberal-ed) for details.

Senior Capstones

Code	Title	Credit Hours
ACC 495/ACC 595	Accounting Analysis	3
ACC 695	Integrative Accounting Capstone	3
AES 432	National Security/Leadership Responsibilities/Commissioning Preparation	3
AMS 401	Senior Capstone in American Studies	4
APC 401	Applied Communication Capstone	3
ARC 402C	Senior Studio Capstone Experience	6
ARC 408	Interior Design Studio	6
ARC 426/ARC 526	Architecture and Society	3
ART 419	Supervised Student Teaching in Art	15
ART 452	Communication Design Studio 3: Degree Project	3
ART 453	Highwire Brand Studio ¹	4
ART 492	Professional Artist's Portfolio and Exhibition Experience	3
ART 493	Professional Dispositions in Art Education	3
ART 498	History and Methods in Art and Architectural History	3
ATH 421	Senior Seminar in Anthropology	3
ATH 448	Developing Solutions in Global Health	3
ATH/BIO 498	Evolution of Human Behavior	3
BIS 401	Senior Integrative Seminar	3
BLS 465	Ethics, Law, & Business	3
BIO 400	Capstone Seminar: Contemporary Issues in Biology	3
BIO 419R	Independent Research Capstone	3
BIO 452/BIO 552	Neuromodulation: Cells to Circuits	3
BIO 453/BIO 553	Animal Physiological Ecology	4
BIO 454/BIO 554	Endocrinology	3
BIO 467/BIO 567	Conservation Biology	3
BSC 415	Approaches to Problem Solving and Research in Applied Biology Capstone	3
BSC 416	Applications of Biotechnology to Human Health: Concepts and Issues	3
BSC 475	Capstone in Environmental Biology	3
CHM 491	Chemistry in Societal Issues	3
CHM 492	Independent Research Capstone in Chemistry	3
CIT 457	IT Project Lifecycle I: Requirements and Design	3
CIT 458	IT Project Lifecycle II: Implementation and Deployment	4
CIT 468	Health Information Technology Project Lifecycle	4
CJS 485	Capstone: Seminar in Criminal Justice	3
CMA 401	Capstone in Community Arts	3
CMR 495	Strategic Management for Commerce	3
CPB 471 & CPB 472	Engineering Design I and Engineering Design II	4
CSE 448 & CSE 449	Senior Design Project and Senior Design Project	3-4
CYB 437	Cybersecurity Senior Design Project/ Capstone	3
DST 494/EDP 489	Disability in Global and Local Contexts	3
ECE 448 & ECE 449	Senior Design Project and Senior Design Project	4
ECO 405	Economics of Strategy	3
EDP 460	Action Research/Problem-Based Seminar in Exceptional Education/ Developmental Differences	3
EDP 456/EDP 556	Advanced Seminar in Evaluation with Evidence-Based Interventions	3
EDP 471/EDP 571	Literacy Seminar: Clinical	3
EGS 495	Capstone in English Studies	3
ENG 415	Capstone in Professional Writing	3
ENG 432	Feminism and the Diaspora: U.S. Women of Color	3
ENG 460	Issues in Creative Writing	3
ENG 495	Capstone In Literature	3
ENT 497 & ENT 498	Senior Design Project and Senior Design Project	4
ESP 401/ESP 501	Entrepreneurship: New Ventures	3
ESP 461	Entrepreneurial Consulting	3
FIN 482	Student Managed Investment Fund II	3
FIN 485	Integrative Concepts in Finance	3
FST 401	Seminar in Film Study	3
FSW/SOC/WGS 451	Interpersonal Violence	3
FSW 462/FSW 562	Family Policy and Law	3
GEO 455	Race, Urban Change, and Conflict in America	3
GEO 491	Geography and Sustainable Development Research Seminar	4
GEO 493	Urban Field Experience	3
GER 471	Linguistic Perspectives on Contemporary German	3
GLG 411A/511A	Field Geology	6
GLG 497	Trends and Topics in the Geosciences	3
GTU 440	Gerontology Capstone Internship	1-16
HST 400	Senior Capstone in History	3
IMS 440/IMS 540	Emerging Technology Practicum	4
IMS 452	Senior Degree Project	3
IMS 488	Game Preproduction	3
IMS 489	Game Production	6
ISA 495	Managing the Intelligent Enterprise	3
ITS 402	Senior Capstone in International Studies	3
JRN 415	Capstone in Television Journalism	4
JRN 421	Capstone in Journalism	3
KNH 402	Capstone in Kinesiology, Nutrition, and Health	3
KNH/GTY/MBI 428	Public Health in Action	3
LAS 410	Current Latin American Issues	3

LIN 460	Capstone in Linguistics	3
LST 402	Capstone in Liberal Studies	3
MAC 414	Capstone Pictures: Project in Digital Narrative Film Production	4
MAC 445	Electronic Media Policy and Regulation	3
MAC 447	Senior Seminar in Applied Media Analysis	3
MBI 410 & MBI 490	Senior Internship and Undergraduate Seminar	3
MBI 440 & MBI 490	Research Problems and Undergraduate Seminar	2-5
MBI 461	Human Disease and Epidemiology	3
MBI 480 & MBI 490	Departmental Honors and Undergraduate Seminar	2-7
MBI 489	Medical Laboratory Science Practicum	12
MBI 490	Undergraduate Seminar	1
MGT 495	Executive Decision Making and Strategy	3
MKT 442	Highwire Brand Studio	4-8
MKT 495	Strategy Works	4
MME 448 & MME 449	Senior Design Project and Senior Design Project	4
MTH 407/ MTH 507	Mathematical Structures Through Inquiry	3
MTH 425/ MTH 525	Number Theory	3
MTH 435/ MTH 535	Mathematical Modeling Seminar	3
MTH 482	Great Theorems of Mathematics	3
MUS 406	Advanced Analysis	3
MUS 475	Senior Practicum in Music Education	3
NCS 401	Capstone in Nonprofit and Community Studies	3
NSC 402	Leadership and Ethics	3
NSG 435	Challenges in Health Care Delivery	3
PHL 404	What is Philosophy?	3
PHY 488A & PHY 488B	Research Capstone in Physics and	3
POL 411/POL 511	American Political Thought	3
POL 419/POL 519	Civil Society and Modern Politics	3
POL 423/POL 523	European Union: Politics and Policies	3
POL 459/POL 559	Capstone Seminar on the American Political System	3
POL 466/POL 566	Public Policy Analysis	3
POL 471/POL 571	The International System	3
POL 487	Individual Lives and International Politics	3
POL 489/POL 589	Conflict Management in a Divided World	3
PSS 401	Capstone in Psychological Science	3
PSS 402	Advanced Research Design and Analysis Capstone	3
PSY 410	Capstone Seminar in Psychology: The Multiple Determinants of Behavior	3
PSY 458	Capstone Seminar in Neuroscience	3
PSY 490	Capstone Experience in Psychology: Research Apprenticeship in Psychology	3
REL 402	Basic Structures in the History of Religions	3
SLM 402	Reflections and Actions in Sport Leadership & Management	3
SOC 459	Sociology Capstone	3
SOC 462	Applied Sociological Research	3
SPA 413	Senior Seminar in Communication Disorders	3
SPN 490	Issues in Hispanic Literature, Linguistics, or Culture	3
STA 475	Data Analysis Practicum	3
STC 459	Strategic Communication Campaigns	3
TCE 422	Studies in Educational Issues	3
TCE 455	Capstone Seminar: Comparative Education in Europe or China	4
TCE 495	Writing Information Books for Children	3
THE 481/THE 581	Integrating Performance, Theory and Practice	3
WGS 401	The Role of Women in a Transforming Society	3
WGS 432	Feminism and the Diaspora: U.S. Women of Color	3
WST 444	Senior Workshop and Project	3
WGS 451/ WGS 551	Interpersonal Violence	3

¹ Maximum 8 credit hours

² 2 credit hours for research option; or concurrent enrollment in BIO 340 for internship option.

Experiential Learning (0+ hours)

Experiential learning is the process of making meaning through direct and substantive experience in a “real world” or an “out of the traditional classroom” context. It offers students the opportunity to initiate lifelong learning through the development and application of academic knowledge and skills in new or different settings. In experiential learning, educators purposefully engage with learners in direct experience and reflection in order to increase knowledge, develop skills, and clarify perspectives or values.

- Designated Service-Learning sections of courses
- Approved courses that carry EL designation (below)
- Credit-bearing or non-credit-bearing internships (numbered 340)
- Credit-bearing or non-credit-bearing independent studies (numbered 177R, 277R, 377R or 477R) that involve significant independent work focusing on research and including a presentation, lab, or archive component (carrying the “R” modifier)
- Undergraduate Summer Scholars Program enrollment
- Student teaching
- Clinical courses

Students may petition for a related experience to count as Experiential Learning. See the Office of Liberal Education website (www.MiamiOH.edu/liberal-ed) for details.

Experiential Learning Courses

Code	Title	Credit Hours
ACC 370	Applied Accounting Research	1-3
AES 310	Leadership Laboratory	1
AES 311	Leadership Laboratory	1
AES 410	Leadership Laboratory	1
AES 411	Leadership Laboratory	1
AMS 301	American Identities	3
ARC 101	Beginning Design Studio	5
ARC 102	Beginning Design Studio	5
ARC 105	Introduction to Architecture	3
ARC 113	Methods of Presentation, Representation and Re-Presentation	2
ARC 114	Methods of Presentation, Representation and Re-Presentation	2
ARC 201	Architecture Studio	5
ARC 202	Architecture Studio	5
ARC 203	Interior Design Studio	5
ARC 204	Interior Design Studio	5
ARC 301	Architecture Studio	6
ARC 302	Architecture Studio	6
ARC 303	Interior Design Studio	6
ARC 304	Interior Design Studio	6
ARC 401	Architecture Studio	6
ARC 402C	Senior Studio Capstone Experience	6
ARC 403	Interior Design Studio	6
ARC 404/ARC 504	Seminars	1-3
ARC 408	Interior Design Studio	6
ART 271	Sculpture I	3
ART 391	Field Study in Art and Architecture History	3
ART 395	Art Across the Curriculum	3
ART 419	Supervised Student Teaching in Art	15
ART 432/ART 532	Painting V	3
ART 442	Printmaking V	3
ART 451	The Professional Portfolio	3
ART 453	Highwire Brand Studio	4
ART 457	Photography IV	3
ART 462/ART 562	Ceramics V	3
ART 464/ART 564	Jewelry Design and Metals IV	3
ART 472	Sculpture V	3
ART 492	Professional Artist's Portfolio and Exhibition Experience	3
ART 495	Art Education Practicum	3
ART 498	History and Methods in Art and Architectural History	3
ATH 415	Field Methods in Archaeology	1-6
ATH 416	Applying Archaeology	3
ATH 425	Ethnographic Field Methods	3
ATH 465	Ethnography of Communication	3
ATH 496	Observing Primate Behavior	4
ATH/BIO 498	Evolution of Human Behavior	3
BIO 320	Directed Research	1-3
BIO 419R	Independent Research Capstone	3
BIS 315	Comic Books in American Culture	3
BSC 321	Research in Applied Biology	1-3
BUS 101	Foundations of Business	2
BUS 102	Foundations of Business Communication	2
BUS 104	Introduction to Computational Thinking for Business	2
CEC 205	Agile Launchpad I	3
CHM 480	Departmental Honors	1-6
CIT 457	IT Project Lifecycle I: Requirements and Design	3
CIT 458	IT Project Lifecycle II: Implementation and Deployment	4
CIT 468	Health Information Technology Project Lifecycle	4
CJS 220	Criminal Justice Field Experience	3
CMA 301	Community Arts Practicum	3
CMR 220	Professional Practice	0-2
CMR 401	Leadership Decision Skills	4
CMR 449	Senior Practicum in Digital Commerce	3
CPB 471	Engineering Design I	2
CPB 472	Engineering Design II	2
CRE 402	Engaged Learning Practicum	1-6
CSE 448	Senior Design Project	2
CSE 449	Senior Design Project	1-2
ECE 448	Senior Design Project	2
ECE 449	Senior Design Project	2
EDL 281	Outdoor Leadership Study Away/Study Abroad	3
EDL 301	Student Development in Residence Halls	1
EDL 333	Youth, Media & Pop Culture	3
EDL 464	Community-Based Leadership and Change	3
EDP 419F	Supervised Teaching for Mild/Moderate and Moderate/Intensive Intervention Specialist Licensure	15
EDP 459	Practicum in Special Education: Mild/Moderate	3
EDP 471/EDP 571	Literacy Seminar: Clinical	3
EGS 301	Writing and the Professions	3
ENG 321	The Literary Marketplace	3
ENG 413/ENG 513	Grant and Proposal Writing	3
ENG 414/ENG 514	Usability and User Experience	3
ENG 415	Capstone in Professional Writing	3
ENG 460	Issues in Creative Writing	3
ENG 480	English Honors	1-6
ENG 481/ENG 581	Writing Center Theory and Practice	3
ENT 497	Senior Design Project	2

ENT 498	Senior Design Project	2	MBI 440	Research Problems	1-4
ESP 103	Creativity, Innovation and Entrepreneurial Thinking	2	MBI 487	Medical Laboratory Science Practicum	8
ESP 321	Startup Entrepreneurship	3	MBI 488	Medical Laboratory Science Practicum	12
ESP 461	Entrepreneurial Consulting	3	MBI 489	Medical Laboratory Science Practicum	12
ESP 490	Special Topics in Entrepreneurship	1-3	MGT 432	Global Strategic Sourcing	3
FSW 411	Senior Field Experience I	4	MGT 474	Human Capital Consulting	3
FSW 412	Senior Seminar in Social Work I	2	MKT 292	Careers In Marketing	1
FSW 413	Senior Seminar in Social Work II	2	MKT 442	Highwire Brand Studio	4-8
FSW 414	Senior Field Experience II	4	MKT 495	Strategy Works	4
FSW 490/FSW 590	Professional Issues in Family Science	3	MME 448	Senior Design Project	2
FSW 494/FSW 594	Internship with Families and Children	3-6	MME 449	Senior Design Project	2
GEO/GLG/IES 412	Tropical Ecosystems of Costa Rica	5	MTH 253	Introduction to Technical Computing	1
GEO 442/GEO 542	Advanced Geographic Information Systems	3	MUS 139	Chamber Music Experience	0
GEO 459/GEO 559	Advanced Urban and Regional Planning	3	MUS 142	Applied Music	2
GEO 491	Geography and Sustainable Development Research Seminar	4	MUS 144	Applied Music	3-4
GEO 493	Urban Field Experience	3	MUS 242	Applied Music	2
GHS 401	Global Health Experience	2	MUS 244	Applied Music	3-4
GLG 311	Geoenvironmental Field Methods	3	MUS 359	Secondary Instrumental Methods	3
GLG 411A/ GLG 511A	Field Geology	6	MUS 419/ MUS 519	Supervised Teaching in Music	12
GLG 419/GLG 519	Geology of Streams	3	MUS 442	Applied Music	1-2
GTY 110	Opening Minds through Art (OMA) Volunteer Experience	1	MUS 444	Applied Music	3-4
GTY 310	Opening Minds through Art (OMA) Leadership Experience	2	MUS 494	Senior Recital	0
GTY 440	Gerontology Capstone Internship	1-16	NCS 301	Community-Based Practicum I	3
HON 181	Foundations of Engaged Learning I	1-2	NCS 302	Community-Based Practicum II	3
HST 400	Senior Capstone in History	3	NSC 410	Naval Science Laboratory	1
HST 435/HST 535	Public History Practicum	3	NSG 302	Intermediate Clinical Nursing Practicum	3
HST 480	Departmental Honors	1-6	NSG 306	Healthcare Delivery in Central America: Belize	3-6
IES 186	Sustainable Farming and Food	3	NSG 349	Introduction to Principles of Pharmacology in Nursing Practice	3
IES/ITL 231	Italian Food Cultures in Context	3	NSG 352	Childbearing Family Clinical	2
IES 278	Introduction to Food Systems	3	NSG 354	Nursing Care of Adult Clients with Health Alterations I-Clinical	3
IES 278L	Understanding Food Systems Laboratory	1	NSG 362	Nursing Care of Adult Clients with Health Alterations II-Clinical	3
IMS 440/IMS 540	Emerging Technology Practicum	4	NSG 364	Nursing Care of Children-Clinical	2
IMS 452	Senior Degree Project	3	NSG 452	Nursing Care of Clients Experiencing Mental Health Disorders and Their Families-Clinical	3
IMS 488	Game Preproduction	3	NSG 464	Nursing Care of Clients Experiencing Multi-System Health Alterations-Clinical	5
IMS 496	KICKGLASS Digital Marketing	4	PSY 112	Foundational Experiences in Psychology	1
ISA 406	IT Project Management	3	SJS 215	EMPOWER I: Educational and Economic Justice and Service-Learning	3
ISA 496	Business Analytics Practicum	3	SJS 216	EMPOWER II: The Intersections of Race, Class, and Education	3
JRN 421	Capstone in Journalism	3	SLM 402	Reflections and Actions in Sport Leadership & Management	3
KNH 402	Capstone in Kinesiology, Nutrition, and Health	3	SLM 495	Practicum in Sport Leadership and Management	3
KNH 403/KNH 503	Professional Practices in Dietetics	3			
KNH/GTY/MBI 428	Public Health in Action	3			
MAC 425	Inside Hollywood	3			
MAC/JRN/POL 426	Inside Washington	8			
MAC 450	Topics in Communication	3			
MBI 410	Senior Internship	2			

SOC 260A	Internship: An Introduction to Applied Sociology and Human Services	1-4
SOC 440A	Internship in Applied Sociology	1-16
SOC 440C	Internship in Criminology	1-16
SOC 462	Applied Sociological Research	3
SPA 493	Senior Seminar in Speech Pathology and Audiology	2
SPN 322	Issues Affecting Hispanic Health Care in the U.S.	3
SPN 331	Spanish for Community Work	3
STA 475	Data Analysis Practicum	3
STC 459	Strategic Communication Campaigns	3
STC 478	Inside New York City- Study Away	3
TCE 252M	Early Field Experience: Middle Childhood	3
TCE 310	Applications of Peer Education	1
TCE 419A/ TCE 519A	Teaching Internship- Adolescent	1-16
TCE 419M	Teaching Internship-Middle Childhood	15
TCE 419P	Teaching Internship Primary PK-5	15
TCE 420	Field Experience	1-4
THE 200	Production and Performance Practicum	1
THE 400	Advanced Production and Performance Practicum	2
UNV 172	First-Year Research Experience II	1-3
WGS 402/ WGS 502	Engaged Learning Practicum	1-6
WST 341	Interdisciplinary Synthesis and Action	3

Other Requirements

Divisions, Majors, and Minors

Academic Divisions and Departments

Miami University has seven academic divisions: College of Arts and Science, Farmer School of Business; College of Creative Arts; College of Education, Health, and Society; College of Engineering and Computing; College of Liberal Arts and Applied Science; Graduate School.

Within the undergraduate divisions are the academic departments, offering major and minor programs. As an example, if your major is software engineering, you are in the College of Engineering and Computing. All majors, minors, degrees, and certificate programs are listed in the General Information chapter.

For a degree, you must fulfill three sets of requirements: the Miami Plan for Liberal Education, the requirements of your academic division, and the requirements of your major. If you have admission prerequisites to be met, those also must be completed. Often these requirements overlap; that is, one course may fulfill several requirements.

Majors

Your major is your primary field of study, such as architecture, geography, etc. Your major program requirements are described in your academic division chapter of this Bulletin. For example, requirements for a major in geography are listed in the College of Arts and Science section. All majors are listed in the General Information chapter.

Although you do not need to choose a major when you enroll, you are required to choose a division. In most cases, if you use your first year to take courses that fulfill a part of the Miami Plan and divisional requirements, you can still complete a major with no delay. To declare your major, after taking classes for a semester or more, contact the divisional or department office of the major you wish to declare and the office will assist you.

Co-Majors

A co-major is designed to provide a complementary perspective to a student's primary major and carries at least 30 credits. There is no specific degree designation for the co-major; students receive the degree designation of their primary major with the co-major listed on the transcript. Some co-majors may have areas of concentration.

Minors

A minor is a second field of study completed along with a major. Completing a minor is optional. This is a specific program that may widen your primary area of interest or increase your career opportunities. Most minors require fewer hours than majors—all require at least 18 semester hours in a specified program. Minors may be offered within one department or across several departments.

Minors are offered in many fields of study. A list of minors is in the General Information chapter; requirements for each minor are included in each division's chapter.

To earn a minor, these are the minimum requirements (some minors require more):

- Contact the department of the minor in which you want to enroll.
- You must have a 2.00 grade point average (GPA) for all courses in a minor. Some minor programs may require a higher GPA.
- All courses taken for the minor must be for a grade, not for credit/no-credit, unless exceptions are stated.
- A minor can only be awarded with a bachelor's degree.

You may earn more than one minor. All minors you complete are noted on your academic record. Courses used to satisfy the requirements for one minor may also be used to satisfy the requirements for another minor or major. Not all major programs allow students to declare certain minors, and some minors are open only to certain majors. Check with your advisor for more information.

Changing a Major or Minor

To change your major or minor, go to the divisional or department office or regional advising office (regional campus students only) offering that program. Your program information is transferred to your academic record. Most majors in the College of Creative Arts require successful completion of an audition or portfolio review to complete the change of major.

Additional Major, Minor, or Degree

With careful planning, you can complete requirements for more than one major, minor, and/or more than one degree. Early in your program, notify your divisional office(s), and departments involved. Follow change of major process noted in Changing a Major or Minor above to have your program of study noted on your academic records and you will have advisors for your programs.

If you have already received a bachelor's degree from another accredited college or university, you can qualify for a degree from Miami by earning an additional 32 semester hours and meeting all requirements for the additional degree.

Basic Personal Computer Proficiency

Incoming students are expected to demonstrate a minimum proficiency with the use of a personal computer and basic software programs. These minimum proficiencies include:

1. The ability to use the Internet to find and retrieve information including: locating an Internet site given a URL; navigating between information sources; doing basic searches using a major Internet search service; and submitting information via on-line forms.
2. The ability to use electronic mail as a form of communication including: sending an e-mail when given an e-mail address; responding to an e-mail; sending e-mail to a group of individuals; and sending and receiving attachments as part of an e-mail.
3. The ability to use a word processing program to create and edit documents including: creating a new document; editing an existing document; changing the format of text; and changing margins, page orientation, and other elements of page layout.
4. The ability to use an operating system including copying or moving a file to or from removable media; finding files or folders on a local hard drive; and creating a sub-directory (folder).

Students who have not acquired these skills prior to entering the university will be provided with training opportunities during their first semester.

Physical Education

Physical education is optional. No more than 10 semester hours of physical education (sport leadership and management) courses numbered SLM 110-170 can count toward a bachelor's degree; no more than five semester hours can count toward an associate's degree.

Time Limit for Undergraduate Degree Completion

Degrees/majors that have been eliminated for eight or more years may not be pursued or conferred.

Because requirements for academic programs can change substantially over time, the maximum time limit for completion of an undergraduate degree/major is eight academic years based on the student's catalog year for the declared degree/major. Students who have earned credit that is more than 8 years prior to their planned graduation date must petition their divisional committee of advisors to have that coursework validated for application toward their major and are responsible for supplying course descriptions/catalogs for use in the validation process.

Students who leave the University and subsequently reenroll will be permitted to continue to follow the degree/major requirements in effect at the time they left the University except in cases where degree/major completion within the eight academic year time limit is not feasible. In such cases, the student will be required to follow the requirements of the college catalog in effect at the time of reenrollment.

Requirements for Graduation

All majors, minors, and degrees are listed in the General Information chapter.

Associate's Degree

An associate's degree, generally offered only on the regional campuses, requires:

- At least 62 semester hours, including 15 hours from Hamilton or Middletown campuses (An exception to this is the Associate in Arts; see below.)
- Fulfillment of the Miami Plan for Liberal Education appropriate to your associate's degree
- Nine of your last 20 hours must be taken at Miami University
- At least a 2.00 cumulative GPA
- Fulfillment of your program requirements
- Applying for graduation whether or not you plan to attend the ceremony

If you continue your education past 62 semester hours and your GPA falls below 2.00, you can still receive an associate's degree if your GPA was 2.00 at the time you finished 62 semester hours and your degree requirements. Your academic record will show when you have

completed the requirements, and your associate's degree will be awarded at the next commencement.

Associate in Arts

The Associate in Arts in general studies is available to any Miami University student. For this degree, 30 of the required 62 semester hours must be from any Miami campus. See the program requirements in the Miami University Hamilton and Middletown section.

Bachelor's Degree

For a bachelor's degree, basic requirements for graduation include:

- Fulfillment of the Miami Plan:

Code	Title	Credit Hours
	Perspectives Areas	39
	Signature Inquiries (can double count with Perspectives Area)	9
	Senior Capstone	3 (minimum)
	Experiential Learning	0 (minimum)
	Field (major/minor, divisional requirements, electives)	73 (minimum)
Total Credit Hours		124

- Of the total 124 semester hours, at least 30 must be from Miami University (any campus), including 12 of the final 30 hours required for the bachelor's degree.
- At least a 2.00 cumulative GPA.
- Applying for graduation whether or not you plan to attend the ceremony.

Note: Some degree programs, due to professional accreditation requirements, may require additional credit hours.

Application for Graduation

To graduate, whether or not you plan to attend the ceremony, you must submit an application and pay a fee, if applicable. If you earn more than one degree, you must submit an application and pay any applicable graduation fee for each degree. Applications for graduation are available through Banner Self Service. After your application is processed, your account will be assessed the appropriate fee, if any, and you will be billed.

You are encouraged to apply for graduation at least a semester in advance so that routine checks can be made in time to inform you of any problems in meeting your degree requirements.

Applications should be received no later than 30 working days before commencement.

If you apply for graduation and then do not qualify for the degree, you must notify the University Registrar's Office of the date you intend to finish your requirements so the application for graduation can be removed. It will then be your responsibility to reapply for the correct graduation date through Banner Self Service. All deadlines applicable to first-time applications apply to re-applications.

Conferral of Degree

The conferral of the degree will be granted following the semester or term when all degree requirements have been met and after the student has applied for graduation. Backdating of degrees is not allowed unless in circumstances of administrative error.

Degree Audit

A degree audit shows your completed course work and current registration matched with degree requirements of your declared major. It identifies deficiencies and lists courses to satisfy specific requirements. The report assists you, your advisor, and the university in determining your progress toward completion of your program requirements and serves as a graduation check.

Students are able to run an exploratory "What-If?" degree audit.

Your degree audit is available online (<https://uachieve.miamioh.edu/selfservice/general/home.html>).

Academic Planning

Educational Decisions

Choosing a Major and Making Career Choices

This is never a simple decision. Many students change majors at least once.

Although you do not need to choose a specific major, you will need to choose an academic division when you register. A student can be undeclared in a specific academic division if they have a general sense of what they might want to pursue for a major or they can be part of the Exploratory Studies program. Exploratory Studies This program is intended to help students who either are not sure what academic area they would like to study or were not directly admitted to a specific program. If you are undecided, you are assigned to the College of Arts and Science for advising purposes. In most cases, if you use your first year to take courses that fulfill the Miami Plan and divisional requirements, you can still complete a major program with no delay. However, **to complete some majors in a four-year time period, you must begin them as a first year student.**

To make academic and career choices, you need to consider your interests and abilities. Although you may have a strong sense of your academic strengths and weaknesses, it is important to remember that your interests are still developing and, like more specific skills, depend on exposure to various activities and ideas.

The Center for Career Exploration and Success, located in 45 Armstrong Center, can also help you understand how majors connect to various careers. The Center's website <http://miamioh.edu/emss/offices/career-services/index.html> provides useful career information and links to dozens of other career-related sites where you can explore different jobs by major. Career Services also offers one-on-one mentoring, workshops to help you explore careers, and standardized career assessments. Each of these opportunities can help you learn about your interests, abilities, and values and to relate them to your academic and career choices.

The Career Development and the College Student Course (EDL 100), provides opportunities to learn more about selecting a career. It is offered to first- and second-year students.

When you are ready to start your job or internship search, Career Services provides resume help, job or internship search strategies, mock interviewing, and can provide information about specific careers or internships. Over 300 employers visit campus annually for on-campus interviews. To learn more about the employers that visit campus, and to make yourself eligible for the interviews and advising appointments, sign up for a Miami Handshake account using your banner ID: <https://miamioh.joinhandshake.com/login>

Finally, don't forget to talk with your assigned academic advisor in the department or division of your primary major; your advisor can offer you informed advice on curriculum, career opportunities within fields, and opportunities for advanced study.

Programs with Special Admission Requirements

To be eligible to apply for admission into these programs, students must be admitted to Miami University as a matriculated student with a high school diploma or equivalent. Additionally, some programs have special requirements that call for careful planning. For example, you must be admitted to most majors in the College of Creative Arts or the Department of Nursing (Hamilton & Middletown campuses only) before you may declare the major. Also, teacher licensure programs and science and technical major programs require specific courses that are usually taken in a specific order.

It is important to check your major's requirements. Programs are listed in each division's chapter.

At present, majors with limited or restricted entry include nursing, social work, special education, speech pathology and audiology, all licensure programs in the Department of Teaching, Curriculum, and Education Inquiry, all programs in the Farmer School of Business, and most majors in the College of Creative Arts.

Academic Advising

Academic advisors are available to help you understand academic requirements and to address your concerns. They can provide you with information and resources that will help you make decisions about your class schedule, course of study, and future opportunities.

Students will be assigned a faculty or professional academic advisor within the department or division of their major prior to their first semester at Miami. When students change majors, their academic advisor will likely change. Students who have not declared a major will be advised by a specifically trained academic advisor within their chosen academic division or by a Student Success Navigator in the Exploratory Studies University Studies program.

Residence hall staff members are trained professionals who will assist first- and second-year students with addressing transitional issues, understanding university tools and resources, making appropriate referrals, and helping them to integrate their academic, personal, and co-curricular life.

Mid-Semester Grade Reports

Instructors are required to submit midterm grades, by the deadline posted on the academic calendar, for all undergraduate students who have 45 or fewer earned credits at Miami University. Instructors are encouraged to submit midterm grades for all other students. This requirement applies to all full-term classes and twelve-week "Q" sprint classes during the fall and spring semesters. Midterm grades are not required during other fall and spring semester sprint classes or for any winter and summer terms. Midterm grades are available to students online through Banner Self Service.

Academic Support

Bernard B. Rinella, Jr. Learning Center
306 Shriver Center, 513-529-8741
www.MiamiOH.edu/learning

Students experiencing academic difficulty can seek assistance at the Rinella Learning Center. One-to-one and small group tutoring is available; tutoring is geared to develop self-confidence and independence. Peer tutors reinforce course material and help

students to develop strategies to learn class material, prepare for homework, and take exams. Tutoring is free of charge. Instructions on how to request a tutoring session can be found on the Rinella Learning Center website. Learning specialists are also available for individual consultations.

In addition to the Tutorial Assistance Program, the Center is the umbrella for a number of programs and services; the Scholastic Enhancement Program for specially admitted students; as well as Supplemental Instruction and Academic Coaching. The Center also

coordinates support for students on academic warning, probation or returning from suspension or dismissal.

Instructors' Office Hours

Most instructors have regularly scheduled office hours to meet with students. These are usually posted outside their office doors and on the course syllabus. To make an appointment for another time, contact the instructor or department administrative assistant.

Advanced Placement Program (AP)

The State of Ohio, working with public institutions of higher education, has initiated policies to facilitate the ease of transition from high school to college, as well as between and among Ohio's public colleges and universities.

Beginning in the Fall term 2009:

1. Students obtaining an Advanced Placement (AP) exam score of 3 or above will be awarded the aligned course(s) and credits for the AP exam area(s) successfully completed.
2. General Education courses and credits received will be applied towards graduation and will satisfy a general education requirement if the course(s) to which the AP area is equivalent fulfill a requirement.
3. If an equivalent course is not available for the AP exam area completed, elective or area credit will be awarded in the appropriate academic discipline and will be applied towards graduation where such elective credit options exist within the academic major.
4. Additional courses or credits may be available when a score of 4 or 5 is obtained. Award of credit for higher score values varies depending on the institution and academic discipline.

In academic disciplines containing highly dependent sequences (Sciences, Technology, Engineering and Mathematics -STEM), students are strongly advised to confer with the college/university advising staff to ensure they have the appropriate foundation to be successful in advanced coursework within the sequence.

AP Subject	AP Score	Course Number	Hours Awarded
AP Capstone	Seminar	UNV 171	3
	Research	UNV 172	3
Art History	3	ART 188	3
	4 or 5	ART 187, ART 188	6
Biology	3, 4, or 5	BIO 116/MBI 116	4 (for score of 3: students advised to take course at college level, if biology major)
	3, 4, or 5	MTH 151	4 (for score of 3: students advised to take course at college level if going to Calculus II)
Calculus BC	3, 4, or 5	MTH 151, MTH 251	8
Chemistry	3	CHM 111, CHM 111L	4
	4	CHM 141, CHM 144	5
	5	CHM 141, CHM 142, CHM 144, CHM 145	10
Chinese Language and Culture	3	CHI 101, CHI 102	8
	4	CHI 101, CHI 102, CHI 201	11
	5	CHI 101, CHI 102, CHI 201, CHI 202	14
Computer Science A	3 or 4	CSE 174	3
	5	CSE 174, CSE 271	6
Computer Science Principles	3, 4, or 5	CSE 151	3
Macroeconomics	3, 4, or 5	ECO 202	3
Microeconomics	3, 4, or 5	ECO 201	3
English Language	3, 4, or 5	ENG 111	3
English Literature	3, 4, or 5	ENG 111	3

Student takes both exams:

English Language and English Literature	Any combination of 3, 4, or 5	ENG 111, ENG 122	6
Environmental Science	3, 4, or 5	BIO 121	3
European History	3, 4, or 5	Satisfies Miami Plan Humanities	3
French Language	3	FRE 101, FRE 102	8
	4	FRE 101, FRE 102, FRE 201	11
	5	FRE 101, FRE 102, FRE 201, FRE 202	14
French Literature	3	FRE 101, FRE 102, FRE 201	11
	4 or 5	FRE 101, FRE 102, FRE 201, FRE 202	14
German Language	3	GER 101, GER 102	8
	4	GER 101, GER 102, GER 201	11
	5	GER 101, GER 102, GER 201, GER 202	14
Comp Government & Politics	3, 4, or 5	POL 221	3
U.S. Government & Politics	3, 4, or 5	POL 241	3
Human Geography	3, 4 or 5	GEO 101	3
Italian Language & Culture	3	ITL 101, ITL 102	8
	4	ITL 101, ITL 102, ITL 201	11
	5	ITL 101, ITL 102, ITL 201, ITL 202	14
Japanese Language and Culture	3	JPN 101, JPN 102	8
	4	JPN 101, JPN 102, JPN 201	11
	5	JPN 101, JPN 102, JPN 201, JPN 202	14
Latin	3	LAT 101, LAT 102	8
	4 or 5	LAT 101, LAT 102, LAT 201, LAT 202	14
Music Theory	3	MUS 101	3
	4 or 5	MUS 101, MUS 151	4
Physics 1	3, 4 or 5	PHY 161	4
Physics 2	3, 4 or 5	PHY 162	4
Physics B	3, 4 or 5	PHY 161, PHY 162	8
Physics C: Electricity and Magnetism	3, 4 or 5	PHY 192	5
Physics C: Mechanics	3, 4 or 5	PHY 191	5
Psychology	3, 4 or 5	PSY 111	3
Spanish language	3	SPN 101, SPN 102	8
	4 or 5	SPN 101, SPN 102, SPN 201, SPN 202, SPN 311	17
Spanish Literature	3	SPN 101, SPN 102, SPN 201	11
	4 or 5	SPN 101, SPN 102, SPN 201, SPN 202, SPN 311	17
Statistics	3, 4 or 5	STA 261	4
Studio Art: Drawing	3, 4 or 5	ART elective	3
Studio Art: 2D Design	3, 4 or 5	ART elective	3
Studio Art: 3D Design	3, 4 or 5	ART 171	3
U.S. History	3, 4 or 5	HST 111, HST 112	6
World History	3, 4 or 5	Three credits of Miami Plan humanities and HST 198	6

College Level Examination Program (CLEP)

Contact the Tutoring and Learning Center (102 Rentschler Hall, 513-785-3139, RegTLC@MiamiOH.edu) for information about CLEP.

The State of Ohio, working with public institutions of higher education and statewide faculty panels, has developed policies to recognize students' prior learning and to facilitate the articulation and guaranteed transfer of such learning between Ohio's public colleges and universities.

College credit is guaranteed for students who achieve an established College-Level Examination Program (CLEP) test score for exams that have been endorsed statewide as college level. Statewide faculty panels aligned CLEP exams to equivalent Ohio Transfer 36 (OT36) and Transfer Assurance Guide (TAG) courses, as appropriate. If an equivalent course is not available for the CLEP exam area, by default, endorsed elective or area credit will still be awarded and applied towards graduation.

Specific-endorsed alignments and scores for individual CLEP exams that are outlined in the College-Level Examination Program (CLEP) Endorsed Alignment Policies document are available on the Ohio Department of Higher Education website at: <https://www.ohiohighered.org/transfer/clep>.

Credit is awarded for satisfactory scores on some CLEP Subject Examinations. Tests are scored by the Educational Testing Service, Princeton, New Jersey. Because there is a fee for each test (see the Fees and Expenses section), we encourage you to take them only if you have had the equivalent of a college course in the subject area.

Miami's Hamilton campus operates an **open** CLEP testing center, which means tests are offered to university students as well as to members of the community who are not enrolled at Miami University. Miami's Middletown and Oxford campuses do not currently offer CLEP testing. The CLEP exam can be taken at any testing site and the score reported to Miami University.

Ohio Department of Higher Education, working with public institutions of higher education, has initiated policies and procedures to recognize students' prior learning through College Board College-Level Examination Program (CLEP).

1. General Education courses and credits received will be applied towards graduation and will satisfy a general education requirement if the course(s) to which the CLEP area is equivalent fulfills a requirement.
2. If an equivalent course is not available for the CLEP exam area completed, elective or area credit will be awarded in the appropriate academic discipline and will be applied towards graduation where such elective credit options exist within the academic major.
3. Additional courses or credits may be available when a higher score is obtained. Award of credit for higher score values varies depending on the institution and academic discipline.

In academic disciplines containing highly dependent sequences (Sciences, Technology, Engineering and Mathematics – STEM) students are strongly advised to confer with the college/university advising staff to ensure they have the appropriate foundation to be successful in advanced coursework within the sequence.

American Government: credit for OT36 Social Sciences (3) for score of 56-62; credit for POL 241 for score of 63.

American Literature: credit for OT36 Arts and Humanities (3) for score of 53.

Analyzing and Interpreting Literature: credit for OT36 Arts and Humanities (3) for score of 59.

Biology: credit for OT36 Natural Sciences (3) for score of 50.

Calculus: credit for MTH 151 for score of 64.

Chemistry: credit for OT36 Natural Sciences (3) for score of 50-65; credit for CHM 141 for score of 66.

College Algebra: credit for OT36 Mathematics, Statistics, and Logic (3) for score of 63.

College Mathematics: credit for OT36 Mathematics, Statistics, and Logic (3) for score of 63.

English Literature: credit for OT36 Arts and Humanities (3) for score of 63.

French Language: credit for FRE 101, FRE 102 for score of 55-64; credit for FRE 101, FRE 102, FRE 201, FRE 202 for a score of 65.

Financial Accounting: credit for ACC 221 or CMR 101 (depending on student's major requirement) for a score of 65.

German Language: credit for GER 101 and GER 102 for score of 66 and above.

History of the United States I: credit for HST 111 for score of 61.

History of the United States II: credit for HST 112 for score of 57.

Human Growth and Development: credit for PSY 231 for a score of 58.

Humanities: credit for OT36 Arts and Humanities (3) for score of 55.

Information Systems: general elective credit (3) for score of 50.

Introductory to Business Law: credit for BLS 342 or CMR 108 (depending on student's major requirement) for score of 57.

Introduction to Educational Psychology: credit for OT36 Social Sciences (3) for score of 62.

Introductory Psychology: credit for PSY 111 for score of 55.

Introductory Sociology: credit for SOC 153 for score of 56.

Macroeconomics: credit for ECO 202 for score of 56 or higher.

Microeconomics: credit for ECO 201 for score of 57 or higher.

Precalculus: credit for MTH 125 for score of 61.

Principles of Management: credit for MGT 291 or CMR 111 (depending on student's major requirement) for score of 50.

Principles of Marketing: credit for MKT 291 or CMR 105 (depending on student's major requirement) for score of 65.

Social Sciences and History: credit for OT36 Social Sciences (3) for score of 63.

Spanish Language: credit for SPN 101, SPN 102 for score of 56-62; credit for SPN 101, SPN 102, SPN 201, for score of 63-67; credit for SPN 101, SPN 102, SPN 201, SPN 202 for score of 68.

Spanish Writing: credit for SPN 101, SPN 102 for score of 50-57; credit for SPN 101, SPN 102, SPN 201, for score of 58-64; credit for SPN 101, SPN 102, SPN 201, SPN 202 for score of 65.

Western Civilization I: credit for OT36 Arts and Humanities (3) for score of 55.

Western Civilization II: credit for OT36 Arts and Humanities (3) for score of 54.

International Baccalaureate Program (IB)

Miami awards credit to IB diploma graduates for higher level subjects passed at a satisfactory level (minimum scores vary 5 to 7 by subject area). Standard levels are not awarded credit.

Anthropology (acceptable score 5 or better)
Credit for ATH 175 and ATH 231.

Biology (acceptable score 5 or better)
Credit for BIO 116.

Business & Management (acceptable score 5 or better)
Credit for MGT 111.

Chemistry (acceptable score 5 or better)
Credit for CHM 141, CHM 142 and CHM 144, CHM 145 .

Chinese (acceptable score 5 or better)
Credit for CHI 101 and CHI 102.

Computer Science (acceptable score 5 or better)
Credit for CSE 151 and CSE 163.

Design Technology (acceptable score of 5 or better)
Credit for ENT 137 and ENT 135.

Economics (acceptable score 5 or better)
Credit for ECO 201 and ECO 202.

English A (acceptable score 6 or better)
Credit for ENG 111 and ENG 122.

English B (no credit awarded).

French (acceptable score 5)
Credit for FRE 202.

French (acceptable score of 6 or 7)
Credit for FRE 202 and FRE 341.

Geography (acceptable score 5 or better)
Credit for GEO 121 and GEO 201.

German B (acceptable score 5 or better)
Credit for GER 101 and GER 102.

Global Politics (acceptable score 5 or better)
Credit for POL 271.

History of Africa (acceptable score 5 or better)

Credit for HST 224 and HST 225.

History of the Americas (acceptable score 5 or better)
Credit for HST 111 and HST 112.

History of Asia and Oceana (acceptable score 5 or better)
Credit for HST 324.

History of Europe (acceptable score of 5 or better)
Credit for HST 197 and HST 198 .

History of Europe and the Islamic World (acceptable score of 5 or better)
Credit for HST 241 and HST 246.

History of Europe and the Middle East (acceptable score 5 or better)
Credit for HST 198 and HST 241.

Italian (acceptable score of 5 or better)
Credit for ITL 202.

Latin (acceptable score 6 or 7)
Credit for LAT 201.

Mathematics (acceptable score 6 or better)
Credit for MTH 151.

Music (acceptable score 5 or better)
Credit for MUS 101 and MUS 151.

Music Composition (acceptable score 5 or better)
Credit for MUS 171.

Music History (acceptable score 5 or better)
Credits to be evaluated by department.

Philosophy (acceptable score 6 or better)
Credit for PHL 105.

Physics (acceptable score 6 or better)
Credit for PHY 191 and PHY 192.

Psychology (acceptable score 5 or better)
Credit for PSY 111.

Russian B (acceptable score 5)
Credit for RUS 101 and RUS 102.

Spanish A (acceptable score 5)
Credit for SPN 101 and SPN 102.

Spanish A (acceptable score 6 or better)
Credit for SPN 101, SPN 102 , and SPN 201.

Spanish B (acceptable score 5 or better)
Credit for SPN 101 and SPN 102.

Spanish B (acceptable score 6 or better)
Credit for SPN 101, SPN 102 and SPN 201.

Theatre (acceptable score 5 or better)
Credit for THE 131, THE 191, and THE 200.

Department Proficiency Examinations

These exams may be offered each semester. Each department in which tests are offered administers its own test, and credit applies toward graduation. You may take a proficiency examination during

any semester or term in which you are enrolled. Fees are charged per credit hour after the first hour if the examination is passed. See the Fees and Expenses chapter for test charges.

To be approved for a proficiency examination, you must satisfy the department that you have a reasonable chance of passing it. Normally, these examinations are for courses below the 300 level, but they may be given for advanced courses with approvals of the department chair and the dean of the division in which the course is offered.

You may obtain credit or advanced placement, or both, by examinations in areas in which you have had adequate preparation. Credit earned is traditional credit and is not counted in the admissible 32 semester hours of nontraditional credit. No grades are awarded for proficiency examinations.

Commerce: offered for CMR 181, CMR 224, CMR 282.

Computer Science: two exams offered in CSE 174 and CSE 271.

English: submit a writing portfolio to the Composition Program in the department in the summer before your enrollment. For details about eligibility, requirements and deadlines refer to the Composition Program website at <http://www.units.MiamiOH.edu/portfolio/>.

Information Technology: offered for CIT 154, CIT 167, CIT 168, and CIT 214.

Mathematics: offered in MTH 151, MTH 222, MTH 251.

Music: offered in MUS 101, MUS 102, MUS 119, MUS 151, MUS 152.

Placement Guides

The following information is meant to provide information on courses that are part of a sequence. These guides are to help you determine where you should begin a sequence.

If you find that you have chosen a course that is too difficult, consult with the course instructor about your options before withdrawing from the course (withdrawal deadlines are published on the Academic Calendar at MiamiOH.edu/OneStop).

Biology

BIO 115/MBI 115 and BIO 116/MBI 116: Biological Concepts. Intensive biology courses with laboratories for students pursuing majors in the biological sciences, health professions, and some areas in education and engineering. BIO/MBI 115 is **not** a prerequisite for BIO/MBI 116.

Chemistry

CHM 111 and CHM 111L: for non-science majors; no previous chemistry is necessary; CHM 111 and CHM 111L fulfill the MP natural science requirement and laboratory requirement. CHM 111L can be taken with or without the lecture course.

CHM 141, CHM 141R, CHM 142, CHM 144, CHM 145: lectures and laboratories for students preparing for careers in health professions and sciences, engineering, or science teaching. See note below about math placement scores.

CHM 141 or CHM 141H, and CHM 142H or CHM 142M: lectures for students majoring in chemistry or biochemistry. CHM 144M

and CHM 145M: laboratories students majoring in chemistry or biochemistry majors. See note below about math placement scores.

Certain ACT/SAT math sub-scores or placement scores are required for placement into any CHM 14x courses.

- ACT math score 21 / SAT math score 529 / Miami Math placement score 7- and lower -you must complete either MTH 025, MTH 122, MTH 125, or MTH 151 before enrolling in the CHM 14x series; see an advisor to choose an appropriate math course.
- ACT math score 22 / SAT math score 530 - and higher -and no high school chemistry: enroll in CHM 141R (regional campus students only).
- ACT math score 22 / SAT math score 530 / Miami Math placement score 8- and higher -you can register for CHM 141 / 141H (honors students).

CHM 147: introductory seminar strongly recommended for all chemistry and biochemistry majors; one credit hour with credit/no credit grading.

Foreign Language

Placement is based on:

1. high school preparation where one year of high school typically equates to one semester of college content, and
2. Miami University placement test results or placement advice.

Online placement tests are available for: French, German, Latin, Russian, and Spanish. Placement advice guides are available for: Arabic, Chinese (Mandarin), Italian, Japanese, Korean, and Portuguese. More information about these can be found via the Interactive Language Resource Center. Students interested in continuing their study of American Sign Language should communicate with the department of Speech Pathology & Audiology (513-529-2500) to schedule an assessment for placement.

If you are continuing with the same foreign language you studied in high school, and a Miami University placement test exists, then you are required to take that test **before** you register for courses in that language. Please plan ahead and allow yourself ample time to take the placement test seriously. New students should take the placement exam online prior to attending an orientation program. Continuing students wishing to enter a language sequence should take the placement exam and then seek advising before enrolling in a course.

Things to note:

- Academic credit is **NOT** awarded for placement tests
- You must register for the course that matches your placement test results or placement advice guide
- Earned credit in a language course takes precedence over a placement test score. For example, if you have transfer credit for Spanish 102, you would continue on to Spanish 201, even if your placement score is higher or lower than Spanish 201.
- After starting a language sequence, **you cannot skip a course in the sequence leading to 202.**
- 101 level: for those beginning a new language or whose placement exam scores indicate they are not prepared to enter 102.

- 102 level: for those who have successfully completed 101. Also for those whose placement exam scores indicate they are not prepared to enter the second-year level.
- 111 level: offered in German, Latin, Portuguese, and Spanish and covers the same material as the 101 and 102 courses but in one semester. After completing 111, students enter 201 or 211. Full credit toward graduation will not be awarded 111 if student has earned credit in 101 and/or 102.
- 201 level: for those who have successfully completed 102, 111, or equivalent, or achieved an appropriate placement exam score.
- 202 level: for those who have successfully completed 121, 201, or equivalent, or achieved an appropriate placement exam score; this course fulfills the language requirement for the College of Arts and Science (CAS-A).
- 203 level: offered in Spanish, for those who have successfully completed SPN 201 or achieved an appropriate placement exam score; designed as an alternative to SPN 202 for those interested in the health care field. Credit not given for both 202 and 203. This course fulfills the language requirement for the College of Arts and Science (CAS-A).
- 211 level: offered in Portuguese and Spanish, is an intensive second-year course for those who have completed the prerequisite course or achieved an appropriate placement test score. This course fulfills the language requirement for the College of Arts and Science (CAS-A).
- 301 level and above: for students with an appropriate placement test score, or who have successfully completed 202. Any foreign language course at 300 level or above fulfills the language requirement for the College of Arts and Science (CAS-A) as long as it is not conducted in English or taught in translation.

Physics

All courses listed here can be used to fulfill the natural science section of the Miami Plan.

PHY 101, PHY 111, PHY 121, PHY 131, PHY 141: general physics course for students not majoring in a natural science. PHY 103: companion lab to any of the previously listed course, must be taken at the same time as the lecture, or any time after credit in a lecture has been earned.

PHY 161, PHY 162: Physics for the Life Sciences. This year-long sequence is for students who have had mathematics courses that include trigonometry. PHY 161 is a prerequisite to PHY 162. Math prerequisite for 161 is a minimum math sub-score of 26 on the ACT, a 610 on the SAT, or a 16 on the Miami Math placement test, or credit in MTH 124, MTH 125, or MTH 135

PHY 191, PHY 192: General Physics. This year-long sequence is recommended for science and engineering students. PHY 191 is a prerequisite for PHY 192. Math prerequisite for 191 is credit for, or concurrent enrollment in, MTH 151.

Algebra and Trigonometry

(See Mathematics and Statistics at the end of this chapter.)

MTH 025: Algebra Concepts for Precalculus (5); one semester. This is a remedial course for students whose ACT math score is a 21 (or lower) or SAT math score is a 539 (or lower). **Credits earned from this course will not count toward graduation.** Course is only offered as

credit/no-credit (not a standard letter grade) and will not factor in to any grade point average. Next course is MTH 125.

MTH 049 : Math Literacy (4); one semester. This is a remedial course designed to be accessible to students who struggle with the abstract nature of algebra. The successful student will be well-prepared for STA 261 and MTH 119, as well as non-majors science courses that have traditionally required completion of an algebra course. **Credits earned from this course will not count toward graduation.** Only offered on the regional campuses.

MTH 122: College Algebra (3); one semester. Course covers functions, transformations of functions, polynomials, rational functions, logarithmic and exponential functions and their graphs. Provides experience in using algebra and functions to solve real life problems analytically, numerically, and graphically. Credit will not be given for both MTH 122 and MTH 125.

MTH 124: Trigonometry (3); one semester. Course emphasizes topics covered in Precalculus: trigonometric functions and their inverses, graphs of trigonometric and inverse trigonometric functions, trigonometric identities, polar coordinates, conic sections. Provides experience in using trigonometry and functions to solve real life problems analytically, numerically, and graphically; prepares students to be successful in calculus. Credit will not be given for both MTH 124 and MTH 125.

MTH 125 : Precalculus (5); one semester. Review of algebra topics important for calculus. Functions, polynomials, rational functions, logarithmic and exponential functions, trigonometric functions and their inverses, conic sections, nonlinear systems, and applications of functions. Next course is MTH 151.

Introductory Mathematics for Scientific Applications

MTH 135: Introductory Mathematics for Scientific Application (3); one semester. Course introduces concepts, terminology, and problem-solving skills important in various introductory science courses and are presented within the context of applications from biology, chemistry, and physics. Qualitative reasoning is emphasized and quantitative problem-solving skills are developed.

Calculus

(See Mathematics and Statistics at the end of this chapter.)

MTH 141: Business Calculus (5); intended for students who are either in the Farmer School of Business (FSB) or who are seeking entrance to the FSB. Not for students who intend to take Calculus II.

MTH 151: Calculus I (4); covers: limits and continuity, derivatives, integration, calculus of trigonometric and exponential functions. For students who have had little or no high school calculus. This is the first semester in calculus sequence MTH 151, MTH 251, MTH 252.

MTH 249: Calculus II (5); primarily for new first-year students who have credit for MTH 151 (Calculus I) via AP, CLEP, IB, or post-secondary work. Covers the same content as MTH 251 Calculus II, while reviewing concepts of limit, derivative, and integral from Calculus I as needed. This is the first semester of the calculus sequence MTH 249, MTH 252 and covers the same topics as MTH 151, MTH 251, MTH 252.

MTH 251: Calculus II (4); continuation of Calculus I with plane analytic geometry, techniques of integration, parametric equations, polar

coordinates, infinite series, approximations, applications. Credit not given for both MTH 249 and MTH 251.

Mathematics and Statistics

The following chart will help you understand what math or statistics course you can start with.

If you plan to	and you have passed these high school classes	and have these scores on the test	then take
Take calculus I or II	(a) one year of calculus including log, exponential, and trig functions	3-5 on AP Calculus BC	see math advisor
		4-5 on AP Calculus AB	MTH 249
	(b) three and one-half or four years of math with trig, but little or no calculus	1-3* on AP Calculus AB; ACT math score: 27+; SAT math score: 640+; Miami Placement 17-25	MTH 151
		ACT math score: 27+; SAT math score: 640+; Miami Placement 17-25	MTH 151
		(c) three or four years of math including some trig	ACT math score: 22-26; SAT math score: 540-639; Miami Placement 8-16
(d) less than three years of math	ACT math score: 20 - 21; SAT math score: 520 - 539; Miami Placement 7	MTH 122, followed by MTH 124	
(e) less than three years of math	ACT math score 19 & lower; SAT math score 519 & lower; Miami Placement: 0 - 6	MTH 025**	
Take business calculus	(a) three or four years of math	ACT math score: 24+; SAT math score: 580+; Miami Placement: 12+	MTH 141***
	(b) less than three years of math	ACT math score: 20 - 23; SAT math score: 520 - 579; Miami Placement: 7 - 11	MTH 122
	(c) less than three years of math	ACT math score 19 & lower; SAT math score 519 & lower; Miami Placement 0 - 6	MTH 025**
Take a noncalculus course, e.g. MTH 119, MTH 121, or STA 261	(a) three years of math, including two years of algebra	ACT math score: 22+; SAT math score: 540+; Miami Placement 8 - 25	MTH 119, MTH 121, or STA 261
	(b) less than three years of math	ACT math score: 21 & lower; SAT math score: 539 & lower; Miami Placement 0 - 7	MTH 025** (Oxford students); MTH 049** (Regional students)
Take Introductory Mathematics for Scientific Applications		ACT math score 22+; SAT math score 539+; Miami Placement 8 - 25	MTH 135
Seeking middle childhood licensure with a math concentration	(a) one year of calculus including log, exponential, and trig functions	3-5 on AP Calculus AB	MTH 217 or MTH 218
Seeking Inclusive Special Education, Primary Education PK-5, or Middle Childhood education licensure without a concentration in math	(a) recommended three years of math, including algebra and geometry		MTH 115 or MTH 116 (for Special Ed and Primary Education PK-5 required)

* A score of 3 on the AP Calculus AB will confer credit for MTH 151. However, if you intend to eventually take Calculus II, the department recommends retaking MTH 151.

** MTH 025 and MTH 049 do **not** count toward graduation and is only offered as credit/no-credit, so it will **not** factor into any grade point average.

*** MTH 141 business calculus does not meet the prerequisite for calculus II; students who plan to eventually take calculus II should take MTH 151 instead.

Oxford students can self-enroll in the math placement Canvas course, which can be found on the Math Department's webpage.

Proctored math placement tests are available to Regional students who do not have ACT or SAT scores through the Tutoring and Learning Center.

If you have additional questions, please consult the appropriate department: Mathematics (513-529-5818) or Statistics (513-529-7828).

Course Registration and Other Regulations

Office of the University Registrar

106 Nellie Craig Walker Hall
www.MiamiOH.edu/registrar/

Academic Calendar

Important academic dates and deadlines are published in the Academic Calendar online at MiamiOH.edu/OneStop. Dates are subject to change without notice.

Miami ID Card

University registration includes the issue and validation of your student identification card. ID cards are issued at the Campus Services Center (34 Nellie Craig Walker Hall). Regional students should go to the Office of IT services on their campus for ID cards.

Course Offerings

Course offerings and other registration information are available online through the Course List (www.apps.miamioh.edu/courselist). Course offerings and availability are subject to change without notice.

Registering

New undergraduate students are required to meet with an academic advisor to select their required courses and electives. First year students register during Summer Orientation in June. Continuing students are encouraged to contact their advisors for further academic and career counseling before registering.

Register for classes at Miami University online through myMiami/ Banner Self Service (www.mymiami.MiamiOH.edu) and receive immediate confirmation of your schedule. You can register, confirm and change your schedule through Banner Self Service only on the assigned days and at the assigned times.

Before you can register, the system will ask you to supply emergency contact information. The university requires that you provide emergency contact information so that we may readily notify a family member or significant other in case of an emergency or should a critical matter arise.

You are required to provide your **local contact information** and the name of a **family member/guardian/spouse or another significant person and their contact information**. You will be delayed in registering for your next semester courses until you enter the requested information. All students are also required to sign a Financial Responsibility Agreement every fall and spring semester. The system will not allow you to register until you have signed the agreement.

Registration and Graduate Credit

Before registering for courses, consult your advisor to make sure that you are meeting your degree requirements.

Minimum and Maximum Registration

Information regarding Graduate Minimum and Maximum Registration, and Course Load may be found in the Policy Library: <https://www.miamioh.edu/policy-library/students/graduate/graduate-academic-regulations/registration.html>

Change of Status or Program

Any change of graduate standing, such as moving from continuing graduate status (CGS) to degree status, must be approved by your major department or division and the Graduate School. To change from continuing graduate status to regular or conditional standing, you must reapply to the Graduate School.

Students with a grade point average below 3.00 who wish to change majors and/or degree programs must have approval of the Student Petitions Committee of the Graduate Council.

Transfer Credit

Information regarding Graduate Transfer Credit may be found in the Policy Library: <https://www.miamioh.edu/policy-library/students/graduate/graduate-academic-regulations/registration.html>

Changes of Registration

Course registration may only be changed in the prescribed time stated in a student's registration time ticket and the University academic calendar (<http://miamioh.edu/academic-calendar/index.html>). No change is official until the registration transaction is recorded in the student registration system.

Adding, Dropping and Withdrawing from a Course

Information related to adding a course, dropping a course or withdrawing from a course may be found in the Policy Library. Undergraduate: <https://www.miamioh.edu/policy-library/students/undergraduate/academic-regulations/registration-undergraduate.html>

Graduate: <https://www.miamioh.edu/policy-library/students/graduate/graduate-academic-regulations/registration.html>

Course Section Change

To change sections online, you must drop the section in which you are currently enrolled, then add the new section. Since many students may be competing for available space in the same course, there is a significant risk that you will lose your place in the course altogether.

Credit Hour Loads for Undergraduate Students

Undergraduate credit hour load information may be found in the Policy Library: <https://www.miamioh.edu/policy-library/students/undergraduate/academic-regulations/registration-undergraduate.html>

Independent Work

Independent work comes in two forms:

1. internship or co-operative education (<https://www.miamioh.edu/policy-library/employees/faculty/academic-policies-procedures-for-instructional-staff/internships.html>), and
2. independent study.
Undergraduate: <https://miamioh.edu/policy-library/students/undergraduate/academic-regulations/graduation-requirements.html>

Graduate: <https://www.miamioh.edu/policy-library/students/graduate/graduate-academic-regulations/registration.html>

For more information, see Special Course Numbers in the Courses of Instruction General Information section.

Repeating a Course

Consult the University Policy Library for full information on the undergraduate Course Repeat Policy.

Undergraduate Student Classification

Consult the Policy Library for information: <https://miamioh.edu/policy-library/students/undergraduate/academic-regulations/classification-of-students.html>

Graduate-Level Courses for Undergraduates

Consult the Policy Library for information: <https://www.miamioh.edu/policy-library/students/graduate/graduate-academic-regulations/registration.html>

Greater Cincinnati College Connection (GC3)

Full-time Miami students can take courses through the Greater Cincinnati College Connection during the academic year and summer. This association can provide courses that are not generally available at the institution where the student is enrolled.

Members of the Cincinnati Consortium include the Art Academy of Cincinnati, Chatfield College, Cincinnati State Technical and Community College, Gateway Community and Technical College, God's Bible School & College, Good Samaritan College of Nursing and Health Science, Hebrew Union College-Jewish Institute of Religion, Miami University, Mount St. Joseph University, Northern Kentucky University, The Christ College of Nursing and Health Sciences, Thomas More College, Union Institute & University, University of Cincinnati, Wilmington College, and Xavier University.

The One Stop can provide you with additional information.

Southwestern Ohio Council for Higher Education (SOCHE)

Full-time Miami students can take courses through the Southwestern Ohio Council for Higher Education (SOCHE) during the academic year and summer. SOCHE is the collaborative infrastructure for

higher education, helping colleges and universities transform their communities and economies through the education, employment, and engagement of more than 120,000 students in southwest Ohio. This association can provide courses that are not generally available at the institution where the student is enrolled.

Members of the Southwestern Ohio Council for Higher Education include Air Force Institute of Technology, Antioch College, Antioch University Midwest, Cedarville University, Central State University, Cincinnati State – Middletown Campus, Clark State Community College, Edison Community College, Franklin University, Kettering College, The Kettering Foundation, Miami University Regionals, Ohio University, Sinclair Community College, Southern State Community College, Union Institute & University, University of Cincinnati, University of Dayton, Wilberforce University, Wilmington College, Wittenberg University, and Wright State University.

The One Stop can provide you with additional information.

Other Regulations

Changes in Policy

For complete information on changes in any academic policy on student conduct, grievance procedures or petitions consult the University Policy Library. You are responsible for knowing about any changes in these policies that may affect you.

Electronic Directory

Miami's electronic directory, like those of other institutions, is accessible worldwide across the Internet. To preserve the privacy of students, faculty, and staff, the following data is **only accessible within the Miami University community**:

- **University-supplied data:**
 - Division (staff, faculty)
 - Office address (staff, faculty)
 - Home address and phone number (students, staff, faculty; if authorized)
 - School address and phone number (students)
- **Optional individual-supplied data:**
 - e-mail address and phone number
 - Mobile phone number
 - Office hours
 - High schools attended
 - Other colleges attended

FERPA Release and Directory Restriction

Under provisions of the Family Educational Right to Privacy Act (FERPA, Buckley Amendment), all students are able to request exclusion from the university's electronic directory.

All first time Miami students are included in the electronic directory beginning August 1st, but the student can request exclusion from the electronic directory by filling out a form available on the One Stop website ([MiamiOH.edu/OneStop](https://miamioh.edu/OneStop)).

Freshmen may do so any time prior to July 15; continuing students may do so at any time during his/her enrollment at Miami.

Exclusion requests are reflected in the electronic directory approximately 24 hours after being processed by the University Registrar's Office. Emergency exclusions, requested by Miami

University Police or the Office of Student Affairs, are processed as soon as possible by the IT Services.

Right to Privacy and Access: Student Records

Miami University maintains records on all Miami students that include academic and demographic information. To protect our students' privacy, and to ensure that their records are accessible to them, Miami has designed a policy for maintaining and administering student records.

Miami's policy is in compliance with the Family Education Rights and Privacy Act of 1974 (FERPA). The complete policy is included in the online **University Policy Library**.

Registration Glossary

Academic action: Academic actions are defined as academic warning, removal of academic warning, academic probation, removal of academic probation, academic suspension, and academic dismissal. Academic actions are taken at the end of each fall and spring semester, and at the end of the summer term. Any student with a cumulative GPA of less than 2.00 is subject to academic action, regardless of the number of hours taken in any semester or summer term.

Academic record: A record of courses taken, grades received, and degrees earned by each student while attending Miami. It includes transfer credit, advanced placement credit, and other credit awarded or earned.

Admission prerequisites: See "High School Preparation" in the Admission chapter. If you did not complete these units in high school, you must complete additional courses at Miami. These courses count toward graduation and many fulfill other requirements. You must complete these units within your first 64 semester hours (normally, during your first two years). Questions about prerequisites should be directed to the Office of Admission.

Associate's degree: Two-year degree, generally offered only on regional campuses. An associate's degree requires completion of 64 semester credit hours and should not exceed 65 semester credit hours unless it can be shown that the additional coursework is required to meet professional accreditation or licensing requirements.

Audit: You attend classes, but do not receive credit or a grade. The instructor may require you to take exams and participate in class discussion. Since not all courses can be audited, you must have the instructor's written permission to audit. A course can be changed from credit to audit or audit to credit up to 60 percent of the class meetings. See the Grades chapter for more detail.

Bachelor's degree: A four-year degree. Basic requirements include: (1) at least 124 semester hours—at least 32 must be from Miami; (2) at least a 2.00 cumulative GPA; (3) fulfillment of the Miami Plan; (4) fulfillment of divisional and major requirements.

Cancellation: If you do not pay your fees on time, your schedule will be cancelled. You will need to re-register.

CAS-A, B, etc.: Abbreviations for sections of the College of Arts and Science requirement. See the College of Arts and Science chapter.

Certificate program, graduate: A specialization program that enhances a graduate degree. Available to students who have been admitted to the Graduate School and have met program prerequisites for a graduate degree.

Certificate program, undergraduate: A formal award certifying the satisfactory completion of an organized program of study at the postsecondary level and typically carrying 12-18 credits. Certificates should be designed as: (1) supplementary to other degree programs by providing students with new competencies for professional development or lifelong learning; or (2) building blocks toward future degree completion.

Change of schedule (or drop/add): Dates and times when you can make changes in your term courses. Consult the academic calendar for specific dates and times.

Class standing: Freshmen have earned 0-29 semester hours; sophomores have earned 30-63 semester hours; juniors have earned 64-95 semester hours; seniors have earned 96 or more semester hours.

Closed class: When maximum enrollment in a course has been met, no more students can be accommodated.

Co-Major: is designed to provide a complementary perspective to a student's primary major and carries at least 30 credits. Students receive the degree designation of their primary major with the co-major listed on the transcript. Some co-majors may have areas of concentration.

Co-requisite: A course that indicates the courses required to be taken in the same semester as the course in question. Co-requisites are indicated in General Bulletin course descriptions.

Course level: (See Course number below.) 100-level courses are generally introductory; 200-level more advanced; 300 and 400-levels for juniors and seniors; 500 and above for graduate students.

Course modifier: A letter or numeric symbol designating a different content within a general course.

Course number: Three-digit number that follows a departmental abbreviation used to identify a course, for example ENG 111. The course number is an indication of course level.

Course reference number (CRN): A five-digit code used to identify each section of a course for registration. It is in effect only for the current term.

Credit/no-credit: Credit/no-credit courses are not calculated in your GPA and are not recorded using standard letter grades. See the Grades chapter for more detail.

Degree Audit Report: A report of your completed course work and current registration matched with degree requirements of your declared major; it identifies deficiencies and lists courses to satisfy specific requirements. Degree audits are available online at <https://uachieve.miamioh.edu/selfservice/general/home.html>.

Division: An academic part of the university with its own requirements. Miami has seven divisions: College of Arts and Science, College of Creative Arts, College of Education, Health and Society, College of Engineering and Computing, Farmer School of Business, Graduate School, and College of Liberal Studies and Applied Science.

Doctoral Degree: The highest award a student can earn for graduate study. Doctoral degrees generally require the successful completion of at least 90 semester credit hours (or 135 quarter credit hours) of work beyond the bachelor's degree or at least 60 semester credit hours (or 90 quarter credit hours) beyond the master's degree. Deviations from these credit hour guidelines require proper justification and state approval. The Doctor of Philosophy (PhD) is a research degree and involves preparation for the conduct of independent research and the discovery of new knowledge. Doctoral degrees may also recognize preparation for professional practice.

Incomplete grade: May be assigned when a student and an instructor formally agree to a plan to complete unfinished course work. See Grades section for more detail.

Independent Work: see full definition

Late registration: Late registration is held just before the term begins for new students who have not registered.

Major: is a curriculum component that enables students to make an in-depth inquiry into a discipline or a professional field of study. It is organized around a specific set of goals, objectives and student learning outcomes that are accomplished through an ordered series of courses whose connections define an internal structure. A major that focuses on a discipline typically draws its courses predominantly from one department. A major that encompasses a professional field of study or is interdisciplinary usually obtains its courses from more than one department/division. Departments or divisions have the responsibility for administering majors within their unit and for approving particular programs of study and appropriate course substitutions for students. Those departments involved with interdisciplinary majors perform the same functions as individual departments. Students may not declare a major and a minor in the same discipline.

Per the Ohio Department of Higher Education guidelines, a major must comprise a minimum of 30 semester hours in a particular discipline.

Master's Degree: An award that requires the successful completion of at least 30 semester credit hours of work beyond the bachelor's degree. Master's degrees such as the Master of Arts and the Master of Science are typically considered research graduate degrees, and involve preparation to carry out research and to discover new knowledge—whether the field is pure or applied. Master's degrees may also recognize preparation for professional practice.

Miami Plan (MP): Miami's liberal education requirement. See the Miami Plan chapter.

Minor: is a designated sequence of courses in a discipline or area of undergraduate study. Like the major, it is expected to have coherence and increasing sophistication. A minor is 18 (minimum) and typically up to 24 credit hours, or approximately half of the major. The minor is independent of the student's major and students may not declare a major and a minor in the same discipline. Students must formally declare a minor, similar to the process by which they declare the major. Minors are designated on University transcripts.

MUNet password: By default, your password is the month and day of your birth and the last four digits of your Social Security number in the format mmddnnnn. Please include the leading zero for single digit months and days. For example, a birth date of March

1 with Social Security number 123-45-6789 would have a default password of "03016789". For security reasons, you will be required to change your default password to another value the first time you login to myMiami. In addition, to create a new password, you will have the opportunity to create a Secret Question/Answer that can be used in the event that you forget your password. You will then be required to change your password every six months. To change your password, go to www.MiamiOH.edu/password. For login problems, contact the IT Services Support Desk through myMiami at www.mymiami.MiamiOH.edu.

myMiami: Miami University's web portal. myMiami contains links to Banner Self Service, the online campus directory, Knowledge Base, and other Miami services, as well as information about university offices, activities and news and events. myMiami can be accessed from anywhere in the world at www.mymiami.MiamiOH.edu using your Unique ID, MUNet password, and web browser.

Nontraditional credit: College credit given for a nonacademic learning experience, such as knowledge you have acquired from a military service or your own study. For information, contact the One Stop for Student Success Services.

Placement exams: Offered in foreign languages, mathematics, chemistry and physics to help you enroll in an appropriate first course for your skill level.

Prerequisite: Course(s) that are approximations of the necessary specific or general academic knowledge, background, or semester classification required to succeed academically in a specific course. This is indicated in a course description of the Courses of Instruction section of this General Bulletin.

Proficiency exams: Tests used to obtain credit in subjects for which you have adequate preparation. Each department administers its own test, and credit applies toward graduation. You must pass the test with a C or better to earn credit. See the Fees and Expenses chapter.

Section: One class of a course. Courses with large enrollments are divided into sections. Sections are identified by letters, for example ART 171A, ART 171B. Each section has a unique CRN.

Semester credit hour: Unit used to measure course work. The number of credit hours is usually based on the number of hours per week the class meets; for example, a three-hour course typically meets three times a week for 55 minutes each time. One credit hour is usually assigned for two or three hours in laboratory and studio courses.

Sprint course standards: Courses that meet for less than the full 14 week term. The sprint parts of term are Q, T, U, V, W, X, Y, Z. Sprint course meeting dates are listed in the course schedule.

Terminal degree: A degree that is either highest on the academic track or highest on the professional track in a given field of study. At Miami, the terminal degrees offered are doctoral degrees or Master of Fine Arts (MFA) which is a terminal degree for creative field in the visual and performing arts as well as creative writing. The MFA degrees carry at least 35 semester hours.

Time conflicts: Registration/Change of Schedule checks for time conflicts and will not permit you to add courses that meet at overlapping times.

Transcript: An official copy of your academic record.

Unique ID: Every student, faculty, and staff member has been issued a Unique ID to identify them in the processing of university information. It consists of the first six letters of the last name, followed by the first and middle initials. Some Unique IDs end in a number rather than a middle initial because common last names and initials mean that a particular Unique ID is already in use. The Unique ID is not case sensitive. Both your Unique ID and MUNet password are required to login to Miami's web portal, myMiami.

Variable credit hours: Range of credit hours for courses (usually independent study, special topics, thesis hours). Indicated with cumulative maximum in course description; for example (2-8; maximum 16).

Grades

Office of the University Registrar

106 Nellie Craig Walker Hall
www.MiamiOH.edu/registrar

The Grading System

The Grading Systems may be found in the Policy Library.

Undergraduate: <https://miamioh.edu/policy-library/students/undergraduate/academic-regulations/grades-and-scholarship-undergrad.html>

Graduate: <https://www.miamioh.edu/policy-library/students/graduate/graduate-academic-regulations/grades-and-scholarship.html>

Calculating Your Grade Point Average

Add the hours you have attempted for a grade in the semester. Then figure the point value of your grades by multiplying the point value of the grade by the number of hours in the course. Divide the number of points by the number of hours; this is your term GPA.

Course	Hours		Grade	=	Points
ENG 111	3	x	C (2.00)	=	6.0
PSY 111	3	x	B (3.00)	=	9.0
SPN 101	4	x	B (3.0)	=	12.0
BIO 115	4	x	B+ (3.30)	=	13.2
TCE 110	2	x	A (4.00)	=	8.0
TOTAL	16				48.2

48.2 divided by 16 = 3.01 GPA

To figure your cumulative GPA, divide total points for all terms by the total number of credit hours you attempted for a grade. Grade point averages are truncated to the second decimal place.

Auditing Courses

Audit information may be found in the Policy Library.

Undergraduate: <https://www.miamioh.edu/policy-library/students/undergraduate/academic-regulations/registration-undergraduate.html>

Graduate: <https://www.miamioh.edu/policy-library/students/graduate/graduate-academic-regulations/registration.html>

Credit/No-Credit

Warning: *Nationwide studies have shown that credit/no-credit grades on your academic record may be a negative factor in evaluation of your application for admission or employment by most professional schools (law, medicine, etc.), by many graduate schools, and by some employers and undergraduate schools. Before enrolling for courses on a credit/no-credit basis consider what effect it may have upon your career goals.*

Additional credit/no-credit information may be found in the Policy Library.

Undergraduate: <https://www.miamioh.edu/policy-library/students/undergraduate/academic-regulations/registration-undergraduate.html>

Graduate: <https://www.miamioh.edu/policy-library/students/graduate/graduate-academic-regulations/registration.html>

Incompletes

If you cannot finish the work for a course by the end of a term, with your instructor's permission you can take an incomplete. This is an agreement between you and your instructor that you will finish your course work.

Additional information may be found in the Policy Library.

Undergraduate: <https://miamioh.edu/policy-library/students/undergraduate/academic-regulations/grades-and-scholarship-undergrad.html>

Graduate: <https://www.miamioh.edu/policy-library/students/graduate/graduate-academic-regulations/grades-and-scholarship.html>

Withdrawal from the University

Withdrawing from the University is a formal administrative procedure; merely ceasing to attend classes will not be considered an official withdrawal from the University.

Additional information regarding withdrawal from the University may be found in the Policy Library.

Undergraduate: <https://www.miamioh.edu/policy-library/students/undergraduate/academic-regulations/registration-undergraduate.html>

Graduate: <https://www.miamioh.edu/policy-library/students/graduate/graduate-academic-regulations/registration.html>

Unofficial Withdrawal

If a student leaves the University without formally withdrawing and failing and/or non-completion grades are recorded, the student will be considered an Unofficial Withdrawal. For additional information and the full policy see the *University Policy Library*.

Academic Warning, Probation, Suspension, and Dismissal

Academic action information may be found in the Policy Library.

Undergraduate (Warning, Probation, Suspension, Dismissal): <https://miamioh.edu/policy-library/students/undergraduate/academic-regulations/grades-and-scholarship-undergrad.html>

Graduate (Probation, Dismissal): <https://www.miamioh.edu/policy-library/students/graduate/graduate-academic-regulations/grades-and-scholarship.html>

Fresh Start Policy

Fresh Start Policy information may be found in the Policy Library.

Undergraduate: <https://www.miamioh.edu/policy-library/students/undergraduate/academic-regulations/fresh-start.html>

Graduate: <https://miamioh.edu/policy-library/students/graduate/graduate-academic-regulations/fresh-start.html>

Re-Enrollment

Former students who wish to return to the university must apply for re-enrollment prior to the deadline for the term of return.

Returning students whose degree programs have been discontinued should consult with their academic departments or divisions.

Fees and Expenses

One Stop

100 Nellie Craig Walker Hall
www.MiamiOH.edu/OneStop

Fees and Expenses

Note: All fees and charges are subject to change without notice. For current information on tuition and fees, visit the One Stop website at www.MiamiOH.edu/OneStop.

Estimated Fees and Expenses, 2023-2024

Note: 2023-2024 fees will be finalized in July 2023. All fees and charges are subject to change without notice.

For complete information, please visit MiamiOH.edu/OneStop.

Important: You must be covered by health and accident insurance. Your Bursar account will automatically be charged on your fall semester invoice for Basic Coverage Student health and accident insurance through the Health Services Center. You may reach the Health Services Center at 513-529-3000. If you do not need the insurance, you can complete a Waiver Form online and your Bursar account will be credited.

Summer Term

Visit the Miami Summer Term website for more details at MiamiOH.edu/OneStop.

Freshmen

When you are accepted, you must submit the following fee and deposit with your housing application:

Admission Fee	\$95.00
University Contract eConfirmation Deposit	\$330.00
Total	\$425.00

If you attend Miami and fulfill your housing contract requirements, the University Contract eConfirmation deposit portion is retroactively applied toward your final term fees; you will be refunded any remaining credit.

Paying Your Fees

Fees are due before the semester begins. You must pay by the deadline; otherwise your schedule may be cancelled and a late payment fee will be assessed.

Late Payment, Late Registration

Late payment fee	\$150.00
Late registration fee, per calendar week	\$27.00

Late Fees on Past Due Accounts

The Miami University Board of Trustees authorizes charging late fees equal to the then-current prime rate plus 3 percent on charges that are not paid within 90 days of the due date. Full collection costs may

also be charged if it becomes necessary to send a past-due account to a third-party collection agent.

Financial Obligations

The Miami University Board of Trustees authorizes the Bursar to restrict any services to current and former students and current and former employees until any past due amount owed to the university is paid in full. These services include, but are not limited to, the release of all academic records (e.g., diploma, and transcripts), the continuation of auxiliary services (e.g., telephone, cellular, high-speed data services), and registration for future semesters. Past due amounts include, but are not limited to, fees, tuition, charges, fines, and loans due to the university. Restoration of auxiliary services may require additional signed securities.

Other Charges

Audit Courses

These courses are charged at the same rate as credit courses.

Automobile Registration/Parking Permits

Parking permit fee information and automobile registration requirements are available online at the Parking and Transportation Services Web site (www.MiamiOH.edu/parking/) or at the Student Handbook Web site (www.MiamiOH.edu/handbook/). Additional information is available at the Campus Services Center, Campus Avenue Building, Room 034, 513-529-5000.

Books, Course Materials, Supplies, and Equipment

Undergraduate and graduate students should estimate **at least** \$1,240 (\$620 per semester) for books, course materials, supplies, and equipment. Some programs (e.g., Art, Music, Architecture) may require the purchase of additional supplies.

Examinations (optional)

CLEP (College Level Examination Program)	\$100.00 per test
Miami Administrative fee	\$20.00
CLEP voucher purchased on College Board website (take voucher and picture ID to testing center)	\$80.00
Proficiency examination	\$70.00 per test

Fee includes the first credit hour; add \$35.00 for each additional credit hour if you pass.

Graduation

Certificate	\$10.00
Associate, Bachelor, Specialist in education application	\$35.00
Master's degree application	\$35.00
Diploma replacement charge	\$29.00
Doctoral degree application (includes diploma and hood)	\$200.00

Miscellaneous

Bad check charge	\$30.00
ID card replacement	\$35.00

Special fees may be assessed for courses with unusual instructional expenses.

Refund of Charges

Questions about refunds should be directed to the One Stop.

The date when you withdraw or drop below full-time hours is the date that you officially withdraw or drop at the University Registrar's Office.

Workshop Refund Policy (Study Abroad/Away and Non-Travel Workshop Courses)

In order to receive a refund of tuition for a workshop/program course that is held during the fall, spring, and summer terms, a student must request cancellation of registration no later than noon on the last business day before the workshop/program course start date. For the winter term, a student must request cancellation of registration by noon on the Monday following fall semester's final exam week. Tuition is non-refundable if you fail to notify Global Initiatives by the above deadlines, even if you do not participate in the program. Further information regarding cancellations and refunds of study abroad/away programs and non-travel programs can be found online at: MiamiOH.edu/global-initiatives/continuing-ed/credit-workshops/students/cancellations-refunds/.

Dropped Courses

If a full-time student drops below 12 semester hours within the first five days of a semester, the student will be charged per credit hour for classes (instead of flat tuition and fees) and refunded the difference. A drop in hours after the fifth day of a semester does not create a refund.

Drop unwanted courses. Do not assume that you will be automatically dropped for nonattendance.

Withdrawal from the University

If you withdraw during fall or spring semester, your fees will be refunded according to the following schedule.¹

Withdrawal	Refund
Before 5 p.m. of the 5th day of the term	100 percent
Before 5 p.m. of the 8th day of the term	90 percent
Before 5 p.m. of the 20th day of the term	50 percent
Before 5 p.m. of the 30th day of the term	35 percent
Before 5 p.m. of the 40th day of the term	25 percent
After the 40th day of the term, you will not receive a refund.	

If you withdraw, the room charge will be refunded according to the guidelines and schedule of refunds listed on the housing contract. There is no room refund after the fortieth (40th) class day of a

semester. Meal Plan holders who withdraw from the university on or before the fortieth day of the term will receive a refund of 80% of any remaining Meal Plan declining balance dollars, and a calculated credit for unused buffet meals (if applicable).

If you **withdraw during a summer or winter term**, your fees will be refunded as follows.¹

Withdrawal	Refund
before 5 p.m. of the 3rd day of the term	100 percent
4th through 8th day of the term	50 percent
9th through 15th day of the term	25 percent

After the 15th day of the term, you will not receive a refund.

¹ When a student withdraws completely from the University during a semester, the Office of Student Financial Assistance is required to calculate, using a statutory pro rata schedule, the amount of Federal Title IV financial aid the recipient has earned for the semester. This schedule is provided by the Department of Education. The amount of Title IV financial aid earned is based on the amount of time the student spent in academic attendance. The University Registrar's Office will inform The Office of Student Financial Assistance the date the student notified Miami of the intent to withdraw. This date is used to calculate aid eligibility. If you are thinking about withdrawing, please contact the One Stop for information on how it will affect your financial aid.

Qualifications for Ohio Residency Determined by The Ohio Department of Higher Education

Intent

It is the intent of the Ohio Department of Higher Education in promulgating this rule to exclude from treatment as residents, as that term is applied here, those persons who are present in the state of Ohio primarily for the purpose of receiving the benefit of a state-supported education.

A complete description of the qualifications for Ohio residency is available online at MiamiOH.edu/residency.

Financial Aid, Awards and Scholarships

Office of Student Financial Assistance

One Stop for Student Success Services

100 Campus Avenue Building
513-529-0001
MiamiOH.edu/OneStop

Financial Aid for Undergraduate Students

There are many programs of assistance available from private, state, federal, and university funds. We are committed to helping students, within the limits of available funds, gain a college education even if their resources are limited. To receive consideration for most programs, students and parents must complete the appropriate forms. All information provided remains confidential.

Students, as consumers of these funds, have the right under law to receive clear, accurate information concerning aid programs.

For more information, contact the One Stop.

Need-Based Assistance

The One Stop can assist students in obtaining need-based financial aid including: **grants**, gift aid awarded to the student that does not need to be repaid; **loans**, awards that require repayment; **federal work-study**, part-time employment that helps students meet the cost of college and participate in community service; and **scholarships**, a type of gift aid awarded to students that does not need to be repaid. The total amount of aid a student receives is based on a family's financial circumstances. To be considered for all need-based financial aid, new first-year students, returning and new transfer students must complete the Free Application for Federal Student Aid (FAFSA) by **February 1**. The FAFSA must be completed **every year** (fafsa.gov).

A student cannot receive any combination of aid, including loans, grants, federal work-study, and scholarships that exceeds the cost of attendance. If the total amount of financial aid exceeds the cost of attendance, the amount of aid will be reduced.

Private Loans

Miami will certify a private loan from any lender. Terms, fees, and borrowing limits of private loans differ. The yearly amount cannot exceed the annual cost of attendance minus other financial aid and resources. Private loans are not federally guaranteed and do not require that you file the FAFSA. For more information about obtaining a private loan, visit the One Stop website.

Student Loan Code of Conduct

The guiding principles for ensuring the integrity of the student aid process and the ethical conduct of employees in regard to student loan practices are provided in the Miami University Student Loan Code of Conduct.

Federal Work-Study (FWS) Employment

Federal Work-Study is a federal financial aid program that is awarded based on financial need determined by the Free Application for

Federal Student Aid (FAFSA). If a student indicated an interest in work-study on the FAFSA and is eligible, the student's award package may include FWS. A student benefits from having FWS because FWS earnings are not calculated in the Expected Family Contribution (EFC) on the following year's FAFSA. Additionally, employers often prefer hiring FWS students since a portion of the student's wage is paid with federal funds.

Winter and Summer Aid

Students that register for Winter or Summer term courses, have a Free Application for Federal Student Aid (FAFSA) on file, and complete all financial aid requirements, will be considered for Winter or Summer aid. Students are typically notified beginning in December of Winter aid eligibility and April for summer aid eligibility if they meet the criteria to be considered for aid.

Winter and Summer financial aid is typically based on any remaining aid eligibility the student has from the current academic year. Generally, students are only eligible for additional federal student loan funds if they have the number of hours required to advance in grade level by the end of the fall or spring semester and are enrolled at least half-time. Further, students cannot use their Miami scholarships for Winter or Summer terms unless the scholarship was awarded specifically for winter or summer study. If all federal loan eligibility has been exhausted, the student may want to consider a Federal Direct PLUS loan or a private loan.

Aid for Another University or Study Abroad Program

If you are a degree-seeking student at Miami University and you wish to obtain aid to attend another university or a study abroad program during Fall Semester, Winter Term, Spring Semester or Summer term, or you are simultaneously enrolled at Miami and another institution, you must complete a Consortium/Contractual Agreement.

A completed Consortium/Contractual Agreement is required to receive aid if you are studying abroad or at another university or if you have borrowed loans that you want to remain in an in-school deferment status. Completing this agreement can be a very long process, and if at all possible, should be started at least two months prior to studying at another institution. Students can find more information related to aid for studying abroad through the One Stop.

Other Sources of Aid

State Assistance for Non-Ohio Residents

Most states have student assistance programs. Contact the student assistance agency in your state for information on what aid is available and how to apply.

Assistance for Veterans

Veterans who intend to enroll at Miami should contact the Veterans Affairs (VA) Administration at 888-442-4551 to determine their GI Bill eligibility, and for general information and application. To apply for benefits, complete the online application at <https://www.va.gov/education/how-to-apply/>. Veterans also need to submit an enrollment form to the Veterans Certifying Official at Miami MiamiOH.edu/veterans.

To be assured of advance payment, initial paperwork should be submitted to the Veterans Affairs Administration 45 days before classes begin. For more information or to contact the Veterans

Certifying Official at Miami visit MiamiOH.edu/veterans, email veterans@MiamiOH.edu, or call 513-529-0001.

Additional financial assistance through programs described in this section is available to most veterans.

Veterans Benefits and Transition Act (VBTA) of 2018

Educational institutions must have a policy that ensures that they will not impose any penalty, including the assessment of late fees, the denial of access to classes, libraries or other institutional facilities, or the requirement that a **Chapter 31 (Voc. Rehab.)** or **Chapter 33 (Post 9/11)** recipient borrow additional funds to cover the individual's inability to meet his or her financial obligations to the institution due to the delayed disbursement of a payment by the U.S. Department of Veterans Affairs. (The policy is limited to tuition funds paid by the U.S. Department of Veterans Affairs and enforced at Institutions of Higher Learning, Non-College Degree Programs, and Flight Schools.)

Student Employment

The Department of Human Resources coordinates all student employment and student payroll registration. The two types of student employment at Miami are Federal Work-Study (FWS) and regular wage employment. Job classifications and wage rates are the same for each, but they are financed differently. University employers do their own hiring and students are responsible for finding a job. Information about job classifications, wage rates, and current job openings is available through Human Resources.

Eligibility for Financial Assistance

Programs based on financial need, funded by state and federal aid programs, are administered by Miami. To be eligible for these programs, you must:

- Have a U.S. high school diploma or GED.
- Be accepted for enrollment as a regular student in an eligible degree or certificate program.
- ¹ Have a valid Social Security Number unless you are from the Republic of the Marshall Islands, Federated States of Micronesia, or the Republic of Palau. In addition you must:
 - Be a U.S. Citizen or U.S. National OR
 - Have a Green Card OR
 - Have an Arrival-Departure record OR
 - Have Battered Immigrant Status OR
 - Have a T-Visa
- Sign a certifying statements on the Free Application for Federal Student Aid (FAFSA) form stating that
 - You're not in default on a federal student loan and do not owe a refund on a federal grant and
 - You will use federal student aid only for educational purposes
- Maintain satisfactory academic progress
- Must be registered with Selective Service, if you're a male resident of the state of Ohio (you must register between the ages of 18 and 25);
- Students with criminal convictions have limited eligibility for federal student aid.
- Demonstrate Federal financial need (except for the Federal TEACH grant, Federal Direct Unsubsidized Student Loan, Federal Direct Parent PLUS Loan, and Federal Direct Graduate PLUS Loans)
- Students must not have exceeded federal aggregate limits for direct loans.

- Be creditworthy, if applying for the Federal Direct Parent PLUS Loan or the Federal Direct Graduate PLUS loan

¹ International students who do not meet citizenship requirements for federal aid programs should contact the International Student and Scholar Services for information about financial assistance.

Applying for Assistance

Students must complete the Free Application for Federal Student Aid (FAFSA) to be considered for all need-based scholarships and financial aid. Complete the FAFSA online at fafsa.gov. To be considered a priority applicant for all need-based financial aid, new first-year students must complete the FAFSA by the **December 1** Priority I deadline or **February 1** Priority II deadline (for returning students and new transfer students, the deadline is **February 1**). The FAFSA must be completed **every year**.

Determining Your Financial Aid Offer

A student's financial aid offer is processed in this order:

1. The student's Cost of Attendance (COA) is estimated based on state of residence, the campus that will be attended, and enrollment status. The COA includes tuition, fees, course fees, Career Development fee, housing and food estimates, and the Non-Resident Surcharge for non-resident students. The COA also includes estimates for books, course materials, supplies and equipment, transportation, and miscellaneous personal expenses such as personal hygiene, laundry, clothing, etc.
2. After receiving the FAFSA data from the US Department of Education, the reported Expected Family Contribution (EFC) that reflects the family's ability to contribute to educational costs, is used to calculate the student's eligibility for need-based aid. The EFC is then subtracted from the COA to determine the student's financial need.
3. Once financial need is determined, the student is considered initially for grant eligibility, then for loan and federal work-study, depending on the student's indicated preference on the FAFSA. Students who submit the FAFSA to the Federal Processing Center by **December 1** or **February 1** for new first-year students and **February 1** for returning students and new transfer students are the first groups to be awarded aid.

Eligibility for need-based financial aid is calculated with this formula: COA - EFC = financial need.

Students who are awarded scholarships will be sent a separate Scholarship Award Notification.

Students with significant changes in family income (death, loss of job, disability, divorce, or other extenuating circumstances) after filing their FAFSA may request a re-evaluation of their application. To determine if circumstances qualify for increased need-based aid, students should submit the Special Circumstance Estimate form.

Appeals

Some students may find themselves in situations outside of the normal financial aid process. The following appeals are available to assist, where the aid program allows. Each appeal is reviewed on a case-by-case basis on the merits of that appeal, available funding,

and within the confines of regulations and comparative situations to ensure fairness and equity.

Cost of Attendance (COA) Increase- A COA increase can be submitted when a student's total financial aid offer exceeds their COA amount. Adjustments typically result in increases to loan or work-study eligibility, but are ultimately based on the type of funds available, eligibility policies, and regulations.

Emergency Funding Request- Students experiencing food insecurity, housing insecurity, technological challenges, or any other immediate financial crisis should submit the Emergency Funding Request Form.

Homeless Youth Determination- Homeless determinations remove the requirement to provide parental information on the Free Application for Federal Student Aid (FAFSA) in situations where students are experiencing homelessness or the risk of homelessness. The determinations result in Independent student status for purposes of the FAFSA.

Satisfactory Academic Progress (SAP)- If students receive federal financial aid, they are required to maintain satisfactory progress toward their degree. Satisfactory progress is measured with two standards, qualitative, which is grade-based and quantitative, which is time-related. Students should submit a SAP Appeal if their federal aid has been terminated due to not meeting the SAP Standards and they have a reason(s) that prevented them from meeting SAP. A SAP Maximum Timeframe Evaluation Appeal should also be submitted if the student had a reason(s) that prevented them from completing their degree in the allotted time frame.

Scholarship Appeal- Students may submit a scholarship appeal in the event their scholarship(s) are cancelled due to GPA, to exhaust unused scholarship eligibility, or to reinstate scholarships.

Special Circumstance (Change to Expected Family Contribution)- A student may request a review of aid eligibility if the family's financial situation changed after the tax year used when filing the Free Application for Federal Student Aid (FAFSA).

Unusual Circumstances Appeal /Dependency Override- Students that have unusual circumstances may complete the Unusual Circumstances Appeal/Dependency Override form if they believe they should be considered an independent student based on permanent separation and financial independence from both parents.

For more information on financial aid appeals and to access forms associated with these appeals, students should visit the One Stop website.

Change in Enrollment

Initial award offers are based on full-time attendance for the fall and spring semesters. If a student drops to less than full-time enrollment, aid eligibility may be reduced. Typically, students must be enrolled at least six hours to be considered for most aid. Notify the One Stop of enrollment changes by emailing OneStop@miamioh.edu.

In the case of students who change their enrollment prior to the end of the drop/add period, their grant(s), scholarship(s), and/or loan eligibility will be recalculated. Students will receive a revised award notification listing any changes in their aid package.

At the end of the last day to drop a course without a grade, the student's enrollment will be frozen and the financial aid for the semester will be based on the number of credit hours the student is

enrolled at that time. Students should make sure they are enrolled for all the classes (including sprint courses) they intend to take for the semester by the last day to drop a course without a grade for the full-term. Please refer to the University Academic Calendar for specific dates.

Withdrawal from the University

The U.S. Department of Education expects that Federal aid recipients complete all courses attempted and paid for with Federal aid. Therefore, if students received federal assistance from any federal aid program (Federal Direct Loan, Federal Pell Grant, Federal TEACH Grant, Federal SEOG, Federal Direct PLUS Loan for graduate students, or Federal Direct PLUS Loan for parents) and withdrew from the University during a semester that they began attendance, Miami is required to determine the amount of federal aid that they have earned as of their withdrawal date.

The percentage of the semester completed is determined by dividing the number of calendar days that the student completed as of the withdrawal date by the total number of calendar days in the semester. Scheduled breaks of at least five consecutive days are excluded from the total number of calendar days in the semester.

If a student notifies the One Stop in writing that they are withdrawing for any reason, Miami will be required to complete a withdrawal calculation and a student's aid may be adjusted for the semester. The withdrawal date will be the date that official notification was provided to Miami of the student's intent to withdraw. The percentage of federal aid that was earned by the student is equal to the percentage of the semester that was completed, as of the withdrawal date, if this date occurs on or before completion of 60% of the semester. If the withdrawal date is after completion of 60% of the semester, the student will have earned 100% of the federal aid and no adjustments will be made to their federal aid for the semester.

If a student stops attending classes and does not notify the One Stop that they are withdrawing, the student is considered to have unofficially withdrawn. Unofficial withdrawals are recorded when grades have been posted by the University Registrar's Office and the student record shows that the student received all (or a combination of) F, I, N, W and/or Y grades for the semester. A return of Title IV withdrawal calculation is performed based on the last known date of attendance provided by the professor. If a date is not provided by the professor, the withdrawal calculation is based on the midpoint (50%) of the semester. Once the withdrawal calculation is performed, a portion of federal aid may be revoked from the student's account at Miami and returned to the federal government. This process typically results in the student owing money to the University. When a withdrawal calculation has been completed and aid has been adjusted, students are notified in writing by the Office of Student Financial Assistance. Adjustments may also be made to the student's state and university awards if required.

Miami will return all unearned aid to the U.S. Department of Education for the student. The unearned aid will be credited to the outstanding balances on federal loans made to the student, or on behalf of the student for the semester in which the return was required. The order for the return of aid is as follows: Federal Direct Unsubsidized Loan, Federal Direct Subsidized Loan, Federal Direct PLUS Loan for graduate students, Federal Direct PLUS Loan for parents (received on behalf of the student), Federal Pell Grant, Federal SEOG, and Federal TEACH Grant.

Withdrawing will also affect a student's Satisfactory Academic Progress and may jeopardize future federal financial aid eligibility. To make sure a student understands the possible impact on financial aid, a student should consult with the One Stop prior to withdrawing from the university.

Academic Suspension or Dismissal

Students suspended or dismissed for academic reasons may not receive financial aid until they are re-enrolled. When students apply for re-enrollment, they should contact the One Stop for information about applying for aid.

Federal and State Grants

Students with a high level of financial need are typically eligible for grants. Generally, a student receives grant funds in combination with loans and/or federal work-study. Students with a disability may also be eligible for grants from the Bureau of Vocational Rehabilitation.

The following grant programs are awarded on the basis of a family's financial circumstances; no repayment is required.

Federal Pell Grant - A federal grant provided by the federal government to undergraduate students who demonstrate exceptional financial need and have an Expected Family Contribution below a certain threshold established by the federal government. The Pell Grant award amount is prorated based on Enrollment Status. Students must complete a FAFSA each year for consideration. Students can receive the Federal Pell Grant for no more than 12 semesters.

Federal Supplemental Educational Opportunity Grant (FSEOG) - A federal grant awarded by the institution to qualified undergraduate students who demonstrate exceptional financial need. Priority is given to Federal Pell Grant recipients. Students must complete a FAFSA each year for consideration.

Teacher Education Assistance for College and Higher Education (TEACH) Grant - Federal grants for undergraduate and graduate students, awarded in exchange for specific future teaching service in designated high-need fields and low-income elementary and secondary schools. **IMPORTANT: If a student does not complete the required teaching service, the grant becomes a Federal Direct Unsubsidized Student Loan that must be repaid. This loan and all accrued interest must be repaid to the U.S. Department of Education. Interest will be charged from the date the grant(s) was disbursed.**

To qualify for a TEACH Grant, a student must have placed above the 75th percentile of a standardized college admission test (ACT/SAT/GRE); OR have a high school cumulative 3.25 GPA and must maintain the 3.25 GPA throughout the student's academic program and indicate a strong interest in teaching; OR be a current teacher returning to pursue an advanced degree. The student may be either an undergraduate or graduate enrolled full or part-time. Award amounts are prorated based on enrollment.

A student must complete a TEACH Grant Agreement to Serve (ATS) each year and complete TEACH Entrance Counseling each year to receive a TEACH Grant. For information about the high-need fields and schools serving low-income students, eligibility requirements, grant conditions, and to obtain the service agreement, see studentaid.gov.

You may cancel all or a portion of your TEACH grant after funds have been credited to your student's Bursar account by notifying us in writing within 30 days after the date of your grant disbursement notice. After 30 days, you will work directly with the Department of Education.

Ohio College Opportunity Grant (OCOG) - A state grant program which provides need-based tuition assistance to Ohio students with financial need. Students apply for the OCOG by completing the FAFSA by October 1 each year. Award amounts are prorated based on enrollment.

BVR/Bureau of Vocational Rehabilitation-Bureau of Services for the Blind - Federal and state grant program for undergraduate students with disabilities. Eligibility for funding is determined by the Rehabilitation Service Commission in the student's state of residence. Contact the state office in your state capital in order to begin the agency's application process as early as possible.

Educational Loans

Miami University realizes that managing the cost of education is a challenge for many families. In addition to grants, scholarships, and federal work-study funds, several loan options are available. Loans may make it possible for you and/or your family to borrow now and defer repayment until after you leave the university. Families should monitor loan debt and find ways to reduce expenses, determine the total amount of education debt they are willing to accrue during a student's entire college enrollment, and borrow only what is needed. Please visit MiamiOH.edu/loans for more detailed information on loans.

Federal Direct Subsidized and Unsubsidized Student Loans - Most students who file the Free Application for Federal Student Aid (FAFSA) are eligible for a Federal Direct Student Loan. Students may receive a Direct Subsidized Loan, a Direct Unsubsidized Loan, or a combination of both for the same academic year.

The Direct Subsidized Loans are awarded based on a student's financial need. With a Direct Subsidized Loan, the federal government pays any interest that accrues on the loan during authorized periods of deferment (postponement of repayment).

The Direct Unsubsidized Loans are awarded based on the cost of education less any other financial aid received. The federal government charges interest on the loan from the time the loan is disbursed until the loan is paid in full.

The annual borrowing limits (as defined by federal needs analysis formulas) for both the Direct Subsidized and Unsubsidized Loans are \$5,500 (\$3,500 may be in a subsidized loan) for freshmen, \$6,500 (\$4,500 may be in a subsidized loan) for sophomores, and \$7,500 (\$5,500 may be in a subsidized loan) for the remaining years of undergraduate study. Independent students may also qualify for an additional unsubsidized loan of \$4,000 or \$5,000 depending on their undergraduate status. Aggregate loan limits exist for both undergraduate and graduate study. The interest rate on both loans is fixed at the time the loan disburses. Direct Loan interest rates are determined each July 1. For more information about current interest rates visit studentaid.gov.

Students are required to begin making payments on their Direct Loans six (6) months after they graduate, leave school, or drop below half-time (6 credit hours) enrollment.

Federal Direct PLUS Loans (for parents) - Federal Direct PLUS loans help parents pay their dependent student's educational expenses. Parents may borrow up to the cost of attendance minus any other financial aid the student receives. The federal government charges interest from the date of the first disbursement until the loan is paid in full. The interest rate on the loan is fixed at the time the loan disburses. New loan interest rates are adjusted once a year on July 1. For more information about current interest rates visit studentaid.gov. The parent is responsible for repayment of this loan. Parents have the option of beginning repayment either 60 days after the loan is fully disbursed, or six months after the student is no longer enrolled on at least a half-time basis (6 credit hours). However, interest begins to accrue 60 days after full disbursement and will also accrue during loan deferment. A FAFSA must be submitted in order to apply for a PLUS loan. Additional information on applying for a PLUS loan can be found on the One Stop website.

Scholarships

Administered by the Office of Student Financial Assistance, scholarship programs are designed to recognize outstanding undergraduates demonstrating high scholastic aptitude and attainment. While all scholarships are based on academic merit, some scholarships also have financial need as a requirement.

Students cannot receive a combination of aid, including loans, grants, federal work-study, and scholarships, which exceeds their cost of attendance. If the total amount of financial aid exceeds the cost of attendance, the amount of aid will be reduced.

All students who apply for admission by February 1 and are admitted to Miami University's Oxford campus are considered for the many general scholarships we award to incoming first-year students. No separate scholarship application is required. Students that file the FAFSA by the Priority I deadline of **December 1** or the Priority II deadline of **February 1** will also be considered for need-based scholarships. Scholarships are not guaranteed and are based on academic credentials provided at the time of application. Priority consideration for University merit scholarships will be given to students applying for admission by December 1. Regional Campus students who are first-time freshmen may be considered for merit awards if they apply for admission by February 1. A separate application is not required.

Current Miami students attending the Oxford or Regional Campus will be considered for the various donor and departmental scholarships available for the following year. To also be considered for need-based scholarships, returning students must complete the FAFSA by the **February 1** deadline. We will automatically make award determinations by reviewing a student's cumulative grade point average (GPA) and the specific eligibility criteria required for each scholarship. Scholarships are awarded within the limits of available funds. No separate scholarship application is required. Returning students will receive scholarship award notifications prior to June 1.

Renewable scholarships are available for new domestic transfer students who have demonstrated academic merit and significant need. A student must have submitted a FAFSA and also have the scholarship GPA based on 12 or more credit hours from an accredited

school. Miami transfer scholarship requirements can be found on the One Stop website. Students enrolled less than full-time, attending the regional campuses, or who have a previous Bachelor's degree are not eligible.

For additional scholarship information, see MiamiOH.edu/scholarships.

Awards

Incoming freshmen are notified of their scholarship awards at or near the end of March; continuing students will be notified prior to June 1. Awards are normally made for the academic year, starting with the fall semester.

Graduate Awards and Other Financial Assistance for Graduate Students

Graduate School

102 Roudebush Hall
phone: 513-529-3734
www.MiamiOH.edu/graduate-school

Office of Student Financial Assistance

One Stop

100 Nellie Craig Walker Building
phone: 513-529-0001
www.MiamiOH.edu/OneStop

Graduate Awards

Award Information

You must be admitted to the Graduate School with regular standing to be considered for a graduate award.

If you meet the minimum undergraduate grade point average required for admission with regular standing, you may be appointed to a graduate assistantship for one academic year with the possibility of reappointment contingent upon achievement of a 3.00 graduate grade point average, satisfactory performance of your graduate assistant duties, and the continued availability of funding, among other factors. However, award of a graduate appointment involves no commitment for continued support by the university for subsequent years.

You may not hold more than one graduate award for any given semester or academic year.

A graduate award holder cannot hold any other employment at Miami University during the term of the graduate award unless recommended by the department chair and approved by the graduate dean via a graduate student petition. International students (those with F-1 and J-1 visas) are allowed to work a maximum of 20 hours per week while classes are in session (this includes assistantship duties). An international student who holds a partial graduate assistantship (e.g., 10 hours per week) may request permission to hold additional employment as long as the total number of hours worked per week between the assistantship and additional employment does not exceed 20 hours.

To Apply for a Graduate Award

To receive a graduate award you must be recommended by your department following your application and admission by the Graduate School. Contact the department to which you are applying for specific application requirements and deadlines. For a listing of graduate programs, visit the Graduate School website.

Academic Responsibilities

You must maintain satisfactory progress toward your degree in order to assure continuance as a grant-in-aid holder or graduate

assistant. Satisfactory progress means meeting minimum registration requirements, maintaining a cumulative grade point average of at least 3.00, and fulfilling academic requirements for your degree as determined by your department or program. Failure to achieve such progress may result in the revocation of the award.

Award Acceptance

The university adheres to the resolution adopted by the Council of Graduate Schools in the United States. The resolution provides that if an award recipient accepts an award before April 15, the recipient will have complete freedom through April 15 to resign in order to accept another appointment. After April 15, however, the recipient may not accept another award without obtaining a formal release from the first commitment.

Graduate Students' Achievement Fund

The Graduate School sponsors this program to recognize significant achievements in research or creative activities by graduate students. Achievement is defined as completed research or other creative activity that has been recognized by an external organization or selected by an academic department for regional or national presentation. Award is subject to the availability of funds. Contact the Graduate School for more information.

Other Financial Assistance

In addition to awards administered through the Graduate School, graduate students may be eligible for Federal Direct Unsubsidized Loans, Federal Direct PLUS Loans for graduate students, and private loans. Campus employment is also available. To be considered for all available financial aid, students must file the Free Application for Federal Student Aid (FAFSA). Miami's priority filing deadline for the FAFSA is **February 1**. The FAFSA is available at fafsa.gov. Miami University's Federal School Code is **003077**.

International students are not generally eligible for federal student aid.

For additional information contact the One Stop, 100 Nellie Craig Walker Building, 513-529-0001 or visit the website at MiamiOH.edu/OneStop.

Cost of Attendance and Financial Aid Eligibility

The student's Cost of Attendance (COA) is estimated based on state of residence, and enrollment status. The COA includes tuition, fees, course fees, housing and food estimates, and the Non-Resident Surcharge for non-resident students. The COA also includes estimates for books, course materials, supplies and equipment, transportation, and miscellaneous personal expenses such as personal hygiene, laundry, clothing, etc.. A student may not receive financial aid in excess of the COA. If a student receives a graduate assistantship, that amount is considered an additional resource and is used in the formula to determine financial need. In order to remain compliant with federal regulations, the amount of a graduate assistantship is subtracted from the COA to determine the student's remaining financial aid eligibility. This may result in a decrease in the amount of loan eligibility. Example: If a student's COA is \$30,000 and they receive a graduate assistantship for \$10,000, the student will have financial aid eligibility of \$20,000 and can only borrow up to that amount (if they receive no other aid resources). You can find more

loan information for graduate students by visiting MiamiOH.edu/loans.

Federal Direct Loan Programs

Eligible students filing the FAFSA will be considered for the Federal Direct Loan Programs. Upon verification of eligibility, completion of a Master Promissory Note, and Entrance Counseling (if a first time borrower at Miami), the loan funds will be credited to the student's Bursar account in accordance with Miami's disbursement schedule.

Need is not a factor in determining eligibility for a Federal Direct Unsubsidized Loan. With a Federal Direct Unsubsidized Loan, interest begins to accrue on the day the loan is disbursed to a student's account and continues until the loan is paid in full. Repayment of the interest is deferred while a student is in school and attending at least 5 graduate credit hours per semester. Graduate students may borrow up to \$20,500 in unsubsidized loans per academic year.

The maximum total debt aggregate limit for a graduate student is \$138,500 (including undergraduate study and only \$65,500 may be in subsidized loans). Direct Loan interest rates are determined each July 1. For more information about current rates visit studentaid.gov.

To be eligible for the Federal Direct PLUS Loan for graduate students, students must be enrolled at least half-time (5 graduate credit hours per semester) in a Master's degree or professional program and meet all general eligibility requirements for Federal Student Aid. In addition, students must not have an adverse credit history (a credit check will be performed). Interest begins to accrue on the day the loan is fully disbursed to a student's account and continues until the loan is paid in full. While you are enrolled in school, you will automatically be placed in an in-school deferment status that allows postponement of payment on the PLUS loan until you graduate or drop below 5 graduate credit hours. There are no set annual or aggregate limits on the PLUS loan amount. However, you may only borrow up to your cost of attendance (COA) minus any other financial aid you receive. The interest rate for the PLUS loan and rates are determined each July 1. For more information about current rates visit studentaid.gov

Private Loans

Miami will certify a private loan from any lender. Terms, fees, and borrowing limits of private loans differ. The yearly amount cannot exceed the annual cost of attendance minus other financial aid and resources. Private loans are not federally guaranteed and do not require filing the FAFSA. For more information on obtaining a private loan, visit MiamiOH.edu/loans.

Student Loan Code of Conduct

The guiding principles for ensuring the integrity of the student aid process and the ethical conduct of employees in regard to student loan practices are provided in the Miami University Student Loan Code of Conduct.

Campus Employment

The Department of Human Resources coordinates all student employment on campus. Graduate student wages may vary according to skills or responsibilities. Campus job openings are posted on the Human Resources Student Employees page.

If you hold an assistantship and want to work on campus any hours beyond your assistantship duties, you must first obtain permission from your department and the Graduate School.

Notification of Awards

Students filing their FAFSA by the filing deadline of **February 1** should receive their award notification prior to June 1.

Students must report any outside resources or additional awards they will receive (e.g., graduate assistantship, outside scholarships, dissertation scholarships, fee waiver, tuition assistance, etc.). These additional awards may impact Federal Direct Loan eligibility. These resources should be reported on the Financial Aid Offer tab in Banner 9 Self Service - Financial Aid

Veterans

Veterans who intend to enroll at Miami should contact the Veterans Affairs (VA) Administration at 1-888-442-4551 to determine their GI Bill eligibility. To apply for benefits, complete the online application at www.vabenefits.vba.va.gov/vonapp. Veterans also need to submit an enrollment form to the Veterans Certifying Official at MiamiOH.edu/veterans. Then select the appropriate program and entry term under "VA Benefit Request Forms".

To be assured of advance payment, initial paperwork should be submitted to the Veterans Affairs Administration 45 days before classes begin. For more information or to contact the Veterans Certifying Official at Miami visit MiamiOH.edu/OneStop, email veterans@MiamiOH.edu, or call 1-513-529-0001.

Additional financial assistance is available to most veterans through programs described in this section.

International Students

International students who do not meet citizenship requirements for federal aid programs should contact the Graduate School or the appropriate academic department for information on the types and amounts of specific aid available for international students at MiamiOH.edu/graduate-school.

Types of Awards

Most award recipients work in departments of their field of study. Graduate assistantships and doctoral associateships, however, are also available in other offices, such as the library, the Bernard B. Rinella Jr. Learning Center, university advancement, and intercollegiate athletics. Information is available from Academic Personnel Services, 513-529-6724, and the Graduate School, 513-529-3734.

Graduate assistantships are for holders of a baccalaureate degree seeking an advanced degree. These awards carry a stipend for a maximum of half-time duties for one or two semesters and can vary in the amount of stipend and percent of fee waiver. Details of your award are stated in your letter of offer. A one or two semester assistantship award includes a fee waiver for the summer term immediately preceding or following the year of appointment. Graduate assistants with half-time duties for one or two semesters are granted remission of a percentage of the graduate instructional, basic general, and out-of-state fees for the period of appointment and for the summer term immediately preceding or following the year or appointment. You will also be required to pay the remaining general fee (reduced), which includes the technology fee, facilities fee

(including Armstrong Student Center) and transit fee. Fee increases for 2020-2021 will be determined at the June meeting of the Board of Trustees. For additional information regarding fees, charges, and regulations regarding refunds see MiamiOH.edu/OneStop. Graduate assistants have two options for payment of fees: pay in full at the start of each semester, or use the payroll deduction program.

Graduate assistants must carry between 9 to 18 hours of graduate courses each semester; however, Master of Arts in Teaching degree candidates in teacher education may carry nine graduate hours plus at least one undergraduate course each term. Duties normally occupy 18 to 20 hours per week. Some programs have additional fees.

Dissertation scholarships, for doctoral candidates at dissertation stage, are service free and carry a stipend that is determined by the student's department. Dissertation Scholars are granted remission of a percentage of the graduate instructional, basic general, and out-of-state fees for the period of appointment and for the summer term immediately preceding or following the year or appointment. You will also be required to pay the remaining general fee (reduced), which includes the technology fee, facilities fee (including Armstrong Student Center) and transit fee. Fee increases for 2020-2021 will be determined at the June meeting of the Board of Trustees. For additional information regarding fees, charges, and regulations regarding refunds see the following link: MiamiOH.edu/OneStop.

Graduate grants-in-aid are waivers of instructional fee and out-of-state tuition. There is no cash stipend. No duties are required. These grants are available for one or both semesters and/or summer terms to U.S. and international students who are in need of financial assistance, have strong academic records, and show considerable promise of future attainment. These grants are for students in continuous full-time study leading to a degree; they are not available to part-time students, CGS students, and students whose full-time study is limited to summer terms. Continuance or renewal of a grant is dependent upon satisfactory progress toward a degree. To apply for this grant, you must submit an official application form before March 1 for the following summer term or for the following academic year. You must apply for this award annually.

Special Opportunities and Programs

International Education

Miami University's policy on international programs and educational exchange:

It is essential in today's interdependent world to provide a clear international perspective in the university's curriculum. Citizens of all nations have a growing need to understand their citizenship in terms of global concerns as well as in terms of issues of local or national significance. People who have this awareness are likely not only to recognize and respect the legitimate rights and needs of other nations but also to realize how their own fate is ultimately bound to the fate of all peoples.

In this context, Miami University meets its responsibility to its students and to the state of Ohio by providing educational opportunities that recognize the plurality of cultures, the existence of common concerns, and the need for more effective methods of international and intercultural cooperation. The university is therefore committed to provide to the student body significant educational opportunities with international perspective. To this end, the university encourages the enrollment of international students who lend diversity to the campus community and serve as educational and cultural resources. It further encourages specialization in subject areas that have an international/intercultural dimension, and informs students and faculty of overseas study and research opportunities that will enhance their international experience.

The university encourages international programs on campus and research and study abroad in a manner consistent with its policies on academic freedom and nondiscrimination. International education should promote the development of a humane and cooperative world order including respect for internationally recognized standards of human rights. The university seeks to ensure that its global programs remain consistent with these goals through regular review of all such programs. Creation of a program by Miami University constitutes no expressed or implied endorsement of the policies of the government of the host country.

John E. Dolibois European Center at the Château de Differdange, Luxembourg

Miami University's Dolibois European Center (MUDEC), founded in 1968, provides students with an opportunity to live and study in Europe while earning Miami credit. The Center is located at the historic castle of Differdange, in Luxembourg's third largest city. Situated in the heart of Western Europe, the Grand Duchy of Luxembourg retains the charm of its thousand-year heritage while standing in the vanguard of the European Union, as one of its three capitals. Both French and German are spoken.

Students pursue an in-depth study of Europe in 30 or more courses and faculty-led study tours, designed to take advantage of the European location. All courses offer Miami standards and credit; instruction is in English except in language courses. Faculty is comprised of both European professors and Miami professors on assignment from the Oxford and regional campuses. Students may choose the experience of living in a local homestay or in an apartment

with an option to connect regularly with a local family. Opportunities to explore Europe during vacation periods and weekends are integral to the MUDEC program.

For the year and semester programs, tuition is comparable to the Oxford campus and students may apply their university scholarships and financial aid. In addition, to offset out-of-pocket costs, students may be eligible for a Dolibois European Center scholarship or airfare grant. Costs for summer and winter programs are based on Oxford campus tuition and fee rates.

For more information, contact the Dolibois European Center Oxford Luxembourg Office, 214 MacMillan Hall, 513-529-8600, or review information on the program's website: www.MiamiOH.edu/luxembourg.

Faculty-led Study Abroad and Away

Miami is a national leader in the number of students who study abroad, and Miami faculty offer a variety of education abroad experiences.

Faculty-led education abroad and domestic programs are directed by experienced Miami University faculty. Program topics include all levels of foreign language immersed in host countries and discipline specific courses focused and engaged in the host location. Programs vary from two weeks during university breaks, up to a full semester or year, and may allow students to fulfill Miami Plan or other degree requirements.

Recent programs and locations include international business in Europe and Southeast Asia; ecology and geography in the Bahamas, Belize and Costa Rica; engineering in Austria; and arts, culture and heritage, in France, Italy, and Ireland. Language immersion programs include Italian, German, Spanish, and French. Examples of recent domestic study away programs include: entrepreneurial consulting in San Francisco, Inside Hollywood, and professional development programs in New York City and Washington, DC.

Faculty-led study abroad programs are administered by Global Initiatives at Miami University. More information including program listings is available online at MiamiOH.edu/global-initiatives/education-abroad/.

Student Exchange Opportunities

Miami has exchange agreements that provide opportunities for students to enroll directly in academic institutions overseas for one semester or for a full academic year. Students must be currently enrolled as a full-time student at Miami University to be eligible for application to a university student exchange program. In all cases, students maintain their enrollment by paying the full cost of tuition and fees to Miami, therefore creating a place for an international student to study in Oxford. This arrangement allows students to maintain financial aid eligibility. Depending on the terms of the agreement, students may also pay room and board charges to Miami and will, in turn, be provided these benefits when studying overseas. Academic credit for successful study at an approved overseas institution is guaranteed upon your return. Advance approval for the transfer of credit must be obtained in consultation with your academic advisor and with the Education Abroad Office, 214 MacMillan Hall, 513-529-8600.

Other Overseas Programs: Transfer Credit

Many American universities and organizations sponsor study abroad programs all over the world. Information is available in the Education Abroad Office, 214 MacMillan Hall or online at MiamiOH.edu/global-initiatives/education-abroad/. Contact the Education Abroad Office (513-529-8600, educationabroad@MiamiOH.edu) (studyabroad@MiamiOH.edu) to speak with an advisor. All students should make certain that credits earned will transfer before studying abroad (see **Credit Evaluations**). Enrolling in a Miami co-sponsored program will enable you to pay Miami tuition and to apply your Miami scholarships.

If admitted to a study abroad program not sponsored by Miami University, students must register through Miami's online study abroad application process to maintain enrollment at Miami while abroad. The application can be found at MiamiOH.edu/global-initiatives/education-abroad/. The Education Abroad office works with the Registrar's Office so that registration can be arranged for the next applicable semester. No readmission procedure is necessary if your online Study Abroad application is completed through the Education Abroad Office.

Academic Opportunities

Undergraduate Associates

Sophomores, juniors, or seniors who are interested in college teaching or another professional field can become undergraduate associates. Each associate is sponsored by a faculty member. The student and the sponsoring faculty member decide what the associateship should involve. The Undergraduate Associates Program has special eligibility requirements and an application process.

Students successfully completing the university-wide program will receive a notation on their transcript. Additional information about the program is available online (<http://www.cas.MiamiOH.edu/honors/current/ua.html>).

Undergraduate Research Programs

These programs are publicized in early fall. For more information, contact the Office of Research for Undergraduates at 513-529-2455. Various program guidelines, application forms, and deadline dates are available at www.MiamiOH.edu/oru.

First Year Research Experience (FYRE) program provides students with authentic, hands-on research experiences in small teams led by research-active faculty during a two-semester course sequence. Student researchers review their topic, design a study, and complete necessary training during the fall semester (UNV 171); they implement the study, analyze data, and present the results in the spring (UNV 172). Students participate in additional activities to develop problem-solving, communication, teamwork, and other skills. This experience prepares students early for subsequent research opportunities such as summer research positions across the nation and independent research supervised by Miami faculty.

Doctoral-Undergraduate Research Opportunities Program (DUOS) encourages graduate and undergraduate students to collaborate on a research project under the supervision of a faculty member in a Ph.D. granting department. Any Miami undergraduate student and any post-master's doctoral student in good standing who agrees to abide by program requirements are eligible to apply. Either student may initiate the application, but the undergraduate student will be the

primary project author. The Graduate School provides funding for up to 10 grants of \$700-900 per project.

Undergraduate Research Award Program provides small grants for students to do independent research or other creative endeavors in any discipline. Applications are made to the Undergraduate Research Committee via ORU. Funding for the grants comes from alumni and friends of Miami. Approximately \$40,000 is available yearly for individual grants distributed twice a year. Typically, 90 to 100 grants are awarded ranging from \$200 to \$800 each.

Undergraduate Summer Scholars Program (USS) This nine-week summer program enables Miami undergraduates to do research or other creative activities in the summer with the supervision of an individual faculty mentor. About 100 awards are available each summer, and are distributed across all departments and programs. You can apply for an award along with a faculty member as a student-mentor pair. For the student, each award includes a student fellowship, up to 6 hours of academic credit with waiver of instructional fees and tuition, and an allowance for supplies, services, and travel; the faculty mentor receives a modest allowance.

Science and Engineering Research Semester

Central States Universities, Inc., in conjunction with Argonne National Laboratory near Chicago, Illinois, sponsors this program. Qualified majors participate in basic research in physical and life sciences, mathematics, computer science, and engineering, as well as in applied research programs relating to coal, conservation, environmental impact and technology, fission, fusion, and solar energy.

Students receive a stipend from Argonne National Laboratory, housing, and reimbursement for travel from Miami University to Argonne.

To apply for this program, you must have completed your sophomore year, be a citizen of the United States or a permanent resident alien, be 18 years of age or older, and have an overall GPA of 3.00 or better.

For more information, contact the Department of Physics, 133 Culler Hall, 513-529-5625, or the Department of Geology & Environmental Earth Science, 114 Shideler Hall, 513-529-3216.

Scholastic Enhancement Program (SEP)

This program provides support to specially admitted students who show academic promise, but whose academic profiles suggest the need for academic and personal guidance to ensure completion of a degree program. Students admitted through SEP are required to follow an individually developed educational plan provided by program coordinators that includes: additional assessment of academic skills, early advising with supervised course selection, personal counseling, and other scholastic activities to assist in their adjustment to Miami. SEP also provides a program called FYRE/URO (Undergraduate Research Option). This program matches students with a faculty sponsor who engages the student in a research project.

For more information, contact the Bernard B. Rinella Jr. Learning Center, 14 Campus Avenue Building, 513-529-5528, or visit www.MiamiOH.edu/learning.

The Pathway Program

Students in this program start by taking courses at a regional campus before continuing to the Oxford campus. Students enroll in classes during the fall term at the Hamilton or Middletown campus; then, upon successful completion of the fall semester and having earned at least 16 credit hours with a 2.00 cumulative grade point average, they relocate to the Oxford campus for the spring semester of their first year. Pathway students have their own designated advisor throughout their first year, who will assist them in planning for their college success.

Leadership and Service

The Wilks Institute for Leadership and Service

The Wilks Institute for Leadership and Service is Student Life's center for leadership education, civic engagement, and service learning. Through collaboration with community partners, student leaders, faculty, and staff, The Wilks Institute develops engaged leaders focused on ethical leadership and advancing community priorities. Participation in Wilks sponsored programs will enable the development of your leadership style and philosophy and put you on the path to becoming a transformational leader.

Programs and Services

Leadership and Service Certificate

In the Fall 2021 semester, the Wilks Institute launched a reimagined version of our signature co-curricular certificate program, adding a focus on service and socially responsible leadership. This new Leadership and Service Certificate (LSC) challenges students to examine leadership from diverse perspectives and encourages critical reflection into their own leadership skills, values, and beliefs. The LSC is self-paced and designed to allow students to explore areas of leadership that are unique to them.

Using the 17 UN Sustainable Development Goals, adopted by the United Nations in 2015, Miami students enrolled in the LSC attend educational programs with partners across campus and in the Oxford community. These programs focus on ethical leadership development that advance community priorities.

Leadership & Service Monthly E-Newsletter

For students interested in community engagement and leadership or looking for a way to get involved, the Wilks Institute e-newsletter provides an update on opportunities ranging from events, scholarships, and one-time volunteer projects to in-depth and ongoing experiences. Please subscribe at this link.

Voter Registration and Civic Engagement

The Wilks Institute for Leadership and Service offers a variety of workshops, programs, and events throughout the year focused on active participation in civic life. Wilks also proudly hosts two Andrew Goodman Foundation Vote Everywhere Ambassadors, and a Campus Election Engagement Project Fellow. Throughout the year, students, faculty, and staff can register to vote through the Wilks Institute. For questions about voter registration or civic engagement opportunities, visit the Wilks Institute website or contact wilksleadership@MiamiOH.edu.

Scholar Leader Program

The Scholar Leader Program is a living-learning program involving a one-year residence in Elliott or Stoddard Hall, two of the most historic residence halls in the nation. Endowments for each room provide scholarships to those students selected to live in the community. The Scholar Leader community encourages resident-guided programming, academic involvement, Service-Learning projects, and the opportunity to explore leadership through intensive group engagement. Upper-class students must have a 3.00 cumulative grade point average and be in good standing with the university. For more information, please visit www.MiamiOH.edu/wilks, or email wilksleadership@MiamiOH.edu.

Emerging Leader LLC

The Emerging Leaders Living Learning Community (LLC) prepares students to enact positive change. This community is designed for first year students to intentionally continue their leadership journey. Participants are empowered to find their voice and recognize their potential to lead at Miami University and throughout their lifetime. Any interested student is welcome to apply to join our community and no previous leadership experience is required - just the desire to come learn and lead with us! The Emerging Leaders LLC is supported by the Office of Student Activities and Cliff Alexander Office of Fraternity & Sorority Life and the Wilks Institute for Leadership and Service.

For more information, visit <http://miamioh.edu/student-life/residence-life/living-learning-communities/index.html>.

Reserve Officers Training Corps (ROTC)

Students can earn commissions as officers in the U.S. Air Force, Navy, or Marine Corps through the Air Force Reserve Officers Training Corps (AFROTC) or the Naval Reserve Officers Training Corps (NROTC).

Air Force Reserve Officers Training Corps (AFROTC)

For information, contact the Air Force Reserve Officers Training Corps office at 50 Millett Hall, 513-529-2031.

AFROTC was established at Miami in 1949 as the Department of Air Science and Tactics. In 1952, a joint university-Air Force agreement resulted in the unit's designation as a Senior Reserve Officer Training Corps and the Department of Aerospace Studies.

Membership Eligibility

All AFROTC classes may be taken by Miami students for university credit, however only students meeting AFROTC entry requirements may be considered as cadets working toward an Air Force office commission.

To be eligible you must:

- be at least 14 years of age. You must be 17 years of age for enlistment and 18 years of age for commissioning.
- be under the maximum age for commissioning. To compete for the pilot or navigator categories, a cadet must be able to complete their bachelor's degree and be commissioned through Air Force ROTC before they are 29 years old. Scholarship applicants must be less than 31 years old as of December 31 of the year they will commission. Tech, non-tech, and non-rated must be commissioned by age 30 (waiverable up to age 35 in some cases).

- be a United States citizen
- be of good moral character
- meet Department of Defense and Air Force Dependency Policy requirements
- meet medical entrance requirements
- meet academic requirements and be in good academic standing (GPA of 2.00 or higher) to compete for an enrollment allocation
- pass the Air Force Officer Qualifying Test (AFOQT)
- meet weight and physical fitness standards

Veterans with previous honorable active U.S. military service who wish to enroll in the Professional Officer Course may be qualified for a waiver for the General Military Course (GMC) requirement. Veterans who meet all other requirements may be enrolled at the beginning of their junior year.

Scholarship Program

This AFROTC scholarship program offers highly qualified high school seniors and college freshmen and sophomores opportunities to compete for scholarships on a national level. Awards range from four-year to two-year scholarships which can cover up to full tuition and provide money for books, fees, and a monthly tax-free stipend.

Other Scholarships

Several other university (i.e., non-government) scholarships are also available to Miami Air Force ROTC cadets. These privately funded scholarships vary by amount and eligibility criteria and are awarded by the Professor of Aerospace Studies.

Curriculum

The curriculum in Aerospace Studies is divided into two parts: the General Military Course (GMC), taken during your freshman and sophomore years, and the Professional Officer Course (POC), taken during your junior and senior years.

General Military Course (GMC)

The GMC includes one class (one credit hour) and two leadership laboratory hours (one credit hour) per week plus physical fitness training. Class and leadership laboratory comprise a total of two credit hours each semester.

Professional Officer Course (POC)

The POC includes three classroom hours and two leadership laboratory hours per week plus physical fitness training. Class and leadership laboratory comprise a total of four credit hours each semester for a total of sixteen semester hours upon completion of the POC program.

Leadership Laboratory

The leadership laboratory includes activities designed to apply the leadership knowledge and skills learned in the classroom. Activities include demonstration of command, team projects, problem solving, military customs and courtesies, effective communication, fitness development, and field training preparation among other things. POC cadets have the added responsibility of planning and running leadership laboratory in order to gain practical application of the leadership principles learned in the classroom.

Field Training

Applicants for the Professional Officer Course must attend a summer field training course between their sophomore and junior years. Field training is an opportunity to further develop leadership and team-building skills. Those who successfully complete field training are eligible to enter the POC. Academic credit may be obtained for completing field training. The Air Force provides uniforms, housing, medical care, meals, travel allowance, and pay while attending field training.

Uniforms and Textbooks

AFROTC provides all necessary course materials to students enrolled in AFROTC classes and also provides uniforms for cadets in the program. Uniforms must be returned upon completion of or withdrawal from the program.

Naval Reserve Officers Training Corps (NROTC)

For information, contact the Naval Reserve Officer Training Corps office at 67 Millett Hall, 513-529-3700.

Miami University's Naval ROTC program was established in 1946. The mission of NROTC is to educate, train, and screen officer candidates to ensure they possess the moral, intellectual, and physical qualities for commissioning and the leadership potential to serve successfully as officers in the United States Navy and Marine Corps. The NROTC program fills a vital need in preparing mature young men and women for leadership and management positions in an increasingly technical Navy and Marine Corps.

At Miami, NROTC midshipmen lead essentially the same campus life as other students. They make their own arrangements for room and board and participate in campus activities of their choice, including the opportunity for University-sponsored overseas study. There are no prescribed academic majors for NROTC students, though scientific and technical studies are encouraged. Students may enroll in the NROTC program at any time from the beginning of their first year of enrollment until the end of their sophomore year.

Interested students may compete for NROTC nationally awarded scholarships. Visit <http://www.nrotc.navy.mil> for scholarship details and application.

Scholarship Program (4-Year, 3-Year, and 2-Year)

The NROTC scholarship pays all tuition (in-state or out-of-state), all registration and general/instructional fees, provides Naval Science textbooks and furnishes all program uniforms. Students awarded national scholarships also receive an allowance for subsistence and textbooks.

Between academic years, scholarship midshipmen participate in summer training periods held throughout the world. During these training periods, midshipmen are furnished all meals, housing, medical care, travel expenses, and military pay.

Navy scholarship option. Students awarded Navy NROTC scholarships will be required to complete 31 semester hours of Naval Science, one year of calculus, one year of calculus-based physics, one semester of American military affairs or national security policy, and one semester of world culture.

Marine Corps scholarship option. Students awarded Marine Corps NROTC scholarships will be required to complete 24 semester hours of Naval Science and one semester of American military affairs or

national security policy. Marine Corps option midshipmen must also complete six weeks of training at the Marine Corps Officer Candidate School in Quantico, Virginia, normally during the summer between junior and senior year.

College Program

The college program allows non-scholarship students to participate in the NROTC program during their freshman and sophomore years. The Professor of Naval Science selects students to this program based on evaluation of the applicant's potential to complete the NROTC program and serve as a commissioned officer in the Navy or Marine Corps. College program participants receive uniforms, textbooks and materials for all Naval Science courses.

College program students typically compete for NROTC scholarships.

Visit <http://miamioh.edu/cas/academics/programs/nrotc/admission/index.html> for college program details and application.

Presidential Preparatory Scholarship (PNP)

The Miami Naval ROTC Preparatory Scholarship provides economically and/or academically disadvantaged applicants with a unique opportunity to earn a commission in the United States Navy. This scholarship provides you an extra year of academics and military orientation focused on preparing students for NROTC success.

Miami University will provide tuition*, fees, room & board for a one-year NROTC preparation program as Midshipmen Candidates. Provided the candidates meet the criteria listed below they will be awarded an NROTC scholarship for up to 4 additional years to Miami University.

Requirements:

- Successfully complete a Department of Defense medical exam and NROTC indoctrination training
- Maintain greater than a 2.8 GPA
- Pass the Navy's Physical Fitness Assessment once a semester with a score of "Good Low" or better
- Maintain good standing** within the ROTC unit

Apply for the PNP Scholarship

Academics, and test scores in particular, are not the sole indicator of success. Some students have lower than normally accepted standardized test scores or other academic criteria, and historically these students have limited opportunities to commission through traditional NROTC scholarships. The Presidential Preparatory Programs seek to help these students strengthen the Navy.

Miami University has a national reputation for academic excellence. Success at the college level requires a much higher level of study, self-discipline and hard work than most students learned in high school. Though each Midshipman is personally responsible for his/her own academic success, the NROTC unit will assist by providing mentoring, guidance, tutoring, and other assistance to enable each to achieve maximum academic performance.

** PNP scholarship funds in-state tuition cost only. Out-of-state residents are welcome to apply, but may need to pay difference in cost or seek outside tuition assistance.*

*** Good Standing is defined as maintaining academic, disciplinary and physical requirements per NSTC 1533.2C - Regulations for Officer*

Development, as well as, receive a positive endorsement from the Professor of Naval Science.

Advanced Standing

Advanced standing offers a path to commissioning without a scholarship. Based on competitive status, students may be offered advanced standing if not selected to receive a 2-year scholarship after their sophomore year.

Midshipmen selected for advanced standing will be commissioned as officers upon completion of program and degree requirements. Advanced standing midshipmen receive a monthly subsistence stipend. Similar to scholarship midshipmen, advanced standing midshipmen participate in summer training the summer between junior and senior year.

Other Information

Scholarship program midshipmen incur service obligation at the beginning of their sophomore year. College program midshipmen incur service obligation upon receipt/activation of scholarship or upon gaining advanced standing status.

Initial duty assignments depend upon the needs of the service and the individual's preference, qualifications, and performance. Navy option midshipmen typically apply for assignment to aviation, submarines, surface warfare, special warfare (SEALs), or special operations (EOD). Marine Corps option midshipmen typically apply for ground officer or aviation officer assignments.

Honors College Academic Requirements

The mission of the Honors College is to foster rigorous academic inquiry in a community of learners through innovative teaching and learning, an engaging interdisciplinary and research-oriented curriculum, creative and critical inquiry with talented faculty, and diverse leadership and service opportunities. Honors College students fulfill Honors Experience requirements by enrolling in honors courses, working with a faculty member on an independent project or a course extension, participating in research alongside faculty, taking part in experiential learning opportunities, studying abroad, or participating in many other intensive learning or creative or professional development opportunities. Honors students have access to a wide spectrum of course work and co-curricular experiences. Students can earn Honors Experiences by enrolling in Honors sections of existing courses; and/or working with the instructor of record in a course to create additional assignments or projects to count as an Honors Course Extension. They can also propose the use of study abroad, undergraduate research, teaching, internships, and campus and community engagement activities to count as Honors Experiences. Students in the entering classes of 2016, 2017, 2018, 2019, and 2020 are required to complete eight (8) Honors Experiences, four of which must be academic in nature. Students in the entering class of 2021 are required to complete eight (8) Honors Experiences, including two (2) First-Year Honors courses; four (4) Honors experiences of their choice; two (2) Honors thesis-related experiences that are completed during the student's senior year; and maintain a cumulative GPA of 3.25 throughout their time. The Honors thesis can be a scholarly, creative, or pre-professional project and is completed under the mentorship of a faculty member in the student's field.

All honors students who attain a cumulative grade point average of 3.50 or higher when they graduate will also receive the University Honors transcript notation and recognition in the Commencement bulletin.

Admission to Honors

A select number of students are invited to join the Honors College during the university admission process. Current and transfer students may also apply to the Honors College.

Honors on the Regional Campuses

Regional campus students pursuing an Associate's or Bachelor's degree have the opportunity to participate in the CLAAS Divisional Honors Program. Interested students on the Hamilton and Middletown campuses should contact the CLAAS Divisional Honors Program director for information and details about the application.

Additional Information

For more information about the Honors College, please contact the Honors office at 513-529-3399, or visit the Honors College website at <http://www.MiamiOH.edu/honors>.

Other Types of Honors

Departmental Honors

If you are interested in additional study in your major area, you may enroll in a departmental honors program in most departments. Consult your chief departmental advisor about departmental honors; these programs vary from department to department. You graduate with departmental honors when you complete the program.

President's List, Dean's List

The President's List recognizes the top three percent of undergraduate students within each division¹ registered for a semester of 12 or more credit hours attempted for grades (A+ through F). The Dean's Lists recognize the next 17 percent of undergraduate students within each division registered for a semester of 12 or more hours attempted for grades (A+ through F). Students within each academic division must achieve the following grade point averages:

	President's List	Dean's List
College of Arts and Science	4.00	3.70
College of Creative Arts	4.00	3.70
College of Education, Health and Society	4.00	3.80
College of Engineering and Computing	4.00	3.60
College of Liberal Arts & Applied Science	4.00	3.60
Farmer School of Business	3.95	3.60

The grade point standards used for the President's List and the Dean's List approximate the average GPA of the highest 3 percent of students in each academic division and the next 17 percent of student in each academic division, respectively, for the past three years. These criteria will remain unchanged.

President's and Deans' lists are considered finalized 30 days after the term. Miami utilizes Merit Pages to highlight our students' accomplishments and share this news broadly. Note: If a student places a confidentiality hold on their record, their name will not appear on this list publicly, and will not be shared on Merit Pages or elsewhere.

¹ Undergraduate students in non-degree programs who meet these same criteria will be included in the College of Arts and Science calculations.

Graduation with Latin Honors

The criteria for graduation with distinction are divisionally based. Graduating students within each academic division must achieve the following cumulative grade point averages:

Latin Honors

	Summa Cum Laude	Magna Cum Laude	Cum Laude
College of Arts and Science	3.97	3.88	3.72
College of Creative Arts	3.96	3.90	3.77
College of Education, Health and Society	3.97	3.90	3.76
College of Engineering and Computing	3.95	3.81	3.58
College of Liberal Arts and Applied Science	3.94	3.82	3.64
Farmer School of Business	3.92	3.78	3.61

The grade point standards used for the distinction of summa cum laude approximates the average GPA of the highest 2 percent of students in each academic division. The standard used for magna cum laude approximates the average GPA of the next 5 highest percent of students in each academic division, and the standard used for the cum laude designation approximates the average GPA of the next highest 10 percent of students within each academic division, with typically no more than 17 percent being awarded honors within each division. Once every five years, the University Registrar and Office of Provost will conduct a review of these criteria and propose a change of criteria to University Senate if needed.

Students who graduate with distinction may wear a set of red and white cords at commencement. Latin Honors for commencement is based on the cumulative grade point average in the term prior to the student's graduation term. The commencement program will reflect that they may be graduating with distinction. Actual degree honors will be recalculated to include grades from the student's final semester and will be posted on the student's academic record.

In addition, for students who graduate with distinction, the diploma for the degree will designate the Latin Honors earned by the student. Students who earn two or more degrees receive a separate diploma for each degree. Each diploma will indicate the appropriate Latin

Honors the student earned, using the criteria for Latin Honors of the academic division where each degree resides.

For graduation with distinction, a student pursuing a baccalaureate degree must have earned at least 62 credit hours from Miami University; a student pursuing an associate degree must have earned at least 31 credit hours from Miami University. For students who earn fewer than 62 hours from Miami toward a bachelor's degree or fewer than 31 hours from Miami toward an associate degree, the cumulative grade point average used at graduation to determine eligibility for honors is the lower of the following averages:

1. the average for all courses taken from Miami, or
2. the combined average calculated using the grades from all college-level courses.

Degree honors are considered finalized 30 days after graduation and are not subsequently recalculated.

The College of Arts and Science

Arts and Science Advising Office

146 Upham Hall

Phone: 513-529-3031

miamioh.edu/cas/academics/advising/

General Information

The College of Arts and Science (CAS) is the centerpiece of liberal arts education at Miami University and the largest academic division on campus. As such, the College encompasses a rich diversity of disciplinary opportunities and experiences across the humanities, natural sciences, social sciences, languages, mathematics/data science, and interdisciplinary programs.

Using this broad foundation, a CAS education is devoted to intellectual analysis, critical thinking, and honing transferable skills that will be used for a student's entire lifetime. Employers demand a smart, globally minded workforce that can creatively solve problems while drawing upon a broad and adaptable skill set, and our college prepares its students for a plethora of varying career opportunities.

CAS offers three degrees: the Bachelor of Arts, the Bachelor of Arts in International Studies, and the Bachelor of Science.

Accreditation

Departments in the College that are accredited by professional associations include:

Department of Chemistry and Biochemistry: American Chemical Society

Department of Chemistry and Biochemistry: Chemistry and Biochemistry by the American Society of Biochemistry & Molecular Biology (ASBMB)

Department of Psychology: American Psychological Association

Department of Speech Pathology and Audiology (graduate program only) by the Council of Academic Accreditation in Audiology and Speech-Language Pathology

General Requirements

Students within the College of Arts and Science must complete the following requirements in order to graduate:

- Earn at least 124 semester hours of non-duplicative credit, of which 56 must be advanced (at 200 level and above).
- Fulfill the university's liberal education requirements, known as the Miami Plan (MP).
- Fulfill the divisional requirements, known as the College Requirement.
- Fulfill the requirements of your major, which may include specific related hours.
- Take additional elective hours to get to the minimum 124 overall hours, if necessary.

- Earn a 2.00 cumulative grade point average, as well as a 2.00 average in all courses taken in your department of major.

If you are a transfer student, you must take a substantial portion of your major requirements at Miami. You will work with an Arts and Science divisional academic advisor at the time of transfer to help facilitate your transition.

Notes on Credit Restrictions

Before registering for your courses, you should keep in mind these restrictions on credit:

- You may not earn credit for a lower-numbered course in a department if you have already taken a closely related, higher-numbered course for credit. For example, if you have passed FRE 201, FRE 202, you cannot take FRE 101, FRE 102 and receive credit for them.
- When taking a series of courses, you may not jump over a prerequisite course. For example: if you start a foreign language and take the 101 and 102 courses, you cannot jump over the 201 course to take the 202 course; be sure to consult the courses of instruction portion of this bulletin to look at the prerequisites for courses you are thinking of taking.
- Credit is not given for closely related courses in two or more divisions; be sure to consult the courses of instruction portion of this bulletin to see if courses are duplicative credit.
- You cannot register for more than 20 hours in a semester except with the approval of the Dean or Dean's designee.

Bachelor of Arts

- American Studies
- Anthropology
- Biochemistry
- Biology
- Botany
- Chemistry
- Classical Studies
- Critical Race and Ethnic Studies
- Data Analytics
- Diplomacy and Global Politics
- East Asian Languages & Cultures
- Economics
- English: Creative Writing
- English: Literature
- French
- Geography and Sustainable Development
- German
- History
- Individualized Studies
- Italian Studies
- Journalism (requires a second major)
- Latin American, Latino/a and Caribbean Studies
- Linguistics
- Mathematics
- Media and Communication
- Microbiology

- Organizational Leadership
- Philosophy
- Political Science
- Professional Writing
- Psychology
- Public Administration
- Public Health
- Religion
- Russian, East European, & Eurasian Studies
- Social Justice
- Sociology
- Spanish
- Strategic Communication
- Urban and Regional Planning
- Women's, Gender, and Sexuality Studies
- Zoology

Bachelor of Arts in International Studies

- International Studies

Bachelor of Science

- Biochemistry
- Biology
- Botany
- Chemistry
- Data Science and Statistics
- Environmental Earth Science
- Geology
- Mathematics
- Mathematics and Statistics
- Medical Laboratory Science
- Microbiology
- Physics
- Quantitative Economics
- Speech Pathology and Audiology
- Zoology

Co-majors

Co-Majors are designed to provide a complementary perspective to a student's primary major. There is no specific degree designation for the co-major as students receive the degree designation associated with their primary major.

- Analytics
- Energy
- Environmental Science
- Film Studies
- Food Systems and Food Studies
- Global and Intercultural Studies
- Neuroscience
- Premedical and Pre-Health Studies
- Sustainability

Minors

Minors are secondary areas of interest that students can pursue as part of their undergraduate degree program; at minimum, they require 18 credit hours and have a 2.00 grade point average (some minors have higher requirements). Students may opt to take a minor to complement their major and develop skills to increase their career opportunities. Minors are optional.

- Actuarial Science
- Aerospace Studies
- American Studies
- Anthropology
- Arabic
- Archaeology
- Bioinformatics
- Chinese
- Classical Studies
- Comparative Religion
- Creative Writing
- Criminology
- Critical Race and Ethnic Studies
- Data Analytics
- Economics
- English Literature
- Ethics, Society, and Culture
- Film Studies
- French
- Geography
- Geology
- German
- Gerontology
- Global Health
- Global Perspectives on Sustainability
- History
- Horticulture
- Individualized Studies
- Italian
- Japanese
- Journalism
- Latin American Latino/a Caribbean Studies
- Linguistics
- Mathematics
- Medical Humanities
- Middle East, Jewish, and Islamic Studies
- Molecular Biology
- Naval Science
- Neuroscience
- Philosophy and Law
- Physics
- Political Science
- Rhetoric/Writing
- Russian
- Social Justice

- Sociology
- Spanish
- Statistical Methods
- Statistics
- Urban and Regional Analysis
- Women's, Gender, and Sexuality Studies

Certificates

A certificate is a formal award certifying the satisfactory completion of an organized program of study at the postsecondary level. The purpose of a certificate program is to serve the needs of both matriculated and non-degree students interested in developing specific skills and knowledge for personal and/or professional development.

- Geographic Information Science (GIS) Certificate
- Global Readiness Certificate
- Premedical and Pre-Health Studies Certificate (*this is a post-baccalaureate certificate*)

Interdisciplinary Programs

The College of Arts and Science offers a range of interdisciplinary programs including specialized degrees, major, and minors. These interdisciplinary programs allow students to consider a topic, subject, or problem from differing perspectives and to explore connections between those academic disciplines. Students pursuing these programs work closely with professors and advisors to select courses from across the curriculum that will provide opportunities to identify the intersections between multiple disciplines.

Majors

- American Studies
- Critical Race and Ethnic Studies
- Individualized Studies
- International Studies
- Italian Studies
- Journalism
- Linguistics
- Latin American Latino/a and Caribbean Studies
- Women's, Gender, and Sexuality Studies

Minors

- American Studies
- Bioinformatics
- Critical Race and Ethnic Studies
- Ethics, Society and Culture
- Film Studies
- Global Perspectives on Sustainability
- Individualized Studies
- Latin American Latino/a Caribbean Studies
- Linguistics
- Medical Humanities
- Middle East, Jewish, and Islamic Studies
- Molecular Biology
- Neuroscience
- Women's, Gender, and Sexuality Studies

Medical Laboratory Science

Medical laboratory scientists apply scientific background and skills to supervision and performance of diagnostic procedures to determine presence or absence of disease and to monitor response to treatment.

Miami offers two baccalaureate degree programs that include a 12-month laboratory "clinical year." In the 3+1 program, you take three years at Miami followed by an internship to receive a B.S. in medical laboratory science. In the 4+1 program, you take four years at Miami to earn an A.B. or B.S. in biology, zoology, chemistry, or microbiology, and then you enter the clinical year.

After completing either program, you are eligible to take national registry examinations. Please understand that Miami cannot guarantee your acceptance into a clinical year site.

3+1 Program

This program requires 96 pre-clinical year semester hours at Miami, 32 in advanced courses. You take an interdepartmental sequence of courses in biology, chemistry, and microbiology. Specific requirements include: general microbiology, pathogenic microbiology, and immunology, a year of general chemistry and a year of organic chemistry (or organic chemistry and biochemistry), one year of general biology; a course in mathematics; competency in computer usage; and completion of a foreign language at second-year level.

During your junior year, you must file a petition in the dean's office of the College of Arts and Science to be graduated in this program. When you apply for a clinical year at a hospital, you must have a letter of intent from the Registrar of Miami University.

During your clinical year, you will be registered for MBI 487, MBI 488 and MBI 489 at Miami. These courses fulfill the Miami Plan Capstone Experience requirement. Clinical laboratory rotations and lecture series may include hematology, chemistry, bacteriology, immunology, virology, parasitology, and mycology along with electives such as laboratory management and forensics. After you complete your clinical year and certify this to the University Registrar's Office, you will be awarded the B.S. in medical laboratory science.

4+1 Program

For this program, you choose a major in biology, chemistry, or microbiology and fulfill all departmental, Arts and Science, and Miami Plan requirements for the baccalaureate degree. Pre-clinical year course requirements are: a year of general chemistry, a year of organic chemistry (or organic chemistry and biochemistry), a year of introductory biology, and one course in mathematics and general microbiology.

During fall semester of your senior year, you apply to enter a clinical year program at any hospital approved by the National Accrediting Agency for Medical Laboratory Sciences in the U.S.

Both 3+1 and 4+1 programs have affiliated training hospitals that include: The Cleveland Clinic; University of Cincinnati Hospital; St. Vincent Medical Center's Mercy Health Integrated Laboratories (Toledo, OH); Children's Hospital Medical Center (Akron, OH); St. Elizabeth Medical Center (Covington, KY); Parkview Memorial Hospital (Fort Wayne, IN); Franciscan St. Francis Health (Indianapolis, IN); Indiana University Health Methodist Hospital (Indianapolis, IN); New York Methodist Hospital (Brooklyn, NY); Vanderbilt University Medical

Center (Nashville, TN); Sentara Rockingham Memorial Hospital (Harrisonburg, VA); and Rhode Island Hospital (Providence, RI).

For more information about either program in medical laboratory science, see the program advisor in the Department of Microbiology.

Planning for Law School

Law school is a popular option for Arts and Science majors; 94% of Miami's 2020-2021 senior applicants were accepted to law school, compared to the national average of 78% for the same period.

Students interested in law school are encouraged to select a major that interests them. Regardless of the major you select, you should take courses that will enhance those skills that are necessary for success in law school.

According to the Law School Admission Council, "as long as [students] receive an education including critical analysis, logical reasoning, and written and oral expression, the range of acceptable college majors is very broad." To develop these very essential skills, students should consider taking courses in the humanities, such as political science or history (critical analysis), philosophy (logic), communication and English (oral/written communication), and math and science (analytical reasoning).

Most law schools have high standards for grade point average (GPA) and Law School Admission Test (LSAT) scores. In fact, the median GPA for students accepted to the top 25 percent of law schools exceeds 3.50. Similarly, the median LSAT score for these schools is 160 (120-180 scale). In addition to success in the classroom, participation in community service, student activities, leadership training and experience, and study abroad are a plus.

If you are interested in law school, you should contact a pre-law advisor in the Sue J. Henry Center or Pre-Law in 159 Upham Hall (513-529-0877; prelaw@miamioh.edu (prelaw@miamioh.edu)) as early in your college career as possible.

Planning for Medical, Dental, and Veterinary Schools

Most medical, dental, and veterinary schools limit admission requirements to allow for students from a variety of undergraduate programs. All schools recognize the desirability of a broad education that includes a strong foundation in natural sciences, the basis for study and practice of health professions; communication skills, essential for developing successful relationships with the public and professionals; and social sciences and humanities, in order to better understand yourself and others.

Therefore, you should follow an undergraduate program that is as broad and comprehensive as possible in order to prepare for a career in a people-oriented profession in a changing society. Pursuing a double major in sciences is not advised if it is done at the expense of obtaining a broad education.

Common admission requirements include two years of chemistry, two years of biology, one year of physics, and one year of English. However, requirements of schools may vary. You should therefore consider individual requirements of schools and plan your curriculum accordingly.

Students who plan to go to professional schools should see an academic advisor before taking any course on a credit/no-credit basis. In addition, using AP credit for classes required by professional schools **is not** recommended.

Many students planning to attend medical, dental, or veterinary school major in biology, zoology, microbiology, chemistry or biochemistry; however, this is not necessary and students should talk with their advisor if they are considering other options.

Medical schools require the Medical College Admission Test (MCAT), dental schools require the Dental Admission Test (DAT), and most veterinary schools want the Graduate Record Exam (GRE). We strongly urge you to talk with a pre-professional advisor as early as possible to start preparing for career in one of these fields.

For the a current list of suggested courses and additional information, visit the Mallory-Wilson Center for Healthcare Education website or their office, which is located in 106 Pearson Hall (513-529-3737; mallorywilsoncenter@miamioh.edu (mallorywilsoncenter@miamioh.edu)). There are pre-medicine faculty advisors in the departments of: biology, chemistry and biochemistry, microbiology, physics, or psychology; and pre-dentistry and pre-veterinary faculty advisors in the biology department.

Planning for Physician Associate/ Assistant (PA) Programs

Physician Assistants (PAs) are healthcare professionals who practice medicine as members of a team with their supervising physicians.

PAs deliver a broad range of medical and surgical services to diverse populations in rural and urban settings. As part of their comprehensive responsibilities, PAs conduct physical exams, diagnose and treat illnesses, order and interpret tests, counsel on preventive health care, assist in surgery, and prescribe medications. Miami offers a Master of Medical Science (MMS) in Physician Associate Studies, if you are looking for more information. Or you can consult the Mallory-Wilson Center for Healthcare Education website, which includes a list of pre-PA suggested coursework and advice for applying to PA programs.

Planning for Optometry School

Typical admission requirements for optometry school include one year of English, one year of biology, two years of chemistry, one year of physics, one semester of mathematics (calculus and statistics), one semester of psychology, one year of social science, one semester of microbiology, and one or two semesters of physiology. Since specific requirements vary, you should contact schools where you may apply, and plan your curriculum accordingly. Most pre-optometry students major in biology, zoology, chemistry, or microbiology.

Optometry schools require the Optometry Admission Test. It is available only online (<http://www.ada.org/en/oat/>).

To learn more about the field of optometry, visit the websites of:

- Association of Schools and Colleges of Optometry (ASCO)
- American Optometric Association (AOA)

For the a current list of suggested courses and additional information, visit the Mallory-Wilson Center for Healthcare Education website or their office, which is located in 106 Pearson

Hall (513-529-3737; mallorywilsoncenter@MiamiOH.edu (mallorywilsoncenter@miamioh.edu)).

Planning for Pharmacy School

Because the Doctor of Pharmacy is now the only accredited degree for pharmacy, you should complete a bachelor's degree (usually in zoology, microbiology, or chemistry), or at least two years of prerequisite coursework, and apply to a Doctor of Pharmacy program.

Typical prerequisites for pharmacy school include course work in calculus; inorganic, organic, and analytical chemistry; English, biology or microbiology, physics and statistics. Since specific requirements vary, contact schools of interest, and plan your curriculum accordingly. For more information, consult with the pre-pharmacy advisor in the Department of Biology.

Additional information about pharmacy can be found on the American Association of Colleges of Pharmacy (AACP) website.

For the a current list of suggested courses and additional information, visit the Mallory-Wilson Center for Healthcare Education website or their office, which is located in 106 Pearson Hall (513-529-3737; mallorywilsoncenter@MiamiOH.edu (mallorywilsoncenter@miamioh.edu)).

Planning for Occupational Therapy / Physical Therapy School

If you are interested in a career in physical or occupational therapy, you should take courses that meet the prerequisites for graduate degree programs in those areas. The Pre-Physical and Pre-Occupational Therapy Program at Miami is designed to provide students with the basic science and related courses needed for background preparation and admission into an accredited physical or occupational therapy program.

You may request further information about physical or occupational therapy programs in the United States by visiting these websites:

American Physical Therapy Association (APTA)

American Occupational Therapy Association (AOTA)

For the a current list of suggested courses and additional information, visit the Mallory-Wilson Center for Healthcare Education website or their office, which is located in 106 Pearson Hall (513-529-3737; mallorywilsoncenter@MiamiOH.edu (mallorywilsoncenter@miamioh.edu)).

Teacher Licensure

Combining a teacher licensure program with a major in the College of Arts and Science makes a student eligible for two degrees: an A.B. or B.S. degree in the College of Arts and Science and a B.S. in Education degree in the College of Education, Health and Society. Students who wish to combine licensure with an Arts and Science major must observe rules, procedures, and restrictions pertaining to admission to a licensure cohort.

If you choose to earn two degrees, you must meet all requirements for the Miami Plan, the College of Arts and Science, and teacher licensure. Early in your program, you should plan your schedule

with academic advisors from the College of Arts and Science and the College of Education, Health and Society.

For information, contact the Department of Teaching, Curriculum, and Educational Inquiry in the College of Education, Health and Society, 401 McGuffey Hall (513-529-6443; TCE@miamioh.edu).

The College Requirement

The divisional requirements in the College of Arts and Science are called the College Requirement and are often referred to as your "CAS requirements". The intention is to emphasize skills and competencies needed for the 21st century, as well as providing a breadth of knowledge in the humanities, social sciences, and natural sciences & mathematics. Together with the depth of knowledge acquired within a major, the College Requirement prepares students for a variety of educational, professional, and career options.

The College Requirement includes:

CAS Advanced Hours

CAS-A Foreign Language

CAS-B Humanities

CAS-C Social Science

CAS-D Natural Science

CAS-E Formal Reasoning

CAS-QL Quantitative Literacy

CAS-W Writing Competence

Students in Bachelor of Arts degree programs (A.B. and A.B.I.T.S) must complete **all** sections of the College Requirement.

Students in Bachelor of Science degree programs (B.S.) must only complete **two** sections of the College Requirement: the CAS Advanced Hours and the CAS-A Foreign Language. This is because our B.S. programs include more hour in the major and/or the related hours and we want to ensure that students can complete all of these within a four-year period.

As you begin making your academic plans, keep these important points in mind:

- While many courses may overlap both the College Requirement and Miami Plan, **not all** courses do; be sure to consult with your advisor about how you can structure your plan of study to optimize overlap.
- Courses used to fulfill the Miami Plan or the College Requirement can also count toward your major, major related-hours, or minor requirements.
- Courses cross-listed in multiple departments (e.g. BIO/MBI 115) can be used to satisfy a requirement appropriate to any of the cross-listed departments.

CAS Advanced Hours

Students must complete a **minimum of 56 hours** that are numbered 200-499. These hours can be from courses either in or outside of the College of Arts & Science, they can be used toward other specific requirements (e.g. major, major related-hours, minor, Miami Plan, etc.), or they can be from purely elective courses.

CAS-A Foreign Language

Direct acquisition of a different communication system facilitates access to a foreign culture. It also promotes understanding of how language structures human consciousness, increases the understanding of your own language, and makes possible a more informed awareness of the interaction between language and other social institutions.

All foreign languages taught at Miami are applicable for this requirement. They include: American Sign Language, Arabic, Chinese, French, German, Italian, Japanese, Korean, Latin, Portuguese, Russian, and Spanish.

Requirement:

The foreign language requirement may be met in any one of the following ways:

- Earning credit in the 202 course (or its equivalent) in a foreign language.
- Earning credit in a language course at/above the 300 level that has 202 as a prerequisite and is **not** in English translation.
- Posting credit awarded through a foreign language examination (Advanced Placement, College Level Examination Program, or International Baccalaureate). Information on acceptable scores for those exams is included in the Academic Planning portion of this Bulletin.
- International students whose native language is not English may use English to satisfy the foreign language requirement; students should work with a College of Arts & Science Academic Advisor in regards to this.

Students who are fluent in a language not offered at Miami University should work with a College of Arts & Science Academic Advisor regarding their options. Also, in some foreign language departments, access to courses may be denied to native or quasi-native speakers and heritage speakers, depending on their fluency.

LAT 202 may fulfill either CAS-A or CAS-B-LIT, but **not** both.

The foreign language placement guide in the Academic Planning section describes the background necessary to enter a course at a certain level; this will help you choose your first course. Placement tests are a diagnostic tool and **do not** award academic credit.

CAS-B Humanities

(9 semester hours)

The human experience and how we record it can be expressed in many forms, but some of the most traditional ways have evolved into the subjects of: history, language, literature, philosophy, and religion.

These humanities are important as they help us understand the intricacies of human values and how they have shaped the world around us. Through studying these subjects, we are able to connect with cultures past, present, and different from our own.

Requirement:

- Nine semester hours total.
- Six hours must be from **two different** sub-categories: history, literature, philosophy, and religion.

- This includes all courses from the departments of: History, (including CLS 101 and CLS 102), Philosophy (except PHL 273), and Comparative Religion; as well as literature courses designated as CAS-B-LIT that are offered by the departments of English; French, Italian, and Classic; German, Russian, East Asian, and Middle Eastern Languages and Cultures; Spanish and Portuguese; and Theatre.
- The remaining three hours an additional course from any of the sub-categories, or from a list of courses that do not fall into a specific sub-category but still count toward this requirement.

CAS-C Social Science

(9 semester hours)

Through the systematic study of individual interpersonal interactions, the behavior of social sub-groups, and larger cultural and societal norms, we are able to analyze how the world operates and then begin to predict future actions or behaviors. These social science subjects help us understand- with data -the world beyond our personal experience.

Requirement:

- Nine semester hours total.
- Six hours must be from **two different** sub-categories: anthropology, economics, geography, political science, psychology, and sociology-gerontology-social justice studies.
- This includes all courses from the departments of: Anthropology; Economics; Geography; Political Science; Psychology; and Sociology and Gerontology (except ATH 219, GEO 121 , GEO 122, GEO 431/GEO 531, and GEO 432).
- The remaining three hours an additional course from any of the sub-categories, or from a list of courses that do not fall into a specific sub-category but still count toward this requirement.

CAS-D Natural Science

(10 semester hours)

Learning to understand natural phenomena through observations and experimentation is important as it relies on a structured process to organize, test, and analyze information and reach logical conclusions. The physical sciences are involved largely with the behavior of energy, particles, atoms, and molecules, while the biological sciences are concerned with nature, variation, richness, and interactions of phenomena of life. This requirement introduces you to various aspects of scientific inquiry as practiced in biology, botany, chemistry, geology, microbiology, physical geography, and physics. Laboratory experience is included to demonstrate the relationship between theories or models used within a given science and experimental results.

Requirement:

- Ten semester hours taken from departments within the College of Arts and Science.
- Minimum of three semester hours in biological science.
- Minimum of three semester hours in physical science.
- One laboratory course (consult with an advisor to identify an appropriate laboratory course for you to take).

- Biological science includes all courses offered by the departments of: Biology, Microbiology, as well as select courses in Geography (GEO 431/GEO 531 and GEO 432).
- Physical science includes all courses offered by the departments of: Chemistry and Biochemistry, Geology & Environmental Earth Science, and Physics, as well as select courses in Geography (GEO 121 and GEO 122).

CAS-E Formal Reasoning

(3 semester hours)

Students pursuing a liberal education must expand and enhance their capacity to reason. This requirement does that through the study of inductive and deductive thinking; through disciplines that employ formalized languages as the means to develop such thinking.

This includes areas like: data analysis, mathematics, statistics, logic, and linguistics. Unlike the Formal Reasoning component of the Perspectives Area 1 in the Miami Plan, this requirement does **not** include topics pertaining to technology.

Requirement:

- Three semester hours, designated as CAS-E in the Courses of Instruction section of this Bulletin.
- If using a math or statistics course to complete this requirement, placement is based upon either your ACT/ SAT math sub-scores or the Miami Placement test; please consult the mathematics and statistics placement guide in the Academic Planning chapter, or an academic advisor, to determine the appropriate course for you to take.
- Many majors either require or strongly suggest a specific course for this requirement.

CAS-QL Quantitative Literacy

(3 semester hours)

An important skill that students must have is the ability to be able to collect, assess, and analyze data and data sets. This ability to tell a story with numbers or solve quantitative problems from an array of authentic contexts and everyday life situations will enrich any program of study.

Requirement:

- Three semester hours, designated as CAS-QL in the Courses of Instruction section of this Bulletin.
- A course **cannot count** for both this requirement and the Miami Plan Perspectives Area 1 (Formal Reasoning and Communication) and CAS-E requirements.
- A course **can count** for this requirement and other requirements within the Miami Plan or CAS requirements.

Quantitative literacy courses include:

Code	Title	Credit Hours
ATH 496	Observing Primate Behavior	4
BIO/MBI 116	Biological Concepts: Structure, Function, Cellular, and Molecular Biology	4
BIO 161	Principles of Human Physiology	4
CHM 111	Chemistry in Modern Society	3

CHM 375	Analytical Chemistry for Majors	3
ECO 311	Examining Economic Data and Models	3
ENG 222	The Rhetoric of Information and Data Visualization	3
GEO 205	Population and Migration	3
GEO 242	Mapping a Changing World	3
GLG 111	The Dynamic Earth	3
GLG 121	Environmental Geology	3
GLG 141	Geology Of U.S. National Parks	3
JRN 412	Public Affairs Reporting	3
MTH 435/ MTH 535	Mathematical Modeling Seminar	3
MTH 453/ MTH 553	Numerical Analysis	3
PHY 191	General Physics with Laboratory I	5
POL 241	American Political System	3
POL 306	Applied Research Methods	3
PSY 293	Introduction to Psychological Statistics	4
PSY 294	Writing and Research Methods in Psychology	4
PSY 324	Advanced Social Psychology ¹	3
SOC 262	Research Methods	3
STA/ISA 333	Nonparametric Statistics	3
STA 363	Introduction to Statistical Modeling	3
STA 404/STA 504	Advanced Data Visualization	3
STA 475	Data Analysis Practicum	3
STC 262	Research Methods	3

¹ Only specific sections of PSY 324 are designated QL; see the departmental advisor for information.

CAS-W Writing Competence

Educated individuals need to exhibit advanced writing abilities in their chosen field of study. Our students learn the writing practices and conventions of their discipline and how to effectively communicate with others both in and outside of their field. Effective writing is learned gradually and through ongoing attention and sustained feedback. As such, each Bachelor of Arts major has a course, or a set of courses, embedded in the requirements for the major.

American Studies- Bachelor of Arts

For more information, contact the Coordinator of American Studies, 120 McMillan Hall, 513-529-5333.

The Program in American Studies offers an interdisciplinary major that explores American culture, in all its complexity, from a variety of perspectives. In learning to make connections between a range of fields and disciplines from history to art, politics to religious studies, mass media to popular culture, among many others, students gain a multifaceted understanding of the United States in global context. The program fosters flexible thinking, creative problem solving skills, synthetic analysis, strong writing and oral presentation, an understanding of and familiarity with multiple kinds of media and texts, a broad understanding of social, cultural, and historical contexts, and intercultural awareness. By working with an advisor,

students create their own area of concentration from a list of selected courses with a US-focus, and come away with the intellectual skills and perspective necessary to understand, contextualize, and critically engage the opportunities and challenges of our complex, changing, interdependent world.

Program Requirements

(34 semester hours)

Code	Title	Credit Hours
Core course		
AMS 205 or AMS 207	Introduction to American Cultures America: Global and Intercultural Perspectives	3
AMS 206	Approaches to American Culture	3
Select three courses from the following:		9
AMS 301	American Identities	
AMS 302	Immigrant America	
AMS 303	Consumer Culture	
AMS 305	American Icons	
AMS 310	Special Topics in American Studies	
The third 300-level course can be one of the courses above OR it can be a 300-level course cross-listed with AMS, subject to approval by the CDA.		
Capstone course:		
AMS 401	Senior Capstone in American Studies	4
Area of Concentration		
Select an area of concentration		15
Total Credit Hours		34

Area of Concentration (15 hours)

Students must take 15 credit hours with at least 12 hours at the 200 level and above, incorporating at least three different disciplines. Students can develop an individualized area of concentration in American culture from a preselected list of courses that have a US focus. A comprehensive list of courses is available in pamphlet form in the Global and Intercultural Studies Department (American Studies Program). It is strongly recommended that students consult with an advisor when they plan their area of concentration.

Code	Title	Credit Hours
AMS/HST 216	Introduction to Public History	3
AMS/FST/ITL 222	Italian American Culture	3
AMS/REL 241	Religions of the American Peoples	3
AMS/ENG 246	Native American Literature	3
AMS/AAA/ENG 248	Asian American Literature	3
AMS/GER 281	Americans in Berlin: An Interdisciplinary Study-Abroad Workshop	6
AMS/MUS 285	Introduction to African American Music	3
AMS/HST 304	History, Memory, Tradition	3
AMS 312	The American West	3
AMS/ENG 348	Ethnic American Literatures	3

AMS/GEO 352	Geographies of Urban Change	3
AMS/HST 357	Gilded Age America	3
AMS/HST 362	The Era of the American Revolution	3
AMS/HST 363	The Early American Republic 1783-1815	3
AMS/HST 367	The United States in the 1960's	3
AMS/HST 371	Native American History to 1840	3
AMS/HST/WGS 382	Women in American History	3
AMS/MUS 386	The History and Development of Hip Hop Culture in America	3
AMS/ENG 390	Studies In Amer Regionalism	3
AMS/HST/WGS 392	Sex and Gender in American Culture	3
AMS/HST 435	Public History Practicum	3
APC 438	Political Communication	3
ARC 188	Ideas in Architecture	3
ARC 225	Design: Behavior, Perception, Aesthetics	3
ARC 321	History of Interiors	3
ARC 426	Architecture and Society	3
ARC 427	The American City Since 1940	3
ART 488	Art in the Age of Revolution: 1789-1848	3
ATH 185	Cultural Diversity in the U.S.	3
ATH 212	Introduction to Archaeological Theory and Methods	4
ATH 304	Native North America: Anthropological Perspectives	3
ATH 364	Language and Culture in Native North America	3
CCA 221	Immersion in the Integrated Arts and Culture	3
CCA 410	Advanced Topics in the Creative Arts	1-4
ECO 131	Economic Perspectives on Inequality in America	3
ECO 331	Public Sector Economics	3
ECO 332	Health Economics	3
ECO 451	Economic History	3
EDL 204	Sociocultural Studies in Education	3
ENG/WGS 232	Women Writers	3
ENG/FST 235	Classical Hollywood Cinema	3
ENG/WGS 237	GLBTQ Literature	3
ENG/LAS 254	Caribbean, Latin American and Latinx Literatures	3
ENG 275	American Literature to 1900	3
ENG 276	American Literature 1900 to the Present	3
ENG 293	Contemporary American Fiction	3
ENG/CRE 336	African American Writing, 1746-1877	3
ENG/CRE 337	African American Writing, 1878-1945	3
ENG/CRE 338	African American Writing, 1946-Present	3
ENG 349	Early American Literature	3

ENG/FST 350	Topics in Film	3
ENG 352	Antebellum American Literature	3
ENG 353	American Realism and Naturalism	3
ENG 354	American Modernism	3
ENG 355	Contemporary American Literature	3
ENG/CRE/WGS 432	Feminism and the Diaspora: U.S. Women of Color	3
ENG 440	Major English and American Writers	3
FST 201	Film History and Analysis	3
FST/IDS 206	Diversity and Culture in American Film	3
FST/ENG 235	Classical Hollywood Cinema	3
FST/ENG 236	Experimental Film	3
FST/HST 250	History and Popular Culture	3
FST/HST 252	History at the Movies	3
FST/GER 261	German Film in Global Context	3
FSW 201	Introduction to Social Work and Family Life Education	3
FSW 206	Social Welfare Policies & Programs	4
FSW 261	Diverse Family Systems Across the Life Cycle	3
FSW/CRE/SOC 362	Family Poverty	3
GEO 201	Geography of Urban Diversity	3
GEO 454	Urban Geography	3
GEO 455	Race, Urban Change, and Conflict in America	3
GER 151	The German-American Experience	3
GTU 154	Aging in American Society	3
HST 111	Survey of American History to 1877	3
HST 112	Survey of American History: From 1877 to the Present	3
HST 212	United States History since 1945	3
HST/CRE 221	African-American History	3
HST 222	U.S. Foreign Relations Since 1898	3
HST/IDS 259	Introduction to the Miami Tribe of Oklahoma	3
HST 215	Latin America in the United States	3
HST 290	Topics in American History	1-4
HST 350	Topics in American History	3
HST 372	Native American History since 1840	3
HST/CRE/LAS 385	Race, Science, and Disease in the Americas	3
HST 387	U.S. Constitutional Development to 1865	3
LIN 201	Introduction to Linguistics	3
MAC 310	Topics in Media History	3
MAC 447	Senior Seminar in Applied Media Analysis	3
MUS/AMS 135	Understanding Jazz, Its History and Context	3
MUS 385	The Roots of Black Music: Blues, Gospel and Soul	3
MUS 415	You Say You Want a Revolution: Rock and Roll and the Cultural Revolution of the 1960s	3

POL 142	American Politics and Diversity	3
POL 241	American Political System	3
POL 307	Public Opinion Laboratory	0-4
POL 333	Politics of Western Europe	3
POL 343	American Presidency	3
REL/CRE 343	African-American Religions	3
SOC 279/CRE 343	African Americans in Sport	3
SOC/CRE 348	Race and Ethnic Relations	3
WGS 201	Introduction to Women's Studies	3
WGS 301	Women and Difference: Intersections of Race, Class, and Sexuality	3

Note: Students seeking the Bachelor of Arts in American Studies meet the College of Arts and Science writing in the major requirement by completing the following course: AMS 206.

Graduating with Honors

American Studies majors may graduate with Honors if they fulfill the following requirements:

- hold a 3.5 grade point average
- enroll in AMS 480, Independent Reading for Departmental Honors
- present their research project to an AMS faculty committee or at an undergraduate research forum

Analytics Co-Major

For information, contact the Department of Statistics, 311 UPH, 513-529-7828, or the Department of Information Systems and Analytics, 3095 FSB, 513-529-4826.

Analytics describes the extensive use of data to guide evidence-based decision-making. This field has emerged during a time when massively large data sets are being collected throughout society. Analytics lives at the junction between numerous traditional disciplines including information systems and statistics. This program will provide a framework for thinking about the collection and use of so-called "big data" and students will develop skills for handling structured and unstructured data sets and for developing models to predict behavior in data-rich environments.

The term "co-major" is unique and indicates that students must be concurrently enrolled in and must complete another major at Miami University. The co-major complements this primary major, which provides significant depth and breadth in an academic discipline. There is no specific degree designation for the co-major; students receive the degree designation of their primary major. Students may earn either the Business Analytics Minor or the Analytics Co-Major.

Program requirements

Complete a major in one of the divisions of the university.

Code	Title	Credit Hours
CORE coursework to be satisfied by all co-majors (18-19 hours)		
Data Description and Summarization:		
Select one of the following:		3-4
ISA 225	Principles of Business Analytics	

STA 261	Statistics	
STA 301	Applied Statistics	
Data Management - Structured:		
Select one of the following:		9-12
CSE 148 & ISA 235 & ISA 245	Business Computing and Information Technology and the Intelligent Enterprise and Database Systems and Data Warehousing	
CSE 174 & CSE 271 & CSE 274 & CSE 385	Fundamentals of Programming and Problem Solving and Object-Oriented Programming and Data Abstraction and Data Structures and Database Systems	
Regression Models:		
Select one of the following:		3-4
ECO 311	Examining Economic Data and Models	
ISA 291	Applied Regression Analysis in Business	
STA 363	Introduction to Statistical Modeling	
STA 463	Regression Analysis	
Visualizing Data and Digital Dashboards:		
STA 404	Advanced Data Visualization	3

Track

Select a track of study ¹ 15

TRACK 1: BUSINESS ANALYTICS

Note: For Information and Cybersecurity Management majors, Information Systems majors, or Information Systems and Analytics majors with Information Systems track, 18 hours must not double count in the ICM major, IS major, or ISA major with IS track and Analytics Co-Major or business core.

Note: For STA majors, at least 18 hours must be courses not double counted toward the STA major.

Note that ISA 291 must be taken as the core option for this track.

Note: For Information Systems Minors, 9 hours must not double count for the minor.

Required Courses

ISA 401	Business Intelligence and Data Visualization	
ISA 414	Managing Big Data	
ISA 491	Introduction to Data Mining in Business	
Select two of the following:		
ISA 281	Concepts in Business Programming	
ISA 321	Quantitative Analysis of Business Problems	
ISA/STA 333	Nonparametric Statistics	
ISA/STA 365	Statistical Monitoring and Design of Experiments	
ISA 444	Business Forecasting	
ISA 480	Topics in Business Analytics	
ISA 496	Business Analytics Practicum	
STA 402	Statistical Programming	

STA 427 Introduction to Bayesian Statistics

STA 432 Survey Sampling in Business

TRACK 2: PREDICTIVE ANALYTICS**Required Courses**

STA 402 Statistical Programming

STA 467 Statistical Learning

Select two of the following:

ISA 414 Managing Big Data

STA 427 Introduction to Bayesian Statistics

STA 483 Analysis of Forecasting Systems

Select one of the following:

CSE 273 Optimization Modeling

MTH 435 Mathematical Modeling Seminar

ISA 321 Quantitative Analysis of Business
Problems

MTH 432 Optimization

CSE 372 Stochastic Modeling

TRACK 3: GEOSPATIAL ANALYTICS

Note: Students who wish to also earn the GISci Certificate must take an additional 6 appropriate credit hours beyond the Analytics Co-Major requirements.

Required Courses

GEO 441 Geographic Information Systems

GEO 442 Advanced Geographic Information
Systems

GEO 460 Advanced Systematic Geography

Select six hours of the following:

GEO 443 Python Programming for Geospatial
Applications

GEO 444 GIScience Techniques in Landscape
Ecology

GEO 448 Techniques and Applications of
Remote Sensing

GEO 460G Tools

IMS 461 Virtual Reality

ISA 414 Managing Big Data

Total Credit Hours**33-38**

¹ In addition to the common core, each co-major is required to complete a particular track of study. These tracks reflect a focus on a particular area of application of analytics or advanced methods.

Anthropology- Bachelor of Arts

For information, contact the Department of Anthropology, 120 Upham Hall, 513-529-8399.

Anthropology is a holistic, interdisciplinary science of humanity. Integrating natural sciences, social sciences, and humanities, anthropology students learn critical thinking skills in conjunction with innovative research methods and diverse perspectives on the human condition. Anthropology provides transferable skills that prepare students for a wide variety of professional futures including careers in non-profit organizations, business, and government; education and

medicine; global and public health; social justice and humanitarian service; and sustainability, museums, media, and law.

Program Requirements

(36 semester hours distributed as follows, A through D)

Code	Title	Credit Hours
A. Introductions		
Take each of the following:		
ATH 212	Introduction to Archaeological Theory and Methods	4
ATH 231	Foundations of Cultural Anthropology	4
ATH 255	Introduction to Biological Anthropology	4
ATH 265	Introduction to Linguistic Anthropology	4
B. Investigations 3-1-1		
Take at least three courses in a single Investigations Cluster, plus at least one course in each remaining Investigations Cluster (3-1-1) to equal at least 17 credit hours. One of your Investigations Cluster courses must be a practicum course. Students will consult with the CDA to allocate variable content courses (e.g. ATH 190, ATH 390, ATH 491, Independent Studies, Honors) to the appropriate Investigations Cluster, topic dependent.		17
C. Applications		
Take the following Senior Capstone:		
ATH 421	Senior Seminar in Anthropology	3
D. Restrictions		
Students may count up to 6 cr. hrs. of 100-level courses towards the major. Only 4 cr. hrs. of field study (e.g. ATH 415) may count towards the major.		
Total Credit Hours		36

Students seeking the Bachelor of Arts in Anthropology meet the College of Arts and Science writing in the major requirement by completing one 200-level core course, one 300-level course, and ATH 421.

Cluster Requirements

Evolution, Behavior, & Biocultural Change

Code	Title	Credit Hours
ATH 145	Lost Cities & Ancient Civilizations	3
ATH 155	Introduction to Anthropology	3
ATH 312	North American Archaeology	3
ATH 314	Old World Archaeology	3
ATH 348	Introduction to Medical Anthropology	3
ATH 355	Paleoanthropology	3
ATH 368	Key Questions in Psychological Anthropology	3
ATH/BIO 395	Primate Biology and Behavior	3
ATH 403	Anthropology of Religion	3
ATH 415	Field Methods in Archaeology (*Practicum)	1-6
ATH 416	Applying Archaeology (*Practicum)	3

ATH 448	Developing Solutions in Global Health (*Practicum)	3
ATH 471	Ecological Anthropology	3
ATH 496	Observing Primate Behavior (*Practicum)	4
ATH/BIO 497	Socio-Ecology of Primates	3
ATH/BIO 498	Evolution of Human Behavior	3

Global Connections & Cultural Diversity

Code	Title	Credit Hours
ATH 175	Global Cultural Diversity	3
ATH 185	Cultural Diversity in the U.S.	3
ATH 206/LAS 208	Introduction to Latin America	3
ATH 235	Imagining and Encountering the Anthropological Other	3
ATH 235L		3
ATH/POL 254	Introduction to Russian and Eurasian Studies	3
ATH/ITS 301	Intercultural Relations	3
ATH 302		3
ATH 304	Native North America: Anthropological Perspectives	3
ATH 305	Latin America: Anthropological Perspectives	3
ATH 307	The Middle East: Anthropological Perspectives	3
ATH 308	South Asia: Anthropological Perspectives	3
ATH 313	Latin American Archaeology	3
ATH 325	Identity, Race, Gender, Class	3
ATH 331	Social Anthropology	3
ATH 335L	Multiculturalism in Europe: Anthropological Perspectives	3
ATH 358	Travelers, Migrants, and Refugees: Transnational Migration and Diasporic Communities	3
ATH 405	Food, Taste, and Desire	3
ATH 425	Ethnographic Field Methods (*Practicum)	3
ATH 431	Archaeology of Power	3
ATH 432	Secrecy and Statecraft: Spies, Censors, and Prisoners in Authoritarian and Democratic Societies	3
ATH 436	Havighurst Colloquium	3

Media, Technology, & Communication

Code	Title	Credit Hours
ATH/FST 135	Film as Ethnography	1
ATH 327	Pokemon and J-Pop in Global and Local Contexts	3
ATH 345	Global Media, Ethnography, and Film	3
ATH 361	Language and Power	3
ATH 364	Language and Culture in Native North America	3

ATH 366	African Oral Traditions	3
ATH 378	Doctors, Clinics, and Epidemics	3
ATH 388	Culture, Art, and Artifacts	3
ATH 411	Applied Anthropology (*Practicum)	3
ATH 465	Ethnography of Communication (*Practicum)	3
LIN 201	Introduction to Linguistics	3

Biochemistry- Bachelor of Arts

For information, contact the Department of Chemistry and Biochemistry, 160 Hughes Laboratories, 513-529-2813.

This program is for students interested in a career in the life or health sciences or biochemistry. Students who anticipate graduate study in biochemistry should elect the B.S. Biochemistry program. Chemistry and required related courses cannot be taken on a credit/no-credit basis.

Program Requirements

(38-39 semester hours, plus 23-27 related hours)

Code	Title	Credit Hours
Core Courses		
Select one of the following:		3-4
CHM 141	College Chemistry	
CHM 141H	College Chemistry	
CHM 141R	College Chemistry	
Select one of the following:		3
CHM 142	College Chemistry	
CHM 142M	College Chemistry for Majors	
CHM 142H	College Chemistry	
Select one of the following:		2
CHM 144M	College Chemistry Laboratory for Majors	
CHM 144	College Chemistry Laboratory (with approval)	
Select one of the following:		2
CHM 145M	College Chemistry Laboratory	
CHM 145	College Chemistry Laboratory (with approval)	
Select the following:		
CHM 251 & CHM 252	Organic Chemistry for Chemistry Majors and Organic Chemistry for Chemistry Majors	6
or CHM 241 & CHM 242	Organic Chemistry and Organic Chemistry	
CHM 254 & CHM 255	Organic Chemistry Laboratory for Chemistry Majors and Organic Chemistry Laboratory for Chemistry Majors	4
CHM 375	Analytical Chemistry for Majors	3
CHM 432	Fundamentals of Biochemistry	4
CHM 438	Biochemistry Laboratory	2
CHM 471	Biophysical Chemistry I	3

or CHM 451	Physical Chemistry for Chemistry Majors	
CHM 472	Biophysical Chemistry II	3
or CHM 452	Physical Chemistry for Chemistry Majors	
CHM 491	Chemistry in Societal Issues	3
or CHM 492	Independent Research Capstone in Chemistry	

Related Hours

MTH 151	Calculus I	4
MTH 251	Calculus II	4-5
or MTH 249	Calculus II	
PHY 191	General Physics with Laboratory I	4-5
or PHY 161	Physics for the Life Sciences with Laboratory I	
PHY 192	General Physics with Laboratory II	4-5
or PHY 162	Physics for the Life Sciences with Laboratory II	

Additional Course

Select one of the following: 3-4

BIO 203	Introduction to Cell Biology	
BIO 305	Human Physiology	
BIO 342	Genetics	
STA 301	Applied Statistics	
or STA 333	Nonparametric Statistics	
or STA 363	Introduction to Statistical Modeling	

Three credit hours at a 200 level or above in the following departments: BIO, CHM, CPB, CSE, GLG, ISA, MBI, MME, PHY and STA. 3

Choices can also be made from:

MTH 222	Introduction to Linear Algebra	
MTH 231	Elements of Discrete Mathematics	
MTH 245	Differential Equations for Engineers	
MTH 252	Calculus III	
MTH 347	Differential Equations	

Total Credit Hours 60-65

¹ CHM 471 & CHM 472 are preferred

Students seeking the Bachelor of Arts in Biochemistry meet the College of Arts and Science writing in the major requirement by completing the following course: CHM 375.

Biochemistry- Bachelor of Science

For information, contact the Department of Chemistry and Biochemistry, 160 Hughes Laboratories, 513-529-2813.

This major is usually chosen by students who want to enter the chemical industry or graduate school in chemistry, biochemistry, or related areas. Chemistry and required related courses cannot be taken on a credit/no-credit basis.

Program Requirements

(44-45 semester hours, plus 27-28 related hours)

Code	Title	Credit Hours
Core Courses		
Select one of the following:		3-4
CHM 141	College Chemistry	
CHM 141H	College Chemistry	
CHM 141R	College Chemistry	
Select one of the following:		3
CHM 142	College Chemistry	
CHM 142M	College Chemistry for Majors	
CHM 142H	College Chemistry	
Select one of the following:		2
CHM 144M	College Chemistry Laboratory for Majors	
CHM 144	College Chemistry Laboratory (with approval)	
Select one of the following:		2
CHM 145M	College Chemistry Laboratory	
CHM 145	College Chemistry Laboratory (with approval)	
Select the following:		
CHM 251 & CHM 252	Organic Chemistry for Chemistry Majors and Organic Chemistry for Chemistry Majors	6
or CHM 241 & CHM 242	Organic Chemistry and Organic Chemistry	
CHM 254 & CHM 255	Organic Chemistry Laboratory for Chemistry Majors and Organic Chemistry Laboratory for Chemistry Majors	4
CHM 375	Analytical Chemistry for Majors	3
CHM 432	Fundamentals of Biochemistry	4
CHM 438	Biochemistry Laboratory	2
CHM 471	Biophysical Chemistry I ¹	3
or CHM 451	Physical Chemistry for Chemistry Majors	
CHM 472	Biophysical Chemistry II ¹	3
or CHM 452	Physical Chemistry for Chemistry Majors	
CHM 491	Chemistry in Societal Issues	3
or CHM 492	Independent Research Capstone in Chemistry	
Advanced Chemistry Coursework		
An additional six (6) advanced credit hours in CHM courses are required, of which at least 4 credit hours (2 offerings) should be from CHM 430, Special Topics in Biochemistry, or CHM 436		6
CHM 430	Topics in Biochemistry	
CHM 436	Principles in Fermentation	
The remaining topics can be chosen from:		
CHM 411	Learning Theories in Chemistry	
CHM 415	Misconceptions in Chemistry	
CHM 417	Advanced Inorganic Chemistry	
CHM 419	Synthesis Lab	
CHM 425	Advanced Organic Chemistry	

CHM 426	Spectroscopic Identification of Structure	
CHM 429	Polymer Chemistry	
CHM 450	Topics in Organic Chemistry	
CHM 454	Instrumental Analysis	
CHM 456	Chemical Measurements II	
CHM 460	Topics in Analytical Chemistry	
Related Hours (27-28 required)		
MTH 151	Calculus I	4
MTH 251	Calculus II	4-5
or MTH 249	Calculus II	
PHY 191	General Physics with Laboratory I	5
PHY 192	General Physics with Laboratory II	5
Additional Courses		
Select a minimum of three credit hours in mathematics or statistics from the following:		3
MTH 222	Introduction to Linear Algebra	
MTH 231	Elements of Discrete Mathematics	
MTH 245	Differential Equations for Engineers	
MTH 252	Calculus III	
MTH 347	Differential Equations	
STA 301	Applied Statistics	
or STA 333	Nonparametric Statistics	
or STA 363	Introduction to Statistical Modeling	
BIO 466	Bioinformatics Computing Skills	
Select a minimum of six hours of the following:		6
BIO/MBI 116	Biological Concepts: Structure, Function, Cellular, and Molecular Biology	
BIO 203	Introduction to Cell Biology	
BIO 342	Genetics	
BIO/MBI 485	Bioinformatics Principles	
PHY 421	Molecular and Cellular Biophysics	
PHY 422	Physics for Medicine and Biology	
Total Credit Hours		71-73

¹ CHM 471 & CHM 472 are preferred

Biology- Bachelor of Arts

For information, contact the Department of Biology, 212 Pearson Hall, 513-529-3100.

Biology is a natural science concerned with the study of life and living organisms. The biology major can be tailored to meet the needs of students interested in the health sciences, animal or plant physiology, cell and molecular biology, ecology or environmental studies, or evolution and systematics. It is possible to complete a Biology Major while earning either the Bachelor of Arts or Bachelor of Science.

Students may not double major in Biology and Botany, or in Biology and Zoology.

Program Requirements

(32 semester hours, plus 17 related hours)

Code	Title	Credit Hours
------	-------	--------------

Core Courses

BIO/MBI 115	Biological Concepts: Ecology, Evolution, Genetics, and Diversity	4
BIO/MBI 116	Biological Concepts: Structure, Function, Cellular, and Molecular Biology	4

Advanced Course Requirements ¹ **24**

Select three of the following:

BIO 203	Introduction to Cell Biology	
BIO 206	Evolutionary Biology	
or BIO 204	Evolution of Plant Biodiversity: Genes to Biosphere	
BIO 209	Fundamentals of Ecology	
BIO 342	Genetics	

Laboratory Course Requirement:

Select at least one advanced course with a laboratory component ²

Related Courses

One year of chemistry: 10-11

First Term:

CHM 141 College Chemistry
or CHM 141R College Chemistry
or CHM 141H College Chemistry

and

CHM 144 College Chemistry Laboratory
or CHM 144M College Chemistry Laboratory for Majors

Second Term:

CHM 142 College Chemistry
or CHM 142H College Chemistry
or CHM 142M College Chemistry for Majors

and

CHM 145 College Chemistry Laboratory
or CHM 145M College Chemistry Laboratory

One course in Statistics 3-4

Select related courses chosen from ATH, CHM, CIT, CPB, CSE, ENV, GLG, GEO, IES, MTH, MBI, PHY or STA

¹ The remaining 24 semester hours must be fulfilled by taking courses at the 200 level or above. Advanced microbiology (MBI) courses and IES 275 can count for up to nine semester hours of this requirement. No more than three semester hours of independent study/research/internship may apply to the major. At least one 400 level course (minimum three semester hours) must be taken.

² Three semester hours of independent research, taken at the 200-level or above, can be used in lieu of a formal course to fulfill this laboratory requirement

Students seeking the Bachelor of Arts in Biology meet the College of Arts and Science writing in the major requirement by completing the following courses: two W Biology courses at the 200- or 300-level and one biology W course at the 400-level. As an alternative to the 400-level course, students may complete an independent study that includes technical science writing. Upon completion of an independent study, the student must submit, with the signed support

of a faculty member, a letter of certification indicating that s/he has successfully completed the technical science writing requirement.

Biology- Bachelor of Science

For information, contact the Department of Biology, 212 Pearson Hall, 513-529-3100.

Biology is a natural science concerned with the study of life and living organisms. The biology major can be tailored to meet the needs of students interested in the health sciences, animal or plant physiology, cell and molecular biology, ecology or environmental studies, or evolution and systematics. It is possible to complete a Biology Major while earning either the Bachelor of Arts or Bachelor of Science.

Students may not double major in Biology and Botany, or in Biology and Zoology.

Program Requirements

(40 semester hours, plus 33 related hours)

Code	Title	Credit Hours
------	-------	--------------

Core Courses

BIO/MBI 115	Biological Concepts: Ecology, Evolution, Genetics, and Diversity	4
BIO/MBI 116	Biological Concepts: Structure, Function, Cellular, and Molecular Biology	4

Advanced Course Requirements ¹ **32**

BIO 203	Introduction to Cell Biology	3
BIO 206	Evolutionary Biology	3-4
or BIO 204	Evolution of Plant Biodiversity: Genes to Biosphere	
BIO 209	Fundamentals of Ecology	3
BIO 342	Genetics	3

Laboratory Course Requirement:

Select at least two advanced courses with a laboratory component ²

Plant-focused Courses:

Select at least one of the following: 3-4

BIO 204 Evolution of Plant Biodiversity: Genes to Biosphere

BIO 205 Dendrology

BIO 221 Plant Propagation

BIO 244 Viticulture and Enology

BIO 302 Plant Taxonomy

BIO 306 Basic Horticulture

BIO 314 Plant Diversity

BIO 402 Plant Anatomy

BIO 425 Environmental Plant Physiology

BIO/GEO 431 Global Plant Diversity

BIO 433 Field Ecology

BIO 438 Soil Ecology and Sustainable Use

Animal Focused Courses:

Select at least one of the following: 3-4

BIO 201 Human Anatomy

BIO 305 Human Physiology

BIO 311	Vertebrate Zoology
BIO 312	Invertebrate Zoology
BIO 361	Patterns in Development
BIO 407	Ichthyology
BIO 408	Ornithology
BIO 410	Mammalogy
BIO 449	Biology Of Cancer
BIO 453	Animal Physiological Ecology
BIO 454	Endocrinology
BIO 457	Neuroanatomy
BIO 465	Animal Behavior
BIO 469	Neurophysiology

Related Courses **33**

Two years of chemistry are required: 10-11

First Term:

CHM 141	College Chemistry or CHM 141R College Chemistry or CHM 141H College Chemistry
---------	---

and

CHM 144	College Chemistry Laboratory or CHM 144N College Chemistry Laboratory for Majors
---------	---

Second Term:

CHM 142	College Chemistry or CHM 142H College Chemistry or CHM 142N College Chemistry for Majors
---------	--

and

CHM 145	College Chemistry Laboratory or CHM 145N College Chemistry Laboratory
---------	--

Select one of the following options: 8-10

Option 1:

CHM 241 & CHM 244	Organic Chemistry and Organic Chemistry Laboratory
----------------------	---

CHM 242 & CHM 245	Organic Chemistry and Organic Chemistry Laboratory
----------------------	---

Option 2:

CHM 231 & CHM 332 & CHM 332L	Fundamentals of Organic Chemistry and Outlines of Biochemistry and Outlines of Biochemistry Lab
------------------------------------	---

One semester of physics: 4-5

PHY 161 or PHY 191	Physics for the Life Sciences with Laboratory I General Physics with Laboratory I
-----------------------	---

Select one statistics and one calculus course 7-9

Select one microbiology course (200 level or above) 3-4

¹ The remaining 32 semester hours must be fulfilled by taking biology courses at 200 level or above. Advanced microbiology (MBI) courses and IES 275 can count for up to nine semester hours of this requirement. No more than three semester hours of independent study/research/internship may apply to the major. At least one 400 level course (minimum three semester hours) must be taken.

² Three semester hours of independent research can be used in lieu of one of these courses

Botany- Bachelor of Arts

For information, contact the Department of Biology, 212 Pearson Hall, 513-529-3100.

Students may double major in Botany and Zoology, but in that case only nine credits of the Advanced Hours requirement may be used for both degrees.

Minors in Horticulture, Molecular Biology, and/or the Co-major in Environmental Science may be completed along with the A.B. to obtain an emphasis in these areas.

Program Requirements

(30 semester hours, 22 hours must be advanced; plus 12 related hours)¹

Code	Title	Credit Hours
Select one of the following options:		7-8
Option A:		
BIO/MBI 115	Biological Concepts: Ecology, Evolution, Genetics, and Diversity	
BIO/MBI 116	Biological Concepts: Structure, Function, Cellular, and Molecular Biology	
Option B:		
BIO 191	Plant Biology	
Plus any BIO or MBI course from the Science and Society Perspective area in the Miami Plan		
Select the following:		
BIO 204	Evolution of Plant Biodiversity: Genes to Biosphere	4
Select one of the following 200 level W courses:		3
BIO 203	Introduction to Cell Biology	
BIO 206	Evolutionary Biology	
BIO 209W		
Select at least two core plant biology courses:		8
BIO 205	Dendrology	
BIO 302	Plant Taxonomy	
BIO 314	Plant Diversity	
BIO 402	Plant Anatomy	
BIO 425	Environmental Plant Physiology	
Select at least one of the following courses in applied botany:		3-4
BIO 221	Plant Propagation	
BIO 241	Botanical Principles in Landscape Gardening	
BIO 244	Viticulture and Enology	
BIO 306	Basic Horticulture	
IES 278	Introduction to Food Systems ²	
Select up to 3 credit hours of Independent Study/Research/Internship		0-3
BIO 277	Independent Studies	
BIO 320	Directed Research	
BIO 340	Internship	

BIO 377	Independent Studies	
BIO 477	Independent Studies	
Select from the courses listed below to reach the required 30 hours:		0-5
BIO 203	Introduction to Cell Biology	
BIO 209	Fundamentals of Ecology	
BIO 256	Introduction to Programming for the Life Sciences	
or CSE 256	Introduction to Programming for the Life Sciences	
or MBI 256	Introduction to Programming for the Life Sciences	
BIO 342	Genetics	
BIO 351	Environmental Education: Focus on Natural History	
BIO 422	Evolutionary and Population Genetics	
BIO 431	Global Plant Diversity	
or GEO 431	Global Plant Diversity	
BIO 433	Field Ecology	
BIO 438	Soil Ecology and Sustainable Use	
BIO 444	Molecular Biology	
BIO 464	Laboratory in Cell and Molecular Biology	
BIO 466	Bioinformatics Computing Skills	
BIO 467	Conservation Biology	
BIO 480	Departmental Honors	
BIO 481	Theory of Electron Microscopy	
BIO 482	Scanning Electron Microscopy Laboratory	
BIO 483	Transmission Electron Microscopy Laboratory	
BIO 485	Bioinformatics Principles	
BIO 491	Seminar in Biology	

Related Hours

A course in CHM of 3 credit hours or more, plus other courses from the departments of CHM, CSE, IES, GEO, GLG, MTH, MBI, PHY, or STA³ 12

Total Credit Hours 42

¹ One course must be at the 300 or 400 level. No more than three hours of research/internship may count toward the major.

² IES 278L encouraged.

³ It is recommended students take at least one course in statistics, in particular STA 261 or STA 301.

Note: For graduate study in biological sciences, most programs require genetics, organic chemistry, and/or biochemistry; many require calculus and/or statistics, and some require a physics sequence.

Students seeking the Bachelor of Arts in Botany meet the College of Arts and Science writing in the major requirement by completing the following courses: two W Biology courses at the 200- or 300-level and one biology W course at the 400-level. As an alternative to the 400-level course, students may complete an independent study that includes technical science writing. Upon completion of an independent study, the student must submit, with the signed support

of a faculty member, a letter of certification indicating that s/he has successfully completed the technical science writing requirement.

Botany- Bachelor of Science

For information, contact the Department of Biology, 212 Pearson Hall, 513-529-3100.

Students may double major in Botany and Zoology, but in that case only nine credits of the Advanced Hours requirement may be used for both degrees.

The Minor in Horticulture, Minor in Molecular Biology and/or the Co-major in Environmental Science may be completed along with the B.S. to obtain an emphasis in these areas.

Program Requirements: Basic Major Program Requirements

(40 BIO semester hours, 28 must be advanced hours; 23-34 related hours)

Code	Title	Credit Hours
Core Courses		
Select one of the following options:		7-8
Option A:		
BIO 115	Biological Concepts: Ecology, Evolution, Genetics, and Diversity	
BIO 116	Biological Concepts: Structure, Function, Cellular, and Molecular Biology	
Option B:		
BIO 191	Plant Biology	
Plus any BIO or MBI course from the Science and Society Perspective area in the Miami Plan		
Select the following:		
BIO 203	Introduction to Cell Biology	3
BIO 204	Evolution of Plant Biodiversity: Genes to Biosphere	4
BIO 209	Fundamentals of Ecology	3
Select at least two core plant biology courses:		8
BIO 205	Dendrology	
BIO 302	Plant Taxonomy	
BIO 314	Plant Diversity	
BIO 402	Plant Anatomy	
BIO 425	Environmental Plant Physiology	
Select at least one course in applied botany:		3-4
BIO 221	Plant Propagation	
BIO 241	Botanical Principles in Landscape Gardening	
BIO 244	Viticulture and Enology	
BIO 306	Basic Horticulture	
IES 278	Introduction to Food Systems (IES 278L encouraged)	
Select up to 3 credit hours of Independent Study/Research/Internship		0-3
BIO 277	Independent Studies	

BIO 320	Directed Research
BIO 340	Internship
BIO 377	Independent Studies
BIO 477	Independent Studies

Select from unused courses above or from the following additional courses to equal 40 BIO hours, 28 of which must be at/above the 200-level: 12-10

BIO/CSE/MBI 256	Introduction to Programming for the Life Sciences
BIO 342	Genetics
BIO 351	Environmental Education: Focus on Natural History
BIO 400	Capstone Seminar: Contemporary Issues in Biology
BIO 422	Evolutionary and Population Genetics
BIO 431	Global Plant Diversity
BIO 438	Soil Ecology and Sustainable Use
BIO 444	Molecular Biology
BIO 464	Laboratory in Cell and Molecular Biology
BIO 466	Bioinformatics Computing Skills
BIO 467	Conservation Biology
BIO 480	Departmental Honors
BIO 481	Theory of Electron Microscopy
BIO 483	Transmission Electron Microscopy Laboratory
BIO 482	Scanning Electron Microscopy Laboratory
BIO 485	Bioinformatics Principles
BIO 491	Seminar in Biology

Related Hours

Take the following: 17-20

CHM 141 & CHM 144	College Chemistry and College Chemistry Laboratory
CHM 142 & CHM 145	College Chemistry and College Chemistry Laboratory
CHM 145	College Chemistry Laboratory
CHM 231 or CHM 241 & CHM 244	Fundamentals of Organic Chemistry and Organic Chemistry Laboratory
CHM 363 & CHM 364 or CHM 332 or CHM 432	Analytical Chemistry and Analytical Chemistry Laboratory and Outlines of Biochemistry and Fundamentals of Biochemistry

Select one of the following: 3-10

PHY 161 & PHY 162	Physics for the Life Sciences with Laboratory I and Physics for the Life Sciences with Laboratory II
PHY 191 & PHY 192	General Physics with Laboratory I and General Physics with Laboratory II
GLG 111	The Dynamic Earth
GLG 121	Environmental Geology
GLG 141	Geology Of U.S. National Parks
GEO 121	Earth's Physical Environment

Select one of the following: 3-4

STA 261	Statistics
STA 301	Applied Statistics
STA 462	Inferential Statistics

Total Credit Hours 63-77

Note: At least one course in the Major must be at the 400 level. No more than three hours of research/internship may count toward the major.

Note: For graduate study in biological sciences, most programs require genetics and some may require a physics sequence.

Chemistry- Bachelor of Arts

For information, contact the Department of Chemistry and Biochemistry, 160 Hughes Laboratories, 513-529-2813.

This program is for students interested in a career in the life or health sciences, physical sciences related to chemistry, or in teaching chemistry in secondary school. Students who anticipate graduate study in chemistry should elect the B.S. Chemistry Program. Chemistry and required related courses cannot be taken on a credit/no-credit basis.

Program Requirements

(32 semester hours, plus 26-29 related hours)

Code	Title	Credit Hours
Core courses		
Select one of the following:		3
CHM 141	College Chemistry	
CHM 141H	College Chemistry	
CHM 141R	College Chemistry	
Select one of the following:		3
CHM 142	College Chemistry	
CHM 142M	College Chemistry for Majors	
CHM 142H	College Chemistry	
Select one of the following:		2
CHM 144M	College Chemistry Laboratory for Majors	
CHM 144	College Chemistry Laboratory (with approval)	
Select one of the following:		2
CHM 145M	College Chemistry Laboratory	
CHM 145	College Chemistry Laboratory (with approval)	
Select the following:		6
CHM 251 & CHM 252	Organic Chemistry for Chemistry Majors and Organic Chemistry for Chemistry Majors	
or CHM 241 & CHM 242	Organic Chemistry and Organic Chemistry	

CHM 254 & CHM 255	Organic Chemistry Laboratory for Chemistry Majors and Organic Chemistry Laboratory for Chemistry Majors	4
CHM 375	Analytical Chemistry for Majors	3
CHM 451 or CHM 471	Physical Chemistry for Chemistry Majors ¹ Biophysical Chemistry I	3
CHM 452 or CHM 472	Physical Chemistry for Chemistry Majors Biophysical Chemistry II	3
CHM 491 or CHM 492	Chemistry in Societal Issues Independent Research Capstone in Chemistry	3

Related Hours

MTH 151	Calculus I	4
MTH 251 or MTH 249	Calculus II Calculus II	4-5
PHY 191 or PHY 161	General Physics with Laboratory I Physics for the Life Sciences with Laboratory I	4-5
PHY 192 or PHY 162	General Physics with Laboratory II Physics for the Life Sciences with Laboratory II	4-5

Additional Science Courses

Select nine credit hours at 200 level or above in any of the following departments: BIO, CHM, CSE, CPB, GLG, ISA, MBI, MME, PHY and STA. 9

Choices can also be made from the following:

MTH 222	Introduction to Linear Algebra	
MTH 231	Elements of Discrete Mathematics	
MTH 245	Differential Equations for Engineers	
MTH 252	Calculus III	
MTH 347	Differential Equations	

Total Credit Hours **57-60**

¹ CHM 451 and CHM 452 are preferred.

Students seeking the Bachelor of Arts in Chemistry meet the College of Arts and Science writing in the major requirement by completing the following course: CHM 375.

Chemistry- Bachelor of Science

For information, contact the Department of Chemistry and Biochemistry, 160 Hughes Laboratories, 513-529-2813.

This program is usually chosen by students who want to enter the chemical industry or graduate school in chemistry, biochemistry, or related areas. Chemistry and required related courses cannot be taken on a credit/no-credit basis.

Program Requirements

Program Requirements

(46 semester hours, plus 22-23 related hours)

Code	Title	Credit Hours
Core courses		
Select one of the following:		3-4
CHM 141	College Chemistry	
CHM 141H	College Chemistry	
CHM 141R	College Chemistry	
Select one of the following:		3
CHM 142	College Chemistry	
CHM 142M	College Chemistry for Majors	
CHM 142H	College Chemistry	
Select one of the following:		2
CHM 144M	College Chemistry Laboratory for Majors	
CHM 144	College Chemistry Laboratory (with approval)	
Select one of the following:		2
CHM 145M	College Chemistry Laboratory	
CHM 145	College Chemistry Laboratory (with approval)	
Select the following:		
CHM 251 & CHM 252	Organic Chemistry for Chemistry Majors and Organic Chemistry for Chemistry Majors	6
or CHM 241 & CHM 242	Organic Chemistry and Organic Chemistry	
CHM 254 & CHM 255	Organic Chemistry Laboratory for Chemistry Majors and Organic Chemistry Laboratory for Chemistry Majors	4
CHM 375	Analytical Chemistry for Majors	3
CHM 451 or CHM 471	Physical Chemistry for Chemistry Majors ¹ Biophysical Chemistry I	3
CHM 452 or CHM 472	Physical Chemistry for Chemistry Majors ¹ Biophysical Chemistry II	3
CHM 491 or CHM 492	Chemistry in Societal Issues Independent Research Capstone in Chemistry	3
Advanced Chemistry Coursework		
Select 10 advanced credit hours in CHM at the 200 level or above. At least one advanced class must be an advanced lab courses (2 credits).		10
Advanced lab courses. Select one.		
CHM 419	Synthesis Lab	
CHM 456	Chemical Measurements II	
CHM 438	Biochemistry Laboratory	
Select at least eight additional hours from the following:		
CHM 417	Advanced Inorganic Chemistry	
CHM 411	Learning Theories in Chemistry	
CHM 415	Misconceptions in Chemistry	
CHM 425	Advanced Organic Chemistry	
CHM 426	Spectroscopic Identification of Structure	

CHM 429	Polymer Chemistry
CHM 430	Topics in Biochemistry
CHM 432	Fundamentals of Biochemistry
CHM 450	Topics in Organic Chemistry
CHM 454	Instrumental Analysis
CHM 460	Topics in Analytical Chemistry

Advanced Cognate Coursework **3**

Select three credit hours at 200 level or above in any of the following departments: BIO, CHM, CPB, CSE, GLG, ISA, MBI, MME, or PHY. Courses can be selected from MTH or STA but must not include the required courses (Calc I, Calc II, plus one other MTH/STA) listed below

Choices can also be made from the following:

ACC 211	Accounting for the Non-Business Major (Advanced Chemistry/Cognate Coursework)
CJS 235	Forensic Science Survey
CJS 272	Forensic and Crime Scene Evidence
ECO 201	Principles of Microeconomics
KNH 304	

Related Hours (22-24 required)

MTH 151	Calculus I	4
MTH 251	Calculus II	4-5
or MTH 249	Calculus II	
PHY 191	General Physics with Laboratory I	5
PHY 192	General Physics with Laboratory II	5
Additional Courses (minimum of 3 hours in mathematics or statistics):		3-4
MTH 222	Introduction to Linear Algebra	
MTH 231	Elements of Discrete Mathematics	
MTH 245	Differential Equations for Engineers	
MTH 252	Calculus III	
MTH 347	Differential Equations	
STA 301	Applied Statistics	
or STA 333	Nonparametric Statistics	
or STA 363	Introduction to Statistical Modeling	

Total Credit Hours **66-69**

¹ CHM 451 and CHM 452 are preferred.

Classical Studies- Bachelor of Arts

For information, contact the Department of French, Italian, and Classical Studies, 207 Irvin Hall, 513-529-7508.

Classics draws on the study of literature, art, archaeology, philosophy, history, political theory, law, medicine, and religion to understand the societies of ancient Greece and Rome in their broader Mediterranean context. Foundation courses introduce students to classical mythology and Greek and Roman civilization. Upper-level seminars explore topics such as gender and sexuality, ancient religion, race and ethnicity, law and medicine, ancient cities, drama and spectacle. Today concepts in the Classics continue to influence debates about self and state, and appear regularly in modern popular culture. Courses in

the department examine topics like the representation of classical antiquity in Hollywood film and the reception of classical thought and literature in Russia and colonial America. This major gives you a broad spectrum of classical culture and humanities courses with the option of an emphasis on study in classical languages.

The study of ancient Greek and Latin has provided the foundation of classical education for centuries. The study of classical languages fosters the development of skills that remain essential for today's students, including an enhanced ability to process and apply detailed information through memorization and textual analysis. At the same time, reading the work of ancient authors in their own language provides unprecedented access to ancient Greek and Roman culture on its own terms. The study of Latin greatly facilitates students' acquisition of other Romance languages, while Greek is the language of the Christian Bible. Finally, the study of Greek and Latin expands students' English vocabulary by introducing them to English word roots, while giving students' invaluable exposure to key terminology in a range of professions, not least medicine and law.

Students interested in the study of ancient Greek should consult the Department.

Program Requirements

(36-38 semester hours)

Code	Title	Credit Hours
------	-------	--------------

Core Courses (minimum 6 semester hours) **6-8**

Option 1: Select 2 of the following (6 hours)

CLS 101	Greek Civilization in its Mediterranean Context
CLS 102	Roman Civilization: From City to Empire
CLS 121	Introduction to Classical Mythology

Option 2: 2 GRK courses OR 2 LAT courses at 100-200 level (6-8 hours)

Advanced Courses (21 semester hours) **21**

Select 21 additional semester hours from the following, including at least one CLS course at the 300 level.

Any CLS, GRK, or LAT course 200 or above	
ART 382	Greek and Roman Sculpture
ART 383	Greek and Roman Painting
ART 384	Greek and Roman Decorative Arts
PHL 301	Ancient Philosophy

Capstone, choose the following: **3**

CLS/FRE/ITL 425	Senior Seminar
-----------------	----------------

Related Hours: **6**

Choose from such areas as anthropology, architecture, art, history, language, literature, philosophy, and religion to make up an integrated plan of study in Classical Studies. Up to four hours of Greek or Latin at the 100 level may be counted toward this requirement if not counted in Option 2 above. You must obtain the written approval of your Chief Departmental Advisor for any related hours courses.

Total Credit Hours **36-38**

College of Arts & Science Writing Requirement (CAS-W) can be met with any CLS 300 level course.

By permission of the instructor and provided that they meet the program eligibility requirements, students may also earn up to 3 credits towards the major by serving as an Undergraduate Associate in a 100 or 200-level class. This experience is especially recommended for students considering a career in education. See the CDA for details.

Graduate work in Classics, Greek, Latin or Classical Archaeology requires not only appropriate experience reading Greek and Latin, but a reading knowledge of French or German as well. Students planning to go to graduate school should consult with the department as early as possible to design an appropriate course of study.

Critical Race and Ethnic Studies - Bachelor of Arts

For information, contact the program advisor in the Department of Global and Intercultural Studies, 120 MacMillan Hall, 513-529-5333.

The **Critical Race and Ethnic Studies** major fosters the critical and interdisciplinary study of race, ethnicity, and/or indigeneity in an increasingly interconnected world. Students develop a deep understanding of the particular historical, social, cultural, and political experiences of individual racialized groups within and beyond the United States, as well as the relations among them. Students choose one of three tracks: they may focus on one social group, or compare two of these groups, or create a self-designed thematic approach.

Program Requirements

(30 semester hours)

Code	Title	Credit Hours
Core Courses		
CRE 151	Introduction to Critical Race and Ethnic Studies	3
AAA/CRE/LAS/WGS 211	Writing with Purpose: Interdisciplinary Inquiry and Communication	3
GIC 421	Critical Race and Post-Colonial Studies	3
Capstone Requirement		3
Take any capstone in the department of Global and Intercultural Studies		
Tracks		18
Students are required to complete one track; see below for full course lists		
A: Social Group Track		
Take 18 credits from one of the following groups: African and African Diaspora Studies, Latina/o Studies, Asian American/Asian Studies, Native Indigeneity Studies; at least two courses must be 300-level or above		
B: Comparative Race and Ethnicity Track		
Take 9 credits from one social group and 9 credits from a second social group, as listed above in A; at least once course from each group must be 300-level or above		

C: Self-Designed Track

A proposal for a self-designed track that includes 18 credits of coursework must be submitted to the CDA for approval; at least two courses must be 300-level or above

Total Credit Hours **30**

African / African Diaspora Studies

Social Group Emphasis: Societies of Africans and peoples of African descent in the diaspora

Code	Title	Credit Hours
ART 276	Introduction to the Art of the Black Diaspora	3
ATH 307	The Middle East: Anthropological Perspectives	3
CRE 156	Introduction to Africa	4
CRE 181	Introduction to Civil Rights and Social Movements	1
CRE 182	Human Rights & Social Movements	1
CRE 221	African-American History	3
CRE 222	Race and Ethnicity in Antiquity	3
CRE 224	Africa to 1884	3
CRE 225	The Making of Modern Africa	3
CRE 243	History of the Atlantic Slave Trade, 1400s to 1800s	3
CRE 248	African-American Experience	3
CRE 265	Critical Inquiry: Penny Lecture Series	2
CRE 279	African Americans in Sport	3
CRE 301	Geography of Sub-Saharan Africa	4
CRE 325	Identity, Race, Gender, Class	3
CRE 335	Arts of West Africa	3
CRE 336	African American Writing, 1746-1877	3
CRE 337	African American Writing, 1878-1945	3
CRE 338	African American Writing, 1946-Present	3
CRE 343	African-American Religions	3
CRE 348	Race and Ethnic Relations	3
CRE 362	Family Poverty	3
CRE 370	Selected Topics/Black World Studies	3
CRE 381	Afro-Brazilian Diaspora Through Film and Arts	3
CRE 385	Race, Science, and Disease in the Americas	3
CRE 386	Race in U.S. Society	3
CRE 401	Race and Criminal Justice	3
CRE 402	Engaged Learning Practicum	1-6
CRE 432	Feminism and the Diaspora: U.S. Women of Color	3
CRE 437	Black Feminist Studies	3
EDL 203	Introduction to Critical Youth Studies	3
GEO 455	Race, Urban Change, and Conflict in America	3

MUS/AMS 285	Introduction to African American Music	3
MUS/AMS 386	The History and Development of Hip Hop Culture in America	3
PSY 210	Psychology Across Cultures	3

Latina/o Studies

Social Group Emphasis: Latina/o populations in the United States and their diaporas

Code	Title	Credit Hours
AMS 207	America: Global and Intercultural Perspectives	3
ATH 185	Cultural Diversity in the U.S.	3
ENG 348	Ethnic American Literatures	3
HST/CRE 386	Race in U.S. Society	3
LAS/ENG 254	Caribbean, Latin American and Latinx Literatures	3
LAS 215	Latin America in the United States	3
LAS/AMS 315	Latin American Diaspora: Communities, Conditions and Issues	3
LAS/ATH/CRE/WGS 325	Identity, Race, Gender, Class	3
LAS 332	Latin American Popular Culture	3
SJS 215	EMPOWER I: Educational and Economic Justice and Service-Learning	3

Asian / Asian American Studies

Social Group Emphasis: Societies of Asians and peoples of Asian descent in the diaspora.

Code	Title	Credit Hours
AAA 201	Intro to Asian/ Asian Amer	3
AAA 203	Global Religions of India	3
AAA 207	Asia and Globalization	3
AAA 210	Psychology Across Cultures	3
AAA 248	Asian American Literature	3
AAA 249	Asian & Asian American Cinema	3
AAA 269	Colonial & Postcolonial Literature	3
AAA 351	Cultural Politics of Gender and Sexuality in Asian/America	3
EDL 334	Transnational Youth Cultures	3
TCE 202	Global Childhood Education: Diversity, Education & Society	3
TCE 205	Race, Cultural Diversity, and Equity in Education	3

Native / Indigeneity Studies

Social Group Emphasis: Native Nations and Indigenous peoples around the world

Code	Title	Credit Hours
AMS 301	American Identities (Native American Communities)	3

ATH 304	Native North America: Anthropological Perspectives	3
ATH 312	North American Archaeology	3
ATH 313	Latin American Archaeology	3
ATH 364	Language and Culture in Native North America	3
ENG/AMS 246	Native American Literature	3
GEO/WGS 309	Native American Women	3
GEO/WGS 406	Indigenous Peoples and Their Sacred Lands	3
GIC 360	Topics in Global and Intercultural Studies ((Global Indigeneity))	3
HST/AMS 371	Native American History to 1840	3
HST 372	Native American History since 1840	3
IDS 259	Introduction to the Miami Tribe of Oklahoma	3

Students seeking the BA in Critical Race and Ethnic Studies will meet the CAS Writing in the Major requirement by completing the following course: AAA/CRE/LAS/WGS 211.

Data Analytics - Bachelor of Arts

For information, contact the Department of Statistics, 311 Upham Hall, 513-529-7828.

Data Analytics combines statistical methods, programming skills and deep knowledge in a field of application to extract meaning from large, unstructured or complex data sets with the goal of informing policy, decisions, or scholarly research. Students select a concentration in one of four areas of application:

- Bioinformatics
- Geospatial Analytics
- Social Data Analytics
- Sport Analytics

Students majoring in the Geospatial Analytics concentration may not co-major in Analytics or, if pursuing the GIS certificate, no more than nine (9) hours may be applied to both programs. Students majoring in the Bioinformatics concentration may not minor in Bioinformatics. Students majoring in the Sport Analytics concentration may not minor in Sport Analytics. Students majoring in the Social Data Analytics concentration may count no more than nine (9) credit hours toward this major and a major in Political Science, Gerontology, or Sociology, and they may count no more than six (6) credit hours toward a minor in Political Science, Gerontology or Sociology.

Program Requirements

Prerequisites for this program include:

- Introductory Statistics (AP Statistics, STA 261, STA 301, or ISA 225);
- Precalculus (MTH 104 or MTH 123 or MTH 125) or Calculus 1 (AP Calculus or MTH 141 or MTH 151) or an ACT Math score of at least 26 or an SAT Math score of at least 600 or at least 16 on the Miami International Math Placement Test.

Code	Title	Credit Hours
------	-------	--------------

Core Courses - required for all concentrations

MTH 133	Mathematical Foundations of Data Analytics	3-4
or STA 250	Basic Math for Analytics	
or ISA 250	Basic Math for Analytics	

STA/POL 308	Introduction to Programming and Scripting for Data Analytics	3
-------------	--	---

STA 363	Introduction to Statistical Modeling	3
or ISA 291	Applied Regression Analysis in Business	
or POL 306	Applied Research Methods	

STA 309	Building, Managing and Exploring Data Sets in Analytics	3
---------	---	---

ENG/STC 285	Professional Communication for Data Analytics	3
-------------	---	---

Select one of the following: 3

CSE/CIT 262	Technology, Ethics, and Global Society	
-------------	--	--

ENG/IMS/JRN 424	Ethics and Digital Media	
-----------------	--------------------------	--

MJF 301	Media Law and Ethics	
---------	----------------------	--

PHL 131	Introduction to Ethics	
---------	------------------------	--

PHL 205	Science and Culture	
---------	---------------------	--

PHL/HST/GIC 286	Data, Ethics, and Society	
-----------------	---------------------------	--

Concentration 18-19

Select one of the concentrations shown below.

Students may not select multiple concentrations.

Total Credit Hours 36-38**Concentration in Bioinformatics**

Code	Title	Credit Hours
------	-------	--------------

BIO/MBI 116	Biological Concepts: Structure, Function, Cellular, and Molecular Biology	4
-------------	---	---

BIO/CSE/MBI 256	Introduction to Programming for the Life Sciences	3
-----------------	---	---

BIO/CHM/CSE/MBI 466	Bioinformatics Computing Skills	3
---------------------	---------------------------------	---

BIO/CSE/MBI 485	Bioinformatics Principles	3
-----------------	---------------------------	---

BIO, MBI or CHM at the 200-level or above (BIO 342, MBI 365 or BIO 444 are recommended).		6
--	--	---

Total Credit Hours 19**Concentration in Geospatial Analytics**

Code	Title	Credit Hours
------	-------	--------------

Select one of the following: 3-4

GEO 101	Global Forces, Local Diversity	
---------	--------------------------------	--

GEO 121	Earth's Physical Environment	
---------	------------------------------	--

GEO 122	Geographic Perspectives on the Environment	
---------	--	--

GEO 201	Geography of Urban Diversity	
---------	------------------------------	--

GLG 261	Geohazards and the Solid Earth	
---------	--------------------------------	--

Select all of the following:

GEO 242	Mapping a Changing World	3
---------	--------------------------	---

GEO 441	Geographic Information Systems	3
---------	--------------------------------	---

GEO 442	Advanced Geographic Information Systems	3
---------	---	---

GEO 448	Techniques and Applications of Remote Sensing	3
---------	---	---

Select one of the following: 3

GEO 443	Python Programming for Geospatial Applications	
---------	--	--

GEO 460	Advanced Systematic Geography	
---------	-------------------------------	--

Total Credit Hours 18-19**Concentration in Social Data**

Code	Title	Credit Hours
------	-------	--------------

Select one of the following two emphases: 9

Political Science emphasis

Select one of the following:

POL 221	Comparative Politics	
---------	----------------------	--

POL 241	American Political System	
---------	---------------------------	--

POL 261	Public Administration	
---------	-----------------------	--

POL 271	World Politics	
---------	----------------	--

Select two more POL courses at the 300 or 400 level. No course may be counted for both the Political Science emphasis and the Advanced Data Courses requirement in this concentration.

Gerontology/Sociology emphasis

Select one of the following:

SOC 153	Sociology in a Global Context	
---------	-------------------------------	--

GTU 154	Aging in American Society	
---------	---------------------------	--

GTU 254	Global Aging	
---------	--------------	--

Select two of the following:

SOC 257	Population	
---------	------------	--

SOC 262	Research Methods	
---------	------------------	--

SOC/GTY 318	Social Forces and Aging	
-------------	-------------------------	--

SOC/GTY 357	Medical Sociology	
-------------	-------------------	--

GTU 365	Social Policy and Programs in Gerontology	
---------	---	--

GTU 440	Gerontology Capstone Internship	
---------	---------------------------------	--

GTU 456	Aging & Health	
---------	----------------	--

Advanced Data Courses

Select three of the following, with at least one at the 400 level: 9-10

GTU 362	Data & Decision Making in Aging	
---------	---------------------------------	--

POL 307	Public Opinion Laboratory	
---------	---------------------------	--

POL 365	Decision-Making in Public Affairs	
---------	-----------------------------------	--

GTU/POL 474	Using Large Datasets in the Social Sciences	
-------------	---	--

GTU 479	Research on Inequality in Aging & Health	
---------	--	--

POL/GTY 491	Social Network Analysis	
-------------	-------------------------	--

Total Credit Hours 18-19

Concentration in Sport Analytics

Code	Title	Credit Hours
SLM 273	Sport Communication & Media	3
SLM 275	Introduction to Sport Analytics	3
SLM 413	Sport Economics	3
SLM 416	Sport Marketing	3
SLM 418	Applied Sport Analytics	3
SLM 472	Sport Administration	3
Total Credit Hours		18

Note: Students seeking the major in Data Analytics meet the College of Arts and Science Writing Requirement by taking ENG 285/STC 285.

Data Science and Statistics- Bachelor of Science

For information, contact the Department of Statistics (statistics@miamioh.edu), 311 Upham Hall, 513-529-7828.

Data Science and Statistics combines knowledge of concepts from statistics and computer science to extract meaning from data to inform evidence-based decisions. Students select a concentration in statistics or in data science. The two concentrations share a core of coursework in mathematics, statistics and programming. The concentration in statistics develops skills for preparing and analyzing data in a wide variety of observational and experimental contexts. The concentration in data science focuses on methods needed for exploring, managing and analyzing complex or enormous data sets.

All STA courses and related-hours courses must be taken for grades rather than credit/no-credit. A GPA of at least 2.00 is required for the STA courses.

Students majoring in Data Science and Statistics may not minor in Statistics or Statistical Methods, nor major in Mathematics and Statistics. Students majoring in the Data Science concentration may not co-major in Analytics. Students selecting the Statistics concentration may select the Predictive Analytics track in the Analytics co-major **ONLY** if they include at least 9 credit hours from that track beyond what is needed to fulfill the requirements of the Statistics concentration.

Program Requirements

Prerequisites for this program include Introductory Statistics, Calculus 1, and Calculus 2.

Code	Title	Credit Hours
Core Courses - required for both concentrations		
CSE 174	Fundamentals of Programming and Problem Solving	3
MTH 252	Calculus III	4
MTH 222 or MTH 222T	Introduction to Linear Algebra	2-3
STA 363	Introduction to Statistical Modeling	3
STA 401	Probability	3
STA 402	Statistical Programming	3
STA 462	Inferential Statistics	3

STA 463	Regression Analysis	4
Concentration		
Select one of the two concentrations shown below		27-31
Total Credit Hours		52-57

Concentration in Data Science

Code	Title	Credit Hours
CSE 271	Object-Oriented Programming	3
CSE 274	Data Abstraction and Data Structures	3
CSE 385	Database Systems	3
STA 404	Advanced Data Visualization	3
STA 467	Statistical Learning	3

Select one of the following: 3

STA 427	Introduction to Bayesian Statistics	
STA 483	Analysis of Forecasting Systems	

Select three of the following: 9-10

BIO 466	Bioinformatics Computing Skills	
BIO 485	Bioinformatics Principles	
CSE 273	Optimization Modeling	
CSE 372	Stochastic Modeling	
CSE 432	Machine Learning	
CSE 485	Advanced Database Systems	
GEO 441	Geographic Information Systems	
GEO 442	Advanced Geographic Information Systems	
GTU/POL 491	Social Network Analysis	
ISA 414	Managing Big Data	
MTH 432	Optimization	
MTH 435	Mathematical Modeling Seminar	
MTH 438	Theory and Applications of Graphs	
MTH 439	Combinatorics	
STA 427	Introduction to Bayesian Statistics ¹	
STA 466	Experimental Design Methods	
STA 483	Analysis of Forecasting Systems ¹	

Total Credit Hours 27-28

¹ A Student completing both STA 427 and STA 483 can apply one to the three elective course requirement.

Concentration in Statistics (also requires a selection of Related Hours)

Code	Title	Credit Hours
STA 466	Experimental Design Methods	4
STA 475	Data Analysis Practicum	3
Select two of the following: 6		
STA 333	Nonparametric Statistics	
STA 365	Statistical Monitoring and Design of Experiments	
STA 404	Advanced Data Visualization	
STA 427	Introduction to Bayesian Statistics	
STA 432	Survey Sampling in Business	
STA 467	Statistical Learning	

STA 483	Analysis of Forecasting Systems	
Select one of the following, chosen so it is not also used for the related hours requirement:		3
CSE 273	Optimization Modeling	
CSE 274	Data Abstraction and Data Structures	
CSE 372	Stochastic Modeling	
CSE 432	Machine Learning	
ISA 414	Managing Big Data	
MTH 432	Optimization	
MTH 435	Mathematical Modeling Seminar	
Related Hours ¹		
Select one of the lists of related hours shown below ²		12-15
Total Credit Hours		28-31

¹ The related hours requirement for the concentration in Statistics is waived for students who complete the requirements for a major, co-major, or minor outside of the Department of Statistics.

² **Related Area Hour Reduction:** Some students may want to have the flexibility to include in their program an additional elective course in mathematics or statistics. To that end, the cluster of related courses required for the concentration in statistics can be reduced by up to 3 hours (of the 6 advanced hours) by taking the same number of hours in MTH or STA (numbered 400 or higher and not a service course). This decision is made in consultation with the Chief Departmental Advisor.

Related Hours Lists for the concentration in Statistics.

Actuarial Science (See the requirements for the Actuarial Sciences Minor also.)

Code	Title	Credit Hours
ACC 221	Introduction to Financial Accounting	3
ACC 222	Introduction to Managerial Accounting	3
ECO 201	Principles of Microeconomics	3
ECO 202	Principles of Macroeconomics	3
FIN 301	Introduction to Business Finance	3
See the requirements for the Actuarial Sciences Minor		
Total Credit Hours		15

Economics

Code	Title	Credit Hours
ECO 201	Principles of Microeconomics	3
ECO 202	Principles of Macroeconomics	3
ECO 317	Intermediate Macroeconomic Theory	3
ECO 418	Monetary Theory and Policy	3
Total Credit Hours		12

Computer Science and Software Engineering

Code	Title	Credit Hours
CSE 271	Object-Oriented Programming	3
CSE 274	Data Abstraction and Data Structures	3
Select one of the following:		3
CSE 252	Web Application Programming	

CSE 283	Data Communication and Networks	
Select three hours above the 174 level		3
Total Credit Hours		12

Geospatial Systems

Code	Title	Credit Hours
GEO 441	Geographic Information Systems	3
Select three of the following:		9
GEO 442	Advanced Geographic Information Systems	
GEO 443	Python Programming for Geospatial Applications	
GEO 444	GIScience Techniques in Landscape Ecology	
GEO 448	Techniques and Applications of Remote Sensing	
Total Credit Hours		12

Information Systems and Analytics

Code	Title	Credit Hours
ISA 235	Information Technology and the Intelligent Enterprise	3
ISA 245	Database Systems and Data Warehousing	3
ISA 401	Business Intelligence and Data Visualization	3
ISA 414	Managing Big Data	3
Total Credit Hours		12

Operations Research

Code	Title	Credit Hours
CSE 273	Optimization Modeling	3
CSE 372	Stochastic Modeling	3
Select two of the following:		6
MTH 432	Optimization	
MTH 435	Mathematical Modeling Seminar	
MTH 437	Game Theory and Related Topics	
MTH 438	Theory and Applications of Graphs	
MTH 439	Combinatorics	
Total Credit Hours		12

Other

Code	Title	Credit Hours
Create a related area ¹		12
Total Credit Hours		12

¹ 12 or more credit hours in any area, with at least 6 of the hours numbered 300 or higher (200 or higher in Chemistry, Physics, Engineering, or Computer Science and Software Engineering). Such program must be approved by the Chief Departmental Adviser *in advance of applying for graduation*.

Diplomacy and Global Politics- Bachelor of Arts

For information, contact the Department of Political Science, 218 Harrison Hall, 513-529-2000.

This program of concentration is designed primarily for students interested in understanding more about comparative and international politics. It is a major appropriate for those interested in international careers. It is also the kind of broad, liberal arts program that many pre-law students will want to consider. Additionally, it provides a solid background for graduate study in comparative politics and international relations.

This major requires that at least 17 of the 33 major hours and at least 9 of the 22 related hours must be earned at Miami. Required courses and related hours may not be taken on a credit/no-credit basis. A GPA of at least 2.00 is required for required courses as well as related hours.

Program Requirements

(Minimum 33 hours, plus 22-28 related hours)

Code	Title	Credit Hours
Core courses		
POL 221	Comparative Politics	3
POL 241	American Political System	3
POL 271	World Politics	3
Diplomacy and International Relations		
Select at least 9 hours of the following:		9
POL 346	Global Gender Politics	
POL 370	Topics in International Relations	
POL 372	Terrorism & Counterterrorism	
POL 373	American Foreign Policy	
POL 374	Foreign Policy Analysis	
POL 376	U.S. National Security Policy	
POL 381	Global Governance	
POL 382	International Law	
POL 387	International Security Issues	
POL 388	Politics of Cybersecurity	
Comparative Politics		
Select at least 9 hours of the following:		9
POL 385	Russian Foreign Policy	
POL 330	Topics in Comparative Politics	
POL 331	Communism and Soviet Politics, 1917-1991	
POL 333	Politics of Western Europe	
POL 334	Politics of Eastern Europe	
POL 336	Politics of the Middle East	
POL 337	Politics of Latin America	
POL 430	Seminar on Comparative Political Systems	
POL 440	Havighurst Colloquium	

Select 3 additional hours from Diplomacy and International Relations or Comparative Politics courses listed above. 3

Required Capstone

Select one of the following: 3

POL 419	Civil Society and Modern Politics
POL 423	European Union: Politics and Policies
POL 471	The International System
POL 487	Individual Lives and International Politics
POL 489	Conflict Management in a Divided World

Total Credit Hours 33

Related Requirements

(minimum 22 hours - maximum 28)

Code	Title	Credit Hours
------	-------	--------------

Cognate courses:

ECO 201	Principles of Microeconomics	3
ECO 202	Principles of Macroeconomics	3
STA 261	Statistics	4

Advanced foreign language study:

At least 6 semester hours in a foreign language at the 300 level or higher (not in translation) 6

Study Abroad:

At least 6 semester hours earned in one or more study-abroad programs approved by the Department of Political Science (not more than 6 semester hours earned in study abroad program can be applied to other major requirements) 6-12

Total Credit Hours 22-28

CAS Writing Competency Requirement

Students seeking the Bachelor of Arts in Diplomacy and Global Politics meet the College of Arts and Science writing in the major requirement by completing one of the following courses:

Code	Title	Credit Hours
POL 343	American Presidency	3
POL 349	Voice & Power in U.S. Politics	3
POL 364	Federalism and Intergovernmental Relations	3
POL 366	Policy Evaluation	3
POL 374	Foreign Policy Analysis	3

Note about Double Majoring in the Department

The Department of Political Science does not allow Political Science majors to pursue another major in the Department. A double major between Public Administration and Diplomacy and Global Politics is allowed, but will not meet the Miami Plan's thematic sequence requirement as a double major that is in the same department. We

strongly discourage a Diplomacy and Global Politics - International Studies double major due to all the "double counting" that is involved.

East Asian Languages and Cultures- Bachelor of Arts

For information, contact the Department of German, Russian, Asian, and Middle Eastern Languages and Cultures, 172 Irvin Hall, 513-529-2526, gramelac@MiamiOH.edu.

This program provides intensive studies in the languages and cultures of East Asia, focusing on Japan and China. Students can choose from either the Japan Concentration or the China Concentration.

Related hours which are requirements for the two cases provide a broadly based background for the two curricula. Study abroad is encouraged. Credits earned abroad may count toward the major.

Program Requirements: Japan Concentration

(24 semester hours plus 12 related hours)

Code	Title	Credit Hours
Required courses in Japanese		
JPN 201 & JPN 202	Second Year Japanese and Second Year Japanese	6
JPN 301 & JPN 302	Third Year Japanese and Third Year Japanese	6
JPN 401	Fourth Year Japanese	3
Selected courses ¹		
Select 9 semester hours of the following:		9
JPN 231	Japanese Tales of the Supernatural in English Translation	
JPN 255	Drama In China/Japan:Eng Trans	
JPN 260	Topics in Japanese Literature in English Translation	
JPN 266	Survey of Japanese Cinema	
JPN 381	Introduction to Japanese Linguistics	
JPN 402	Fourth Year Japanese	
Related hours ²		
Select 12 hours of the following including at least one course from the Japan group:		12
Japan:		
ATH 327	Pokemon and J-Pop in Global and Local Contexts	
HST 356	Modern Japanese History	
China:		
ART 311	Chinese Painting History	
CHI 251	Traditional Chinese Literature in English Translation	
CHI 252	Modern Chinese Literature in English Translation	
CHI 253	Three Kingdoms	
CHI 254	Modern Chinese Autobiography	
CHI 255	Drama In China/Japan:Eng Trans	

CHI 257	Chinese Satire
CHI 264	Chinese Cinema and Culture
CHI 271	Chinese Culture Live
CHI 402	Fourth Year Chinese II
EDP 366	Cross-cultural Examination of the United States and China within an Educational Context
EDP 387	Chinese Education through Culture, Customs, History, and Development
HST 354	Modern Chinese History
East Asia:	
ART 286	History of Asian Art, China, Korea, and Japan
ART 326	Modern & Contemporary East Asian Art
GEO/ITS/SOC 208	The Rise of Industrialism in East Asia
GEO 308	Geography of East Asia
GEO 408	Geography of the Silk Road (The Heart of Asia)
HST 324	Eurasian Nomads and History
REL 223	Introduction to Buddhism
Linguistics:	
LIN 201	Introduction to Linguistics
Total Credit Hours	36

¹ These Selected courses may be used in Related hours if not used as Selected courses.

² The Chinese minor will also satisfy this requirement.

Program Requirements: China Concentration

(24 semester hours plus 12 related hours)

Code	Title	Credit Hours
Required courses in Chinese (select 12 hours) ¹		
CHI 201 & CHI 202	Second Year Chinese and Second Year Chinese	12
CHI 301 & CHI 302	Third Year Chinese and Third Year Chinese	
CHI 311 & CHI 312	Business Chinese I and Business Chinese II	
CHI 330	Chinese Verbal Theatre Performance	
Select the following:		
CHI 401	Fourth Year Chinese I	3
Selected courses ²		
Select 9 semester hours of the following:		9
CHI 251	Traditional Chinese Literature in English Translation	
CHI 252	Modern Chinese Literature in English Translation	
CHI 253	Three Kingdoms	
CHI 254	Modern Chinese Autobiography	

CHI 255	Drama In China/Japan:Eng Trans
CHI 257	Chinese Satire
CHI 264	Chinese Cinema and Culture
CHI 271	Chinese Culture Live
CHI 402	Fourth Year Chinese II
CHI 480	Independent Reading for Departmental Honors

Related hours³

Select 12 semester hours of the following including at least one course from the China group: 12

China:

ART 311	Chinese Painting History
EDP 366	Cross-cultural Examination of the United States and China within an Educational Context
EDP 387	Chinese Education through Culture, Customs, History, and Development
HST 354	Modern Chinese History

Japan:

HST 356	Modern Japanese History
JPN 231	Japanese Tales of the Supernatural in English Translation
JPN 255	Drama In China/Japan:Eng Trans
JPN 260	Topics in Japanese Literature in English Translation
JPN 266	Survey of Japanese Cinema
JPN 381	Introduction to Japanese Linguistics
JPN 402	Fourth Year Japanese

East Asia:

ART 286	History of Asian Art, China, Korea, and Japan
ART 326	Modern & Contemporary East Asian Art
GEO/ITS/SOC 208	The Rise of Industrialism in East Asia
GEO 308	Geography of East Asia
GEO 408	Geography of the Silk Road (The Heart of Asia)
HST 324	Eurasian Nomads and History
REL 223	Introduction to Buddhism

Linguistics:

LIN 201	Introduction to Linguistics
---------	-----------------------------

Total Credit Hours 36

¹ These Required courses may be used in Selected or Related hours if not used as Required courses.

² These Selected courses may be used in Related hours if not used as Selected courses.

³ The Japanese minor will also satisfy this requirement.

Students seeking the Bachelor of Arts in East Asian Languages and Cultures meet the College of Arts and Science writing in the major requirement by completing the following courses: CHI 302 or CHI 312 and CHI 401 or JPN 302 and JPN 401.

Economics- Bachelor of Arts

For information, contact the Department of Economics, 2054 Farmer School of Business, 513-529-2836.

Miami offers three programs in economics, two in the College of Arts & Science (Economics and Quantitative Economics) and one in the Farmer school of Business (Business-Economics). The same core of economics courses is required for all three programs; the differences are in the divisional requirements. You should choose this program if you are interested in a liberal arts background in addition to your major.

Honors in Economics

For details on honors in economics please see the departmental website.

Program Requirements

(30 semester hours, plus 16 related hours)

Code	Title	Credit Hours
Core courses		
ECO 201	Principles of Microeconomics	3
ECO 202	Principles of Macroeconomics	3
ECO 311	Examining Economic Data and Models	3
ECO 315	Intermediate Microeconomic Theory	3
ECO 317	Intermediate Macroeconomic Theory	3

Select 15 hours in economics that are at the 300-level or above; at least six of these hours must be in courses that require ECO 315 and/or ECO 317 as a prerequisites and are numbered at 410 or above.^{1,2}

Related Hours 16

Calculus:

Select one of the following:

MTH 141	Business Calculus
MTH 151	Calculus I
MTH 249	Calculus II
MTH 251	Calculus II

Statistics:

Select one of the following:

ISA/STA 125	Introduction to Business Statistics
STA 261	Statistics
STA 301	Applied Statistics

Select remaining hours from accountancy, decision sciences, finance, geography, history, management information systems, mathematics, philosophy, political science, psychology, sociology, statistics, or computer science and software engineering

Total Credit Hours 46

¹ ECO 315 and ECO 317 must be taken at Miami. At least three additional hours of economics numbered 300 or higher must be taken at Miami. Up to three hours of Summer Scholar credit can be applied toward the 15 hours of economics. Any exception to this must be approved by the director of undergraduate studies.

² Prerequisites for all 300- and 400-level courses include ECO 201 and ECO 202 unless otherwise noted.

Students seeking the Bachelor of Arts in Economics meet the College of Arts and Science writing in the major requirement by completing the following courses: ECO 311, ECO 315, ECO 317, and two economics courses numbered 410 or above.

Mathematics and statistics beyond the minimum requirement is recommended if you are considering graduate school in economics. See your advisor.

Energy Co-Major

For more information, contact the Institute for the Environment and Sustainability, 118 Shideler Hall, 513-529-5811.

The Energy Co-major provides students with fundamental principles of energy systems, physical science, and policy to prepare them for advanced study in an energy-related field or for professional careers in industry, consulting, government, or non-profit organizations. The energy co-major is designed to give interdisciplinary breadth to complement disciplinary majors in engineering, natural sciences, architecture, business, and the social sciences. The term "co-major" indicates that students must complete another major at Miami University. The Energy Co-major is open to all majors, but students are recommended to take specific courses to fulfill Miami Plan Foundation requirements in physical science and quantitative reasoning.

Program requirements

(34-44 Semester Hours)

Complete a major in one of the divisions of the university.

Code	Title	Credit Hours
Physical Science		
Select one of the following:		3-10
PHY 121	Energy and Environment	
PHY 161 & PHY 162	Physics for the Life Sciences with Laboratory I and Physics for the Life Sciences with Laboratory II	
PHY 191 & PHY 192	General Physics with Laboratory I and General Physics with Laboratory II	
Select one of the following:		4
GLG 121 & GLG 115L	Environmental Geology and Understanding the Earth	
GEO 121	Earth's Physical Environment	
Math, Information Technology, Statistics		
Select one of the following:		3-4
MTH 151	Calculus I	
CSE 243	Problem Analysis Using Computer Tools	
ISA 225	Principles of Business Analytics	
ISA 245	Database Systems and Data Warehousing	
Select one of the following:		3-4

ECE 345	Introduction to Probability, Statistics, and Random Processes	
STA 261	Statistics	
STA 301	Applied Statistics	
STA 363	Introduction to Statistical Modeling	
Political and Social Dimensions of Energy and Resources		
IES 211	Energy and Policy	3
Select two of the following:		6
POL 241	American Political System	
POL 362	Public Management, Leadership, and Administrative Politics	
ECO 406	Environmental Economics	
IES 450	Environmental Law	
Energy and Building Systems		
ECE 291	Energy Systems Engineering	3
Select one of the following:		3-4
ARC 212	Principles of Environmental Systems	
ARC 413	Environmental Systems I	
CPB 204	Mass and Energy Balances I	
CPB 244	Introduction to Environmental Engineering	
CPB/MME 314	Engineering Thermodynamics	
ECE 205	Electric Circuit Analysis I	
ECE 287	Digital Systems Design	
ECE 491	Power Systems Engineering	
MME 451	Sustainability Considerations in Design and Development	
Climate and Air Pollution		
Select one of the following:		3
GLG 335	Ice Age Earth	
GLG 436	Paleoclimatology	
CPB 442	Air Pollution Control	
Practicum and Synthesis		
Speakers from the energy industry, building & transportation, and regulatory agencies:		
Select one of the following:		1
CPB 490	Special Topics in Paper and Chemical Engineering	
IES 440	Contemporary Topics in Environmental Sciences	
Interdisciplinary team projects		
Select one of the following: ¹		2
CPB 471	Engineering Design I	
CSE/ECE/MME 448	Senior Design Project	
Total Credit Hours		34-44

¹ We also offer 3-credit, project-based alternatives with no or few prerequisites. Please contact IES for more information.

English:Creative Writing- Bachelor of Arts

For information, contact the Department of English, 356 Bachelor Hall, 513-529-5221.

The English department offers four majors: creative writing, literature, linguistics, and professional writing. These concentrations lead to an A.B.

Program Requirements

(39 semester hours)

Code	Title	Credit Hours
Introduction to Creative Writing		
ENG 226	Introduction to Creative Writing: Short Fiction and Poetry	3
Introduction to Literary Studies ¹		
ENG 298	Introduction to Literary and Cultural Studies	3
Creative Writing courses		
Select four of the following: ²		12
ENG/MAC 213	Writing for Film and TV	
ENG 320	Intermediate Creative Writing: Fiction	
ENG 321	The Literary Marketplace	
ENG 323	Intermediate Creative Writing: Creative Nonfiction	
ENG 330	Intermediate Creative Writing: Poetry	
ENG 420	Advanced Creative Writing: Fiction Workshop	
ENG/MAC 422	Advanced Creative Writing: Screenwriting Workshop	
ENG 423	Advanced Creative Writing: Nonfiction Workshop	
ENG 430	Advanced Creative Writing: Poetry Workshop	
Select one literature-based genre course.		3
Literature Courses		
Select two courses from Literature of Earlier Periods. ³		6
Select two courses from Literature of Later Periods. ⁴		6
One literature course must be in women's, ethnic, or minority literature.		
Senior Capstone		
ENG 495	Capstone In Literature ⁵	3
or ENG 460	Issues in Creative Writing	
Electives		3
Choose an elective from the English Department at the 200 level and above: creative writing, literature, professional writing and linguistics. Or choose an elective at the 200 level and above from a related area outside the English Department. ⁶		
Total Credit Hours		39

¹ Completed fall semester of sophomore year at Miami or fall semester after declaring the literature major, whichever is later.

² One writing course at the 300-level and one writing course at the 400-level must be in the same genre. ENG 320 is the prerequisite for ENG 420; ENG 323 is the prerequisite for ENG 423; ENG 330 is the prerequisite for ENG 430.

Repeat credits WILL NOT count toward the major requirement of fifteen (15) hours of creative writing courses.

³ No more than one 100-level course may be used to fulfill literature requirements. No more than one course can focus on Shakespeare. ENG 440, ENG 450 and ENG 490 may count when the topic/time period is appropriate (contact the Chief Departmental Advisor in English).

⁴ No more than one 100-level course may be used to fulfill literature requirements. ENG 440, ENG 450 and ENG 490 may count when the topic/time period is appropriate (contact the Chief Departmental Advisor in English).

⁵ Students must select ENG 495B, ENG 495C, ENG 495D, or ENG 495E.

⁶ Electives outside the department must fulfill prerequisites from their host department when necessary.

Genre

Code	Title	Credit Hours
ENG 123	Introduction to Poetry	3
ENG 124	Introduction to Fiction	3
ENG 231	The Short Story	3
ENG 311	Reading for Creative Writing: Contemporary Literature	3
ENG 386	Studies in Drama and Performance	3
ENG 387	Studies in Poetry	3
ENG 388	Studies in Prose	3
ENG 450	Studies in Genre	3

Literature of Earlier Periods

Code	Title	Credit Hours
ENG 134	Introduction to Shakespeare	3
ENG/FST 221	Shakespeare and Film	3
ENG 272	English Literature to 1660	3
ENG 273	English Literature 1660-1900	3
ENG 275	American Literature to 1900	3
ENG 327	Medieval Literature	3
ENG 328	Sixteenth-Century English Literature	3
ENG 331	Seventeenth-Century English Literature	3
ENG 335	English Literature of the 18th Century	3
ENG/CRE 336	African American Writing, 1746-1877	3
ENG 339	British Romanticism, 1789-1837	3
ENG 349	Early American Literature	3
ENG 352	Antebellum American Literature	3
ENG 372	Shakespeare's Principal Plays: Early Works	3
ENG 373	Shakespeare's Principal Plays: Late Works	3
ENG 374	English Renaissance Drama	3

Literature of Later Periods

Code	Title	Credit Hours
ENG 232	Women Writers	3
ENG 246	Native American Literature	3
ENG 248	Asian American Literature	3
ENG 249	Asian & Asian American Cinema	3
ENG 254	Caribbean, Latin American and Latinx Literatures	3
ENG 269	Colonial & Postcolonial Literature	3
ENG 274	English Literature 1901 to Present	3
ENG 276	American Literature 1900 to the Present	3
ENG 293	Contemporary American Fiction	3
ENG/CRE 337	African American Writing, 1878-1945	3
ENG/CRE 338	African American Writing, 1946-Present	3
ENG 343	Victorian Literature, 1837-1901	3
ENG 345	British Modernism, 1890-1945	3
ENG/AMS 348	Ethnic American Literatures	3
ENG 353	American Realism and Naturalism	3
ENG 354	American Modernism	3
ENG 355	Contemporary American Literature	3

Ethnic, minority, or women's literature

Code	Title	Credit Hours
ENG/DST 169	Disability and Literature	3
ENG 232	Women Writers	3
ENG 237	GLBTQ Literature	3
ENG/AMS 246	Native American Literature	3
ENG/AAA/AMS 248	Asian American Literature	3
ENG/FST 249	Asian & Asian American Cinema	3
ENG/LAS 254	Caribbean, Latin American and Latinx Literatures	3
ENG/AAA 269	Colonial & Postcolonial Literature	3
ENG/CRE 336	African American Writing, 1746-1877	3
ENG/CRE 337	African American Writing, 1878-1945	3
ENG/CRE 338	African American Writing, 1946-Present	3
ENG/AMS 348	Ethnic American Literatures	3
ENG/AAA/WGS 351	Cultural Politics of Gender and Sexuality in Asian/America	3
ENG/FST/WGS 356	Women and Gender in Film	3

Related Electives

Code	Title	Credit Hours
CHI 251	Traditional Chinese Literature in English Translation	3
CHI/JPN 255	Drama In China/Japan:Eng Trans	3
CHI 257	Chinese Satire	3
CLS 211	Greek and Roman Epic	3

CLS 212	Greek and Roman Tragedy	3
CLS 218	Greek and Roman Erotic Poetry	3
DST/EDP/WGS 278	Women and (Dis)ability: Fictions and Contaminations of Identity	3
FRE 350	Topics in French Literature in Translation	3
FRE/FST 366	French Cinema in Translation	3
FST/GER 261	German Film in Global Context	3
FST/ITL 262	Italian Cinema	3
FST/RUS 263	Soviet and Post-Soviet Russian Cinema	3
FST/CHI 264	Chinese Cinema and Culture	3
FST/JPN 266	Survey of Japanese Cinema	3
GER 231	Enchanted Worlds: Folk and Literary Fairy Tales	3
JPN 231	Japanese Tales of the Supernatural in English Translation	3
JRN 201	Reporting and News Writing I	3
MAC 202	The Smartphone and Society	3
RUS 250	Topics in Russian Literature in English Translation	3
THE 238	Playwriting Through Improvisation	3-4
THE 418	Playwriting	3

Students seeking the Bachelor of Arts in English Creative Writing meet the College of Arts and Science writing in the major requirement by completing the following course: ENG 226 and writing workshops at the 300- and 400-levels (ENG 320 and ENG 420 for fiction, ENG 330 and ENG 430 for poetry, or ENG 323 and ENG 423 for creative nonfiction).

English:Literature- Bachelor of Arts

For information, contact the Department of English, 356 Bachelor Hall, 513-529-5221.

The English department offers four majors: creative writing, literature, linguistics, and professional writing. These concentrations lead to an A.B.

Program Requirements

(36 semester hours)

Code	Title	Credit Hours
Prerequisite introductory course ¹		
ENG 298	Introduction to Literary and Cultural Studies	3

Literature courses

Select five courses (no more than two 100-level courses): 15

Select at least two of the following: 6

ENG 327	Medieval Literature	
ENG 328	Sixteenth-Century English Literature	
ENG 331	Seventeenth-Century English Literature	
ENG 335	English Literature of the 18th Century	
ENG/CRE 336	African American Writing, 1746-1877	

ENG/CRE 337	African American Writing, 1878-1945	
ENG/CRE 338	African American Writing, 1946-Present	
ENG 339	British Romanticism, 1789-1837	
ENG 343	Victorian Literature, 1837-1901	
ENG 345	British Modernism, 1890-1945	
ENG/AMS 348	Ethnic American Literatures	
ENG 349	Early American Literature	
ENG/FST 350	Topics in Film	
ENG 352	Antebellum American Literature	
ENG 353	American Realism and Naturalism	
ENG 354	American Modernism	
ENG 355	Contemporary American Literature	
ENG/FST/WGS 356	Women and Gender in Film	
ENG 372	Shakespeare's Principal Plays: Early Works	
ENG 373	Shakespeare's Principal Plays: Late Works	
ENG 374	English Renaissance Drama	
ENG 386	Studies in Drama and Performance	
ENG 387	Studies in Poetry	
ENG 388	Studies in Prose	
Select at least two of the following:		6
ENG 440	Major English and American Writers	
ENG 450	Studies in Genre	
ENG 480	English Honors	
ENG 490	Special Topics in Literary Study	

Literary, cultural, or other theory

Select one of the following:		3
ENG/AAA/WGS 351	Cultural Politics of Gender and Sexuality in Asian/America	
ENG 370	Introduction to Literary and Cultural Theory	
ENG/WGS 435	Queer Theory	
ENG/CRE/WGS 437	Black Feminist Theory	

Senior Capstone

ENG 460	Issues in Creative Writing	3
or ENG 495	Capstone In Literature	

Literature Distributional Requirements

Choose literature courses to also meet the following group requirements.²

Literature of Earlier Periods: select six hours³

Literature of Later Periods: select six hours

Ethnic, minority, or women's literature: select three hours

Optional

An elective course, offered in the English Department, may be taken for credit toward major hours but not toward any core or distribution requirements.⁴

Total Credit Hours **36**

- ¹ Completed fall semester of sophomore year at Miami or fall semester after declaring the literature major, whichever is later.
- ² ENG 440, ENG 450 and ENG 490 may count when the topic/time period is appropriate.
- ³ Both courses cannot focus on Shakespeare.
- ⁴ Courses that cannot count toward major hours include ENG 104, ENG 105, ENG 107, ENG 108, ENG 109, ENG 111, ENG 112. The purpose of this elective is to allow students to take a course in another English program (e.g. Creative Writing, Linguistics, or Professional Writing), if desired.

Literature courses

Code	Title	Credit Hours
ENG 122	Popular Literature	3
ENG 123	Introduction to Poetry	3
ENG 124	Introduction to Fiction	3
ENG 125	Introduction to Drama	3
ENG 129	Books You Need To Read	3
ENG 134	Introduction to Shakespeare	3
ENG 163	Literature and Travel	3
ENG/DST 169	Disability and Literature	3
ENG/IMS 171	Humanities and Technology	3
ENG/FST 220	Literature and Film	3
ENG/FST 221	Shakespeare and Film	3
ENG 231	The Short Story	3
ENG/WGS 232	Women Writers	3
ENG/WGS 237	GLBTQ Literature	3
ENG/IMS 238	Narrative and Digital Technology	3
ENG/AMS 246	Native American Literature	3
ENG/AAA/AMS 248	Asian American Literature	3
ENG/FST 249	Asian & Asian American Cinema	3
ENG 251	Introduction to European Literature	3
ENG/LAS 254	Caribbean, Latin American and Latinx Literatures	3
ENG 262	Children's Literature	3
ENG 263	Literature and Medicine	3
ENG/IES 264	Environmental Literature	3
ENG/AAA 269	Colonial & Postcolonial Literature	3
ENG 272	English Literature to 1660	3
ENG 273	English Literature 1660-1900	3
ENG 274	English Literature 1901 to Present	3
ENG 275	American Literature to 1900	3
ENG 276	American Literature 1900 to the Present	3
ENG 293	Contemporary American Fiction	3
ENG 327	Medieval Literature	3
ENG 328	Sixteenth-Century English Literature	3
ENG 331	Seventeenth-Century English Literature	3
ENG 335	English Literature of the 18th Century	3
ENG/CRE 336	African American Writing, 1746-1877	3

ENG/CRE 337	African American Writing, 1878-1945	3
ENG/CRE 338	African American Writing, 1946-Present	3
ENG 339	British Romanticism, 1789-1837	3
ENG 343	Victorian Literature, 1837-1901	3
ENG 345	British Modernism, 1890-1945	3
ENG/AMS 348	Ethnic American Literatures	3
ENG 349	Early American Literature	3
ENG/FST 350	Topics in Film	3
ENG 352	Antebellum American Literature	3
ENG 353	American Realism and Naturalism	3
ENG 354	American Modernism	3
ENG 355	Contemporary American Literature	3
ENG/FST/WGS 356	Women and Gender in Film	3
ENG 360	Interdisciplinary Special Topics	1-4
ENG 372	Shakespeare's Principal Plays: Early Works	3
ENG 373	Shakespeare's Principal Plays: Late Works	3
ENG 374	English Renaissance Drama	3
ENG 386	Studies in Drama and Performance	3
ENG 387	Studies in Poetry	3
ENG 388	Studies in Prose	3
ENG 440	Major English and American Writers	3
ENG 450	Studies in Genre	3
ENG 490	Special Topics in Literary Study	3
LIN 301	History of the English Language	3

Literature of Earlier Periods

Code	Title	Credit Hours
ENG 134	Introduction to Shakespeare	3
ENG/FST 221	Shakespeare and Film	3
ENG 272	English Literature to 1660	3
ENG 273	English Literature 1660-1900	3
ENG 275	American Literature to 1900	3
ENG 327	Medieval Literature	3
ENG 328	Sixteenth-Century English Literature	3
ENG 331	Seventeenth-Century English Literature	3
ENG 335	English Literature of the 18th Century	3
ENG/CRE 336	African American Writing, 1746-1877	3
ENG 339	British Romanticism, 1789-1837	3
ENG 349	Early American Literature	3
ENG 352	Antebellum American Literature	3
ENG 372	Shakespeare's Principal Plays: Early Works	3
ENG 373	Shakespeare's Principal Plays: Late Works	3
ENG 374	English Renaissance Drama	3

Literature of Later Periods

Code	Title	Credit Hours
ENG/AMS 246	Native American Literature	3
ENG/AAA/AMS 248	Asian American Literature	3
ENG/LAS 254	Caribbean, Latin American and Latinx Literatures	3
ENG/AAA 269	Colonial & Postcolonial Literature	3
ENG 274	English Literature 1901 to Present	3
ENG 276	American Literature 1900 to the Present	3
ENG 293	Contemporary American Fiction	3
ENG/CRE 337	African American Writing, 1878-1945	3
ENG/CRE 338	African American Writing, 1946-Present	3
ENG 343	Victorian Literature, 1837-1901	3
ENG 345	British Modernism, 1890-1945	3
ENG/AMS 348	Ethnic American Literatures	3
ENG 353	American Realism and Naturalism	3
ENG 354	American Modernism	3
ENG 355	Contemporary American Literature	3

Ethnic, minority, or women's literature

Code	Title	Credit Hours
ENG/DST 169	Disability and Literature	3
ENG/WGS 232	Women Writers	3
ENG/WGS 237	GLBTQ Literature	3
ENG/AMS 246	Native American Literature	3
ENG/AAA/AMS 248	Asian American Literature	3
ENG/LAS 254	Caribbean, Latin American and Latinx Literatures	3
ENG/AAA 269	Colonial & Postcolonial Literature	3
ENG/CRE 336	African American Writing, 1746-1877	3
ENG/CRE 337	African American Writing, 1878-1945	3
ENG/CRE 338	African American Writing, 1946-Present	3
ENG/AMS 348	Ethnic American Literatures	3
ENG/FST/WGS 356	Women and Gender in Film	3

Students seeking the Bachelor of Arts in English Literature meet the College of Arts and Science writing in the major requirement by completing the following course: ENG 298 and ENG 495 or ENG 460 (or another 400-level capstone).

Environmental Earth Science - Bachelor of Science

The Bachelor of Science in Environmental Earth Science is designed for students who are interested in Earth systems and processes, and applying geoscience pursuits to environmental issues, problems and solutions. The degree program provides in-depth study of environmental geoscience concepts and approaches, including

field-based, laboratory-based, and computational-based endeavors that focus on real-world problems. The Bachelor of Science in Environmental Earth Science will prepare students for employment in the environmental industry including federal, state and private sectors. Students will also be well-positioned to pursue graduate programs in environmental science. Students may not declare more than one major within the Department of Geology and Environmental Earth Science.

Program Requirements

(63 credit hours minimum)

Code	Title	Credit Hours
Strongly Recommended for First Year Students:		
GLG 147	Introductory Seminar - Geology & Environmental Earth Science	
Core Requirements (29 credit hours)		
Select one of the following:		3
GLG 111	The Dynamic Earth	
GLG 121	Environmental Geology	
GLG 141	Geology Of U.S. National Parks	
Select one of the following:		3
GEO 271	Human Dimensions of Natural Resource Conservation	
IES 274	Introduction to Environment and Sustainability	
IES 275	Principles of Environmental Science	
Select all of the following:		
GLG 115L	Understanding the Earth	1
GLG 204	Survival on an Evolving Planet	4
GLG 301	Sedimentology and Stratigraphy	4
GLG 354	Geomorphology	4
GLG 408	Introduction to Hydrogeology	4
GLG 497	Trends and Topics in the Geosciences	3
Field Experience - select one of the following or approved alternative: ¹		3
GLG 311	Geoenvironmental Field Methods	
GLG 412	Tropical Ecosystems of Costa Rica	
GLG 419	Geology of Streams	
Electives (24 credit hours)		24
Select from the following - no more than one at the 200 or 300 level:		
GLG 244	Oceanography	
GLG 307	Water and Society	
GLG 342	Geoarchaeology	
GLG 356	Mineralogy	
GLG 402	Geomicrobiology	
GLG 417	Forensic Isotope Geochemistry	
GLG 427	Isotope Geochemistry	
GLG 428	Hydrogeological Modeling: Groundwater Flow and Contaminant Transport and Fate	
GLG 432	X-ray Powder Diffraction and Clay Analysis	

GLG 435	Soils and Paleosols
GLG 436	Paleoclimatology
GLG 437	Paleontology in Conservation
GLG 450	Sedimentary Basin Analysis
GLG 461	Geophysics
GLG 467	Seismology
GLG 492	Global Tectonics
GLG 496	Isotopes in Environmental Processes
GLG 498	Senior Thesis In Geology

*Public presentation of research required for departmental honors

Related Hours (10 credit hours)

Select one of the following:		4
GLG 211	Chemistry of Earth Systems	
CHM 141 & CHM 144	College Chemistry and College Chemistry Laboratory (and)	
Select one of the following:		3
MTH 151	Calculus I	
STA 261	Statistics	
STA 301	Applied Statistics	
Select one of the following:		3
GLG 261	Geohazards and the Solid Earth	
PHY 161	Physics for the Life Sciences with Laboratory I	
PHY 191	General Physics with Laboratory I	

Total Credit Hours **63**

¹ Minimum of 3 semester hours of a field-based course. Courses that can fulfill the Field Experience are listed above. May be fulfilled by other 3 credit hour workshops if pre-approved by GLG CDA.

Environmental Science Co-Major

For more information, contact the Institute for the Environment and Sustainability, 118 Shideler Hall, 513-529-5811.

This co-major emphasizes earth science and life science approaches to understanding environmental patterns and processes. Students are prepared to pursue a wide variety of career paths and post-graduate degrees in environmental science, especially those with biological and physical science specializations. The term "co-major" indicates that students must be concurrently enrolled in and must complete another major at Miami University. The co-major complements this primary major, which provides significant depth and breadth in an academic discipline. There is no specific degree designation for the co-major; students receive the degree designation of their primary major.

Program Requirements

Program Requirements

(32-44 semester hours)

Code	Title	Credit Hours
Biological Science		
Select one of the following:		3-4
BIO/MBI 115	Biological Concepts: Ecology, Evolution, Genetics, and Diversity	
BIO 121	Environmental Biology	
BIO 131	Plants, Humanity, and Environment	
BIO 176	Ecology of North America	
BIO 191	Plant Biology	
Physical Science		
Select one course from group A and one from B: ¹		6-9
Group A:		
CHM 111 & 111L	Chemistry in Modern Society and Chemistry in Modern Society Laboratory	
CHM 142 & CHM 145	College Chemistry and College Chemistry Laboratory	
GLG 211	Chemistry of Earth Systems	
CPB 244	Introduction to Environmental Engineering	
Group B:		
GEO 121	Earth's Physical Environment	
GEO 122	Geographic Perspectives on the Environment	
GLG 111 & GLG 115L	The Dynamic Earth and Understanding the Earth	
GLG 121 & GLG 115L	Environmental Geology and Understanding the Earth	
GLG 141 & GLG 115L	Geology Of U.S. National Parks and Understanding the Earth	
Statistics		
Select one of the following:		3-4
STA 261	Statistics	
STA 301	Applied Statistics	
Social Science/Humanities		
Select one of the following:		3
ATH 175	Global Cultural Diversity	
ENG 264	Environmental Literature	
ENG 429	Environmental Communication	
GEO 101	Global Forces, Local Diversity	
GEO 436	Women, Gender, and the Environment	
IES 429	Environmental Communication	
JRN 429	Environmental Communication	
PHL 376	Environmental Philosophy	
Policy		
Select one of the following:		3
ECO 201	Principles of Microeconomics	
IES 211	Energy and Policy	
IES 494	Sustainability Perspectives in Resources and Business	
POL 241	American Political System	
POL 261	Public Administration	
Environmental Science		

IES 275	Principles of Environmental Science	3
Select two related courses from the list at the bottom of this page (both of which must be outside department of primary major)		5-9

Synthesis

IES 431	Principles and Applications of Environmental Science	3
---------	--	---

Practicum/Field Experience ²

Select one of the following:		3-6
------------------------------	--	-----

BIO/MBI 433	Field Ecology	
BIO 463	Limnology	
GLG 311	Geoenvironmental Field Methods	
GLG 411A	Field Geology	
GLG 419	Geology of Streams	
IES/KNH 411	Environmental Protocols	

Honors Thesis

Independent Studies 377 or Internship 340 ³

Or other appropriate field courses with permission of the CDA or IES Director

Total Credit Hours 32-44¹ PHY 161 or PHY 191 strongly recommended.² The course used for Practicum/Field Experience may not also be used for Environmental Science: Related Courses³ must be approved by IES Director or Co-Major advisor**Environmental Science: Related courses**

Code	Title	Credit Hours
BIO 351	Environmental Education: Focus on Natural History	4
BIO 408	Ornithology	4
BIO/GEO 431	Global Plant Diversity	3
BIO 438	Soil Ecology and Sustainable Use	3
BIO 453	Animal Physiological Ecology	4
BIO 463	Limnology	4
BIO 467	Conservation Biology	3
CHM 363 & CHM 364	Analytical Chemistry and Analytical Chemistry Laboratory	5
CHM 454	Instrumental Analysis	3
CHM 491	Chemistry in Societal Issues	3
CPB 405	Industrial Environmental Control	3
CPB 441	Pollution Prevention in Environmental Management	3
CPB 442	Air Pollution Control	3
GEO 425	Hydrogeography	3
GEO 426	Watershed Management	3
GEO 431	Global Plant Diversity	3
GEO 441	Geographic Information Systems	3
GEO 442	Advanced Geographic Information Systems	3
GEO 444	GIScience Techniques in Landscape Ecology	3

GEO 448	Techniques and Applications of Remote Sensing	3
GLG 307	Water and Society	3
GLG 335	Ice Age Earth	3
GLG 354	Geomorphology	4
GLG 402	Geomicrobiology	3
GLG 408	Introduction to Hydrogeology	4
GLG 428	Hydrogeological Modeling: Groundwater Flow and Contaminant Transport and Fate	4
GLG 432	X-ray Powder Diffraction and Clay Analysis	3
GLG 435	Soils and Paleosols	3
GLG 436	Paleoclimatology	3
GLG 496	Isotopes in Environmental Processes	3
IES 411	Environmental Protocols	4
IES 441	Environmental Public Health	3
MBI 475	Microbial Ecology: Exploration of the Diverse Roles of Microorganisms in Earth's Ecology	4
PHY 421	Molecular and Cellular Biophysics	4
PHY 437	Intermediate Thermodynamics and Introduction to Statistical Physics	4
PHY 441	Optics and Laser Physics	4
STA 333	Nonparametric Statistics	3
STA 363	Introduction to Statistical Modeling	3
STA 401	Probability	3
STA 462	Inferential Statistics	3
STA 475	Data Analysis Practicum	3

Film Studies Co-major

For information, contact the Department of Media, Journalism and Film, **120 Williams Hall**, 513-529-3521.

Film Studies is an interdisciplinary co-major that explores the interaction between film, culture and society. Coursework encompasses film history, theory, criticism and analysis. Students interested in production also have the opportunity to direct, shoot and edit their own short films. Film Studies students learn how to watch, think, write about and create film in new and profound ways. In its combined focus on the arts, technology and the humanities, as well as in its global framework, film studies is an intellectually challenging and enriching co-major that prepares students for a wide variety of careers in the 21st century workplace.

Program Requirements

(34-38 hours)

Code	Title	Credit Hours
Core Courses (take all five)		
MJF 105	Media, Culture and You	3
MJF 146	Foundations of Production	3
FST 201	Film History and Analysis	3
FST 301	Film Theory	3
FST 401	Seminar in Film Study	3

Electives 19-23

Critical/Analytic - General (at least two electives from here)	
FST 135	Film as Ethnography
FST 206	Diversity and Culture in American Film
FST 220	Literature and Film
FST 221	Shakespeare and Film
FST 235	Classical Hollywood Cinema
FST 236	Experimental Film
FST 252	History at the Movies
FST 282	Sexualities and Film
FST 330	Film Auteurs
FST 345	Global Media, Ethnography, and Film
FST 350	Topics in Film
FST 356	Women and Gender in Film
FST 360	Film Genres
FST 400	Topics in Film
National Cinemas (at least two electives from here):	
FST 222	Italian American Culture
FST 261	German Film in Global Context
FST 262	Italian Cinema
FST 263	Soviet and Post-Soviet Russian Cinema
FST 264	Chinese Cinema and Culture
FST 266	Survey of Japanese Cinema
FST 366	French Cinema In Translation
FST 383	Brazilian Women through Literature and Film
FST 460	
Production (these courses may be taken as electives):	
MAC 211	Intermediate Video Production
MAC 213	Writing for Film and TV
MAC 311	Fiction Film Production
MAC 414	Capstone Pictures: Project in Digital Narrative Film Production
MAC 422	Advanced Creative Writing: Screenwriting Workshop
THE 253	Costume Fundamentals
THE 439A	Acting for the Camera

Total Credit Hours 34-38

Food Systems and Food Studies Co-Major

For information, contact the Institute for the Environment and Sustainability, 118 Shideler Hall, 513-529-5811.

The Food Systems & Food Studies co-major provides an interdisciplinary examination of food, exploring the complex path food follows from farm to fork and beyond. Combining courses on the fundamentals of agricultural ecology; food, nutrition, and health; and food, society, and culture with real-world experiences, students develop a broad understanding of food from a biological, economic, political, social, cultural, and environmental perspective. Students are prepared to pursue a wide variety career paths and post-graduate degrees in agriculture and food related professions. The

Food Systems and Food Studies co-major is designed to complement a primary major, which provides significant depth and breadth in an academic discipline.

Program Requirements

Code	Title	Credit Hours
I. Foundations of Food Systems & Food Studies		
BIO 131 or BIO 191 or BIO 115	Plants, Humanity, and Environment Plant Biology Biological Concepts: Ecology, Evolution, Genetics, and Diversity	3-4
BIO 306	Basic Horticulture	3
IES 274	Introduction to Environment and Sustainability	3
IES 278	Introduction to Food Systems	3
IES 278L	Understanding Food Systems Laboratory	1
KNH 102	Food, Nutrition & Health	3

II. Experiential Learning

Students must complete 3 hours of internship working with an Institute for Food faculty advisor. Internship hours can be completed at the Miami University Institute for Food Farm or at other farm or food-centered organizations approved in advance by the advisor for the Food Systems & Food Studies Co-Major. Fifty hours of internship work equals 1 credit hour. Prerequisite IES 278L or permission of the Food Systems & Food Studies co-major advisor.

IES 340	Internship	3
---------	------------	---

III. Interdisciplinary Electives 15

Student designed, interdisciplinary elective in food systems and food studies integrating courses from the following areas. Courses from at least 2 areas must be included:

AREA ONE: Fundamentals of Sustainable Agriculture (select from the following list of courses)

BIO 209	Fundamentals of Ecology
BIO 244	Viticulture and Enology
BIO 438	Soil Ecology and Sustainable Use
GLG 307	Water and Society
GLG 435	Soils and Paleosols
IES 474	Sustainability in Practice
MBI 121	The Microbial World

AREA TWO: Food, Nutrition & Health (select from the following list of courses)

KNH 104	Introduction to Food Science
KNH 203	Nutrition in Disease Prevention Management
KNH 302	Global and Community Nutrition
KNH 304	
KNH 404	Advanced Food Science
KNH 202	Nutrition Across the Life Span

AREA THREE: Food, Culture & Society (select from the following list of courses)

ATH 405	Food, Taste, and Desire
ESP 331	Social Entrepreneurship
IES 429	Environmental Communication
IES 494	Sustainability Perspectives in Resources and Business
MKT 412	Sustainable Marketing Management
SOC 362	Family Poverty
WST 201	Self and Place
WST 341	Interdisciplinary Synthesis and Action

Total Credit Hours 34-35

French- Bachelor of Arts

For information, contact the Department of French, Italian, and Classical Studies, 207 Irvin Hall, 513-529-1480.

The French major is ideal for those who love to read, write, and learn about other cultures. Through the integrated study of literature, language, cultures, and the arts of the French and Francophone world, the major offers students the opportunity to hone their French skills while taking courses on a wide variety of topics from the study of literature to artistic avant-gardes, contemporary French thought, film, and graphic novels. Students are encouraged to participate in the Department's faculty-led study abroad programs in Dijon and Paris.

Teacher Licensure

Students who wish to combine teacher licensure with an Arts and Science major must observe the rules, procedures, and restrictions pertaining to admission to a licensure cohort as outlined in the College of Education, Health and Society chapter. For information, contact the Office of Student Services in the College of Education, Health and Society, 202 McGuffey Hall, 513-529-6317.

Program Requirements

(33 semester hours)

Code	Title	Credit Hours
FRE 131	Masterpieces of French Culture in Translation ¹	3
FRE 301	Culture & Interpretation ¹	3
Select 6 hours of the following in no particular sequence:		6
FRE 302	Pre-Revolutionary Literature and Life	
FRE 303	Modern and Contemporary Literature and Life	
FRE 310	Texts in Context	
Select 12 hours at 400 level, including the following:		12
FRE 425	Senior Seminar (Senior Seminar)	
Select remaining hours from 300/400 level courses to total 33 hours.		9
Total Credit Hours		33

¹ FRE 131 and FRE 301 must be taken first.

No more than six hours in translation count toward this major. FRE 361 does **not** count toward this major.

Students seeking the Bachelor of Arts in French meet the College of Arts and Science writing in the major requirement by completing the following course/s: FRE 301; six hours from FRE 302, FRE 303, or FRE 310; and the senior seminar FRE 425.

Geography and Sustainable Development- Bachelor of Arts Program Requirements

(36-42 semester hours)

Code	Title	Credit Hours
Geography and Sustainable Development Foundations		9-10
GEO 101 or GEO 111	Global Forces, Local Diversity World Regional Geography: Patterns and Issues	
GEO 121 or GEO 122	Earth's Physical Environment Geographic Perspectives on the Environment	
GEO 211	Global Sustainable Futures	
Geospatial Analysis and Techniques		6-7
GEO 242	Mapping a Changing World	
GEO 221 or GEO 441 or GEO 448 or STA 261	Field Methods for Environmental Scientists Geographic Information Systems Techniques and Applications of Remote Sensing Statistics	
Sustainable Development Perspectives		3
Choose one from the following.		
GEO 201 GEO 271	Geography of Urban Diversity Human Dimensions of Natural Resource Conservation	
GEO 276 GEO 302 GEO 378 IES 274	Geography of the Global Economy Geography and Gender Political Geography Introduction to Environment and Sustainability	
Place and Region		3-6
Choose one from the following.		
GEO 288 GEO 208 GEO 301 GEO 308 GEO 309 GEO 406 GEO 412	Geographic Field Study Abroad The Rise of Industrialism in East Asia Geography of Sub-Saharan Africa Geography of East Asia Native American Women Indigenous Peoples and Their Sacred Lands Tropical Ecosystems of Costa Rica	
Applications and Areas of Focus		12
Select at least 12 hours from any of the following:		
Sustainable Development and Policy		
GEO 408 GEO 436 GEO 451	Geography of the Silk Road (The Heart of Asia) Women, Gender, and the Environment Urban and Regional Planning	

GEO 454	Urban Geography	
GEO 459	Advanced Urban and Regional Planning	
GEO 467	Land Use, Law and the State: Geographic Perspectives	
GEO 475	Global Periphery's Urbanization	
GEO 476	Global Poverty	
Environment and Natural Resource Management		
GEO 333	Global Perspectives on Natural Disasters	
GEO 425	Hydrogeography	
GEO 426	Watershed Management	
GEO 428	Soil Geography	
GEO 431	Global Plant Diversity	
GEO 432	Ecoregions of North America	
GEO 436	Women, Gender, and the Environment	
Culture, Citizenship, and Social Justice		
GEO 302	Geography and Gender	
GEO 309	Native American Women	
GEO 352	Geographies of Urban Change	
GEO 378	Political Geography	
GEO 406	Indigenous Peoples and Their Sacred Lands	
GEO 462	Citizenship and the City	
GEO 475	Global Periphery's Urbanization	
GEO 476	Global Poverty	
Geospatial Applications		
GEO 441	Geographic Information Systems	
GEO 442	Advanced Geographic Information Systems	
GEO 443	Python Programming for Geospatial Applications	
GEO 444	GIScience Techniques in Landscape Ecology	
GEO 445	Geographic Information Systems for Criminal Justice	
GEO 448	Techniques and Applications of Remote Sensing	
Capstone Experience		3-4
GEO 455	Race, Urban Change, and Conflict in America	
GEO 491	Geography and Sustainable Development Research Seminar	
GEO 493	Urban Field Experience	

Total Credit Hours **36-42**

¹ Students are encouraged to consult with their advisor and review departmental publications for suggested specialization courses that align with each student's interests and post-graduation plans.

For information, contact the Department of Geography, 118B Shideler Hall, 513-529-5010.

Geography and Sustainable Development majors integrate the social and natural sciences to address 21st century social, economic, and

environmental challenges. They synthesize geographic information using qualitative and quantitative techniques, including geospatial mapping technologies and data science. Students apply critical thinking, communication, and technical skills through individualized research and field experiences. They are prepared for purposeful careers in sustainable development and policy; environment and natural resource management; culture, citizenship and social justice; and geospatial techniques and applications.

Geology- Bachelor of Science

For information, contact the Department of Geology & Environmental Earth Science, 118D Shideler Hall, 513-529-3216.

Geology is the study of the history of the Earth and processes that continue to shape the planet today. Geoscientists view the Earth as a set of intimately connected atmospheric, hydrologic, and rock systems. The Geology B.S. degree requires a core of geology and cognate or interdisciplinary geology classes, culminating in a capstone field mapping experience. Students may earn departmental honors by conducting independent research leading to public presentation of their results. This degree prepares students for employment in a wide range of industry, government and NGO positions, or for pursuit of a graduate degree in the geological sciences.

Teacher Licensure

Students who wish to combine teacher licensure with an Arts and Science major must observe the rules, procedures, and restrictions pertaining to admission to a licensure cohort as outlined in the College of Education, Health and Society chapter. For information, contact the Office of Student Services in the College of Education, Health and Society, 202 McGuffey Hall, 513-529-6418.

Program Requirements: Bachelor of Science

(68 semester hours minimum including related courses)

Code	Title	Credit Hours
Strongly recommended for first year students		
GLG 147	Introductory Seminar - Geology & Environmental Earth Science	
Core Requirements		
Select one of the following:		3
GLG 111	The Dynamic Earth	
GLG 121	Environmental Geology	
GLG 141	Geology Of U.S. National Parks	
Select all of the following:		
GLG 115L	Understanding the Earth	1
GLG 204	Survival on an Evolving Planet	4
GLG 301	Sedimentology and Stratigraphy	4
GLG 322	Structural Geology	4
GLG 356	Mineralogy	4
GLG 357	Igneous/Metamorphic Petrology	4
GLG 411A	Field Geology	6
Select one of the following (Geophysics):		3
GLG 461	Geophysics	
GLG 467	Seismology	

Select one of the following (Geobiology): 3

GLG 402	Geomicrobiology
GLG 437	Paleontology in Conservation

Select one of the following (Geochemistry): 3

GLG 427	Isotope Geochemistry
GLG 432	X-ray Powder Diffraction and Clay Analysis

Select one of the following (Tectonics): 3-4

GLG 450	Sedimentary Basin Analysis
GLG 492	Global Tectonics

Select one of the following (Surficial Processes): 4

GLG 354	Geomorphology
GLG 408	Introduction to Hydrogeology

Electives

Select at least 12 semester hours (no more than one at 300 level) of the following: 12

GLG 335	Ice Age Earth
GLG 342	Geoarchaeology
GLG 354	Geomorphology
GLG 402	Geomicrobiology
GLG 408	Introduction to Hydrogeology
GLG 417	Forensic Isotope Geochemistry
GLG 427	Isotope Geochemistry
GLG 428	Hydrogeological Modeling: Groundwater Flow and Contaminant Transport and Fate
GLG 432	X-ray Powder Diffraction and Clay Analysis
GLG 435	Soils and Paleosols
GLG 436	Paleoclimatology
GLG 437	Paleontology in Conservation

GLG 447	
GLG 450	Sedimentary Basin Analysis
GLG 461	Geophysics
GLG 467	Seismology
GLG 492	Global Tectonics
GLG 496	Isotopes in Environmental Processes
GLG 498	Senior Thesis In Geology ¹

Related Hours (10 credit hours minimum)

Select from the following (Chemistry): 4-5

GLG 211	Chemistry of Earth Systems
---------	----------------------------

or

CHM 141	College Chemistry or CHM 141R College Chemistry
---------	--

and

CHM 144	College Chemistry Laboratory
---------	------------------------------

Select one of the following (Physics): 3-5

GLG 261	Geohazards and the Solid Earth
PHY 161	Physics for the Life Sciences with Laboratory I
PHY 191	General Physics with Laboratory I

Select one of the following (Math/Stats): 3-5

STA 261	Statistics
---------	------------

STA 301	Applied Statistics
MTH 151	Calculus I
Total Credit Hours	68-74

¹ Departmental honors requires 3 credit hours of GLG 498 *and* public presentation of research project.

German- Bachelor of Arts

For information, contact the Department of German, Russian, Asian, and Middle Eastern Languages and Cultures, 172 Irvin Hall, 513-529-2526, gramelac@MiamiOH.edu.

This program provides students with a solid foundation in language, literature, and culture. The department offers an intensive summer program in Germany for students at intermediate and advanced levels.

Six semester hours of GER courses taught in English can be applied toward the required 27 semester hours. All courses for the German major must be taken for a grade except courses only offered as credit/no-credit.

Teacher Licensure

Students who wish to combine teacher licensure with an Arts and Science major must observe the rules, procedures, and restrictions pertaining to admission to a licensure cohort as outlined in the College of Education, Health and Society chapter. For information, contact the Office of Student Services in the College of Education, Health and Society, 202 McGuffey Hall, 513-529-6418.

Program Requirements

(27 semester hours numbered above GER 202 plus 9 hours of related courses)

Code	Title	Credit Hours
Language skills		
GER 301	German Language Through the Media	3
Literature		
GER 311	Passionate Friendships in German Literature from the Middle Ages to the Present	3
GER 312	Coming of Age in German Life and Thought	3
Culture		
GER 321	Cultural Topics in German-Speaking Europe Since 1870	3
or GER 322	Comparative Study of Everyday Culture: German-Speaking Europe and the U.S.A.	
Advanced study (Miami Plan Capstone)		
GER 471	Linguistic Perspectives on Contemporary German	3
Select a 400-level GER course		3
Two three-hour German courses at any level taught in English ¹		
Remaining course hours from those taught in German at 300 or 400 level		9

Related Hours

Select nine semester hours	9
Total Credit Hours	36

¹ These may include study of other national literatures, literary theory, comparative literature, linguistics, or another language. Depending on the subject, another major or minor may satisfy this requirement. Courses in music, art, history, political science, and other disciplines qualify on the basis of their content. Related hours must be approved by your advisor.

Students seeking the Bachelor of Arts in German meet the College of Arts and Science writing in the major requirement by completing the following courses: GER 301 and GER 471.

Global and Intercultural Studies Co-Major

For information, contact the Department of Global and Intercultural Studies, 120 MacMillan Hall, 513-529-2018.

The GIC Co-Major enhances a primary degree by exploring questions related to global systems of power in our interconnected world. The Co-Major examines questions related to belonging, identity and culture, as well as economic and political trends. Students learn to address contemporary issues, such as immigration, poverty, inequality, and sustainable development, using interdisciplinary perspectives and diverse frames of reference. Students, will, with an advisor, design a concentration in an area of interest to them, such as Global Economies; Critical Race and Ethnicities; Human Rights and Social Movements; Migrations: Transnationalism and Diaspora; Critical Gender and Sexualities; Visual and Popular Culture; and Environment, Science and Health. GIC Co-Majors may have a primary major in any department and division. A minimum of 18 credit hours must be unique to the Co-Major, thus, outside of students' primary major coursework.

Program Requirements

Code	Title	Credit Hours
Core Courses		
Select the following:		
GIC 101	Global and Intercultural Studies	3
GIC 301	Approaches to Global and Intercultural Studies: Globalization and Belonging	3
Select two of the following:		6-7
AAA 201	Intro to Asian/ Asian Amer	
or AAA 207	Asia and Globalization	
AMS 205	Introduction to American Cultures	
or AMS 207	America: Global and Intercultural Perspectives	
CRE 151	Introduction to Critical Race and Ethnic Studies	
or CRE 156	Introduction to Africa	
ITS 201	Introduction to International Studies	
LAS 208	Introduction to Latin America	
or LAS 215	Latin America in the United States	
WGS 201	Introduction to Women's Studies	

or WGS 202 Introduction to GLBT Studies

Experiential Component 3

Approved by advisor from the following, or see advisor for alternatives:

AMS 277	Independent Studies
AMS 301	American Identities
ITS 340	Internship
or JRN 340	Internship
SPN 331	Spanish for Community Work
WGS/CRE 402	Engaged Learning Practicum

Capstone 3-4

Select one:

AMS 401	Senior Capstone in American Studies
CRE/ENG/WGS 432	Feminism and the Diaspora: U.S. Women of Color
FSW/SOC/WGS 451	Interpersonal Violence
CRE/SOC 470	Social/Political Activism
ITS 402	Senior Capstone in International Studies
LAS 410	Current Latin American Issues
WGS 401	The Role of Women in a Transforming Society

Concentration Hours ¹ 15

Approved by advisor, in one area of concentration, from existing courses.

Concentration hours may be approved from Programs in the GIC Department or from relevant departments.

Total Credit Hours 33-35

¹ Minimum of 15 at the 300-level or above, at least 9 of which must be from Programs in the GIC Department.

History- Bachelor of Arts

For information, contact the Department of History, 254 Upham Hall, 513-529-5121.

The history major provides a specialized undergraduate program that strengthens a student's ability to read critically; analyze physical and written evidence; and develop clear, coherent arguments. These skills allow the student to engage the past with careful and imaginative questions. As students engage in the discipline of historical inquiry, they will become adept at developing written conclusions and oral presentations based on the systematic evaluation of historical evidence. Students will grow used to considering an array of cultures, familiar and unfamiliar, in diverse historical contexts.

Teacher Licensure

Students who wish to combine teacher licensure with an Arts and Science major must observe the rules, procedures, and restrictions pertaining to admission to a licensure cohort as outlined in the College of Education, Health and Society chapter. For information, contact the Office of Student Services in the College of Education, Health and Society, 202 McGuffey Hall, 513-529-6317.

Program Requirements

(36 semester hours)

Code	Title	Credit Hours
HST 206	Introduction to Historical Inquiry ¹	3
At least one History course at the 100 level		3
At least three History courses at 200 level (excludes HST 206)		9
At least six History courses at 300 level or above ²		18
HST 400	Senior Capstone in History	3
Total Credit Hours		36

¹ You must take HST 206 within one semester of becoming a History major. You must earn a C or better in HST 206 in order to graduate as a History major.

² At least one of these (3) must be at the 400 level (excluding HST 400 and independent study work under-taken at the 400 level).

If you scored 3 or above on an Advanced Placement examination, you may apply 3 credit hours to the major (100-level course). University credit will be awarded as described below.

Code	Title	Credit Hours
U.S. History		
HST 111	Survey of American History to 1877	3
HST 112	Survey of American History: From 1877 to the Present	3
European History		
OTM Arts and Humanities		3
World History		
HST 197	World History to 1500	3
HST 198	World History Since 1500	3

A single course may fulfill both of the following categories (Geographical Diversity and Pre-modern Period).

Geographical Diversity Requirement (12 hours)

Two courses (6 hours) at the 200-level or above must be on the history of Africa, the Middle East, Asia, Latin America, or some combination of those regions. One course at the 200-level or above must be in American history (3). One course at the 200-level or above must be in European history, including Russia (3).

Pre-modern Period Requirement (6 hours)

Two courses (6) at the 200-level or above must be on the pre-modern period (defined as pre-1800), and at least one of those courses (3) must be a pre-1500 course.

Students seeking the Bachelor of Arts in History meet the College of Arts and Science writing in the major requirement by completing the following courses: HST 206 and HST 400.

Department Honors Option

History majors with a record of high achievement have the opportunity to participate in the Honors Program in History. Eligible

students will receive invitations to the program no later than the first semester of their junior year. Participation in the program is by invitation only and is based in part on the number of history courses taken to that point and the grade point average in those courses.

Students accepted into the Honors Program in History must complete the following, unless alternative arrangements are made in advance with the department honors director.

Code	Title	Credit Hours
HST 359	Junior Honors Colloquium ¹	3
HST 400	Senior Capstone in History ²	3
HST 480	Departmental Honors ³	1-3

¹ Ordinarily taken in the spring semester of the junior year. Counts toward upper-level courses for the History major.

² Ordinarily taken in the fall semester of the senior year. Fulfills the departmental and Miami Plan capstone requirement.

³ An independent study course ordinarily taken in the spring semester of the senior year with the senior thesis advisor. Counts toward upper-level courses for the History major, but not for the required 400-level course.

Individualized Studies- Bachelor of Arts

For information, contact the Western Program, 111 Peabody Hall, 513-529-2233 or Western@MiamiOH.edu (western@miamioh.edu).

The AB in Individualized Studies offers an academic home for students with multiple interests to develop their own plan of study by integrating a set of core classes with courses chosen by the student from almost any area of study. Western courses explore diverse subjects but share a strong interdisciplinary theme. By emphasizing the importance of studying complex issues from multiple perspectives, these courses equip students with skills in critical thinking, problem solving, and objective analysis. The individualized portion of the major is designed by students in close consultation with faculty and staff advisors, and draws from courses across the university, including study abroad, independent studies, and/or credit-bearing internships. The degree culminates in a student-designed project that positions students for entry into graduate school or the workplace.

Program Requirements

(43 semester hours)

Code	Title	Credit Hours
Introductory courses		
WST 231	Interdisciplinary Inquiry	3
WST 251	Individualized Studies Seminar	1
Core courses in interdisciplinary and integrative studies		
WST 301	Interdisciplinary Problems and Questions	3
WST 321	Developing Interdisciplinary Projects: Exploring Ways of Knowing	3

or WST 322	Developing Interdisciplinary Projects: Art and Politics of Representation	
WST 341	Interdisciplinary Synthesis and Action	3
Individualized coursework component		
Select a minimum of 24 hours ¹		24
Senior Project		
WST 421	Senior Project Proposal Workshop	3
WST 444	Senior Workshop and Project	3
Total Credit Hours		43

¹ Building upon the individualized plan of study completed in WST 251, students select and complete coursework at the 200-level or above from around the university to build content knowledge in specific area(s) of focus. Students might choose to pattern their individualized plan on an existing multidisciplinary Thematic Sequence or an interdisciplinary minor within the university, but will be expected to go well beyond what is already in place at Miami to flesh out their unique areas of study. Plans of study, subject to approval by a faculty advisor, may include study abroad, independent study, and/or credit-bearing internships as appropriate. The individualized component forms an important knowledge base for constructing the senior project.

Students seeking the Bachelor of Arts in Individualized Studies meet the College of Arts and Science writing in the major requirement by completing the following courses: WST 231.

International Studies- Bachelor of Arts in International Studies

For information, contact the director of the International Studies Program, 120 MacMillan Hall, 513-529-5333.

This interdisciplinary program is for students desiring a broad foundation for understanding and analyzing important issues within an international and multicultural context. Its flexible curriculum provides a basis for graduate work or careers in government service, international business, academia, tourism, public service, cultural relations, and law. **Overseas study is required** as a part of this major.

Program Requirements

(24 hours of core courses, plus 15-21 additional hours)

Code	Title	Credit Hours
Interdisciplinary Core Courses		
ITS 201	Introduction to International Studies	3
ITS 202	Problem Solving in International Studies	3
Select three of the following:		9
GEO 378	Political Geography	
HST 296	World History Since 1945: Conflict and Community	
ITS/ATH 301	Intercultural Relations	
or GIC 301	Approaches to Global and Intercultural Studies: Globalization and Belonging	
POL 271	World Politics	

Select the following:

ITS 302	Issues in the Global South	3
or ITS 365	Applied Topics in International Studies	
ECO 344	International Economic Relations ¹	3
or ITS 333	Global Development and Inequality	
ITS 402	Senior Capstone in International Studies ²	3

Language Requirement **6-12**

Spanish, French, German, Chinese, Japanese and Russian require 12 hours at the 300 level or above. All other languages require 6 hours at the 300 level or above. ³

Approved Study Abroad Experience

At least one semester must be spent abroad

Concentration Requirement **9**

Select 9 semester hours from at least 2 disciplines from the functional concentrations or regional concentrations. ⁴

Functional Concentrations:

Conflict, Peace and Diplomacy
International Development
Global Cultural Relations
The Global Environment
Global Human Rights and Justice
Women in the World

Regional Concentrations:

Africa
South and East Asia
Latin America
Middle East
Western Europe
Russia Eastern Europe and Central Asia

Total Credit Hours **39-45**

¹ ECO 201 and ECO 202 are prerequisites

² Senior year only

³ All language courses must be taken in the target language. Courses in translation or taught in English, or the student's native language, will not count toward the ITS language requirement. Alternative courses in relevant culture, history, or fine arts may be allowed only with ITS advisor approval and only if required language-based courses become unavailable. Students are also encouraged to complete language coursework during the required study abroad experience.

⁴ Take 9 hours from at least **two** different disciplines.

Students seeking the Bachelor of Arts in International Studies meet the College of Arts and Science writing in the major requirement by completing the following courses: ITS 202 and ITS 402.

Functional areas

Conflict, Peace and Diplomacy

Code	Title	Credit Hours
------	-------	--------------

Take no more than one course from Group B. All courses may be taken from Group A.

Group A

POL 271 is required and cannot be used in the core

ATH 432	Secrecy and Statecraft: Spies, Censors, and Prisoners in Authoritarian and Democratic Societies
GIC 301	Approaches to Global and Intercultural Studies: Globalization and Belonging
HST 222	U.S. Foreign Relations Since 1898
POL 221	Comparative Politics
POL 346	Global Gender Politics
POL 373	American Foreign Policy
POL 374	Foreign Policy Analysis
POL 376	U.S. National Security Policy
POL 381	Global Governance
POL 382	International Law
POL 387	International Security Issues
POL 471	The International System
POL 489	Conflict Management in a Divided World

Group B

HST 275	20th Century European Diplomacy
HST 332	Age of Dictators: Europe 1914-1945
HST 333	Reconstruction of Europe Since 1945
POL 423	European Union: Politics and Policies
REL 376	Global Jihadism

International Development

Code	Title	Credit Hours
------	-------	--------------

Take no more than one course from Group B. All courses may be taken from Group A.

No more than one 100-level course may be taken to fulfill the concentration.

Group A

BUS 371	International Business
ECO 347	Economic Development
ECO 373	Economic Growth
ECO 442	International Monetary Relations
GEO 101	Global Forces, Local Diversity
GEO 111	World Regional Geography: Patterns and Issues
GEO 475	Global Periphery's Urbanization
GEO 476	Global Poverty
ITS 302	Issues in the Global South
MKT 425	Global Marketing
SOC 257	Population
SOC 305	Introduction to the Sociology of Globalization

Group B

GEO/ITS/SOC 208	The Rise of Industrialism in East Asia
GEO 301	Geography of Sub-Saharan Africa
GEO 308	Geography of East Asia
HST/CRE 225	The Making of Modern Africa

HST 331 Industry and Empire: Europe from 1850 to 1914

REL 314 Social and Religious History of the Jewish People

Global Cultural Relations

Code	Title	Credit Hours
------	-------	--------------

Take no more than one course from Group B. All courses may be taken from Group A.

No more than one 100-level course may be taken to fulfill the concentration.

Group A

ATH 175	Global Cultural Diversity	
ATH/ITS 301	Intercultural Relations	
ATH 345	Global Media, Ethnography, and Film	
ATH 358	Travelers, Migrants, and Refugees: Transnational Migration and Diasporic Communities	
ATH 403	Anthropology of Religion	
ATH 405	Food, Taste, and Desire	
GIC 301	Approaches to Global and Intercultural Studies: Globalization and Belonging	
POL/WGS 346	Global Gender Politics	
PSY 210	Psychology Across Cultures	

Group B

AMS/FST/ITL 222	Italian American Culture	
AMS 302	Immigrant America	
ATH 305	Latin America: Anthropological Perspectives	
ATH 307	The Middle East: Anthropological Perspectives	
ATH 358	Travelers, Migrants, and Refugees: Transnational Migration and Diasporic Communities	
ATH 366	African Oral Traditions	
FST/ITL 262	Italian Cinema	
FST/RUS 263	Soviet and Post-Soviet Russian Cinema	
FST/CHI 264	Chinese Cinema and Culture	
FST/JPN 266	Survey of Japanese Cinema	
GEO/ITS/SOC 208	The Rise of Industrialism in East Asia	
GEO 308	Geography of East Asia	
GER 321	Cultural Topics in German-Speaking Europe Since 1870	
GER 322	Comparative Study of Everyday Culture: German-Speaking Europe and the U.S.A.	
HST/CRE 224	Africa to 1884	
HST/CRE 225	The Making of Modern Africa	
HST 215	Latin America in the United States	
HST 354	Modern Chinese History	
HST 356	Modern Japanese History	
LAS 208	Introduction to Latin America	
LAS 315	Latin American Diaspora: Communities, Conditions and Issues	

The Global Environment

Code	Title	Credit Hours
------	-------	--------------

No more than two 100-level courses may be taken to fulfill the concentration.

ATH 471	Ecological Anthropology	3
BIO 115	Biological Concepts: Ecology, Evolution, Genetics, and Diversity	4
BUS/IES 494	Sustainability Perspectives in Resources and Business	3
CPB 244	Introduction to Environmental Engineering	3
ECO 406	Environmental Economics	3
GEO 271	Human Dimensions of Natural Resource Conservation	3
GEO 333	Global Perspectives on Natural Disasters	3
GEO/WGS 436	Women, Gender, and the Environment	3
IES 450	Environmental Law	3
PHL 376	Environmental Philosophy	4

Global Human Rights and Justice

Code	Title	Credit Hours
------	-------	--------------

Required courses: take both

SJS/SOC 165	Social Justice Perspectives	3
SJS/SOC 323	Social Justice and Change	3

Elective courses: take one

ATH/CRE/LAS/WGS 325	Identity, Race, Gender, Class	
ATH 358	Travelers, Migrants, and Refugees: Transnational Migration and Diasporic Communities	
GEO/WGS 436	Women, Gender, and the Environment	
GEO 475	Global Periphery's Urbanization	
GEO 476	Global Poverty	
GTU 254	Global Aging	
HST/LAS 243	History of the Atlantic Slave Trade, 1400s to 1800s	
HST/LAS 319	Revolution in Latin America	
POL 346/WGS 356	Global Gender Politics	
POL 381	Global Governance	
POL 382	International Law	
REL 314	Social and Religious History of the Jewish People	
SJS 470	Social/Political Activism	
SOC/WGS 203	Sociology of Gender	
SOC 305	Introduction to the Sociology of Globalization	
SOC 490	Current Issues in Sociology	

Women in the World

Code	Title	Credit Hours
AAA/ENG/WGS 351	Cultural Politics of Gender and Sexuality in Asian/America	3
ATH 325	Identity, Race, Gender, Class	3
GEO/WGS 436	Women, Gender, and the Environment	3
PHL/WGS 355	Feminist Theory	3
POL/WGS 346	Global Gender Politics	3
POR/FST/WGS 383	Brazilian Women through Literature and Film	3
REL/WGS 313	Marriage Across Cultures	3
REL/WGS 333	Religion, Dress, and Status	3
SOC/WGS 203	Sociology of Gender	3
SOC 305	Introduction to the Sociology of Globalization	3
WGS 201	Introduction to Women's Studies	3

Regional areas

Africa

Code	Title	Credit Hours
ART 309	The Arts of African Peoples	3
ATH 366	African Oral Traditions	3
CRE 156	Introduction to Africa	4
CRE/HST 224	Africa to 1884	3
CRE/HST 225	The Making of Modern Africa	3
CRE/HST/LAS 243	History of the Atlantic Slave Trade, 1400s to 1800s	3
CRE/GEO 301	Geography of Sub-Saharan Africa	4
CRE/ENG/FST/POR 381	Afro-Brazilian Diaspora Through Film and Arts	3
CRE/HST/LAS 385	Race, Science, and Disease in the Americas	3
ITS 302	Issues in the Global South	3
POR/ENG/FST/WGS 383	Brazilian Women through Literature and Film	3

South & East Asia

Code	Title	Credit Hours
ART 286	History of Asian Art, China, Korea, and Japan	3
ART 311	Chinese Painting History	3
ATH 308	South Asia: Anthropological Perspectives	3
CHI 251	Traditional Chinese Literature in English Translation	3
CHI 252	Modern Chinese Literature in English Translation	3
CHI 253	Three Kingdoms	3
CHI 254	Modern Chinese Autobiography	3
CHI/JPN 255	Drama In China/Japan:Eng Trans	3
CHI 257	Chinese Satire	3

FST 264	Chinese Cinema and Culture	3
FST/JPN 266	Survey of Japanese Cinema	3
GEO/ITS/SOC 208	The Rise of Industrialism in East Asia	3
GEO 308	Geography of East Asia	3
GEO 408	Geography of the Silk Road (The Heart of Asia)	3
GEO 410	Advanced Regional Geography	1-4
JPN 231	Japanese Tales of the Supernatural in English Translation	3
REL 223	Introduction to Buddhism	3
REL 226	Introduction to Islam	3

Latin America

Code	Title	Credit Hours
AMS/LAS 315	Latin American Diaspora: Communities, Conditions and Issues	3
ART 317	The Arts of Colonial Latin America	3
ATH 206/LAS 208	Introduction to Latin America	3
ATH 305	Latin America: Anthropological Perspectives	3
ATH 415	Field Methods in Archaeology	1-6
CRE/HST/LAS 243	History of the Atlantic Slave Trade, 1400s to 1800s	3
CRE/LAS/WGS 325	Identity, Race, Gender, Class	3
CRE/ENG/FST/POR 381	Afro-Brazilian Diaspora Through Film and Arts	3
CRE/HST/LAS 385	Race, Science, and Disease in the Americas	3
ENG 254	Caribbean, Latin American and Latinx Literatures	3
GEO/IES 412	Tropical Ecosystems of Costa Rica	5
HST/LAS 217	Modern Latin American History	3
HST 215	Latin America in the United States	3
HST/LAS 319	Revolution in Latin America	3
LAS/FST/POR 204	Brazilian Culture Through Music and Film	3
LAS/SPN 332	Latin American Popular Culture	3
LAS 410	Current Latin American Issues	1-3
LAS 424	Seminar on Modern Architecture in Latin America	3
POL 337	Politics of Latin America	3
POR/ENG/FST/WGS 383	Brazilian Women through Literature and Film	3
SPN 315	Intro to Hispanic Literatures	3
SPN 361	Marginalized Voices	3
SPN 362	Spanish American Cultural History II	3
SPN 430	Selected Topics in Literature and Culture: Spanish America	3
SPN 461	Spanish American Film, Visual, and Digital Studies	3
SPN 463	Spanish American Interdisciplinary Studies	3

Middle East

Code	Title	Credit Hours
ARB 230	Topics in Arabic Literature in Translation	3
ATH 307	The Middle East: Anthropological Perspectives	3
ATH 308	South Asia: Anthropological Perspectives	3
HST 241	Introduction to Islamic History	3
POL 336	Politics of the Middle East	3
REL 226	Introduction to Islam	3
REL 314	Social and Religious History of the Jewish People	3
REL 376	Global Jihadism	3

Western Europe

Code	Title	Credit Hours
ART 314	The Renaissance in Italy	3
ART 316	Baroque Art in Europe	3
ATH 235L		3
ATH/CLS/HST/ POL/REL/RUS 254	Introduction to Russian and Eurasian Studies	3
ATH 335L	Multiculturalism in Europe: Anthropological Perspectives	3
ENG 251	Introduction to European Literature	3
ENG 339	British Romanticism, 1789-1837	3
ENG 343	Victorian Literature, 1837-1901	3
ENG/ITL 401	Dante's Divine Comedy	3
FRE 350	Topics in French Literature in Translation	3
FRE/FST 366	French Cinema in Translation	3
FRE 411	Modern and Contemporary French Society	3
FST/GER 261	German Film in Global Context	3
FST/ITL 262	Italian Cinema	3
GER 321	Cultural Topics in German-Speaking Europe Since 1870	3
GER 322	Comparative Study of Everyday Culture: German-Speaking Europe and the U.S.A.	3
HST 270	Topics in European History	1-4
HST 275	20th Century European Diplomacy	3
HST 313	History of England to 1688	3
HST 332	Age of Dictators: Europe 1914-1945	3
HST 333	Reconstruction of Europe Since 1945	3
ITL 221	Italy, Matrix of Civilization	3
POL 333	Politics of Western Europe	3
POL 423	European Union: Politics and Policies	3
SPN 315	Intro to Hispanic Literatures	3
SPN 351	Historical Perspectives on Current Issues	3
SPN 352	Cultural History of Spain II	3

SPN 381	Language and Society: Past and Present	3
SPN 454	Don Quixote	3

Russia Eastern Europe and Central Asia

Code	Title	Credit Hours
ATH/CLS/HST/ POL/REL/RUS 254	Introduction to Russian and Eurasian Studies	3
ATH/HST 436/ POL 440/ REL 470A/RUS 436	Havighurst Colloquium	3
ENG/RUS 255	Love and Death in Nineteenth-Century Russian Literature	3
FST/RUS 263	Soviet and Post-Soviet Russian Cinema	3
GEO 408	Geography of the Silk Road (The Heart of Asia)	3
HST 324	Eurasian Nomads and History	3
HST 374	History of the Russian Empire	3
HST 375	The Soviet Union and Beyond	3
HST 428	History Through Literature	3
HST 470	Topics in World History	3
POL 254	Introduction to Russian and Eurasian Studies	3
POL 331	Communism and Soviet Politics, 1917-1991	3
POL 332	Post-Soviet Russian Politics	3
POL 334	Politics of Eastern Europe	3
REL 133	Imagining Russia	3
RUS 137	Magic and Power in Russian Folklore	3

Italian Studies- Bachelor of Arts

For more information, contact the Department of French, Italian, and Classical Studies, 105 Irvin, 513-529-7508.

Prerequisite Preparatory Course

(8 semester hours)

Code	Title	Credit Hours
Select one of the following:		8
ITL 101 & ITL 102	Beginner's Course and Beginner's Course ¹	
ITL 105W	Intensive Elementary Italian (or equivalent) ²	

Total Credit Hours **8**

¹ Taken at Miami University

² Offered at the Miami University Summer Language Institute in Italy

Generally, two years of language study in high school are the equivalent of one year in college. It is not necessary to complete the first-year courses before embarking on the major. They may be taken concurrently with major courses, but ideally should be completed during the student's first two years.

Program Requirements

(30 credit hours)

Code	Title	Credit Hours
Required Courses		
ITL 221	Italy, Matrix of Civilization	3
ITL 425	Senior Seminar (Senior Seminar)	3
Core Courses		
Select at least six courses of the following: ¹		18-24
ART 314	The Renaissance in Italy	
CLS 102	Roman Civilization: From City to Empire	
HST 315	The Renaissance	
HST 328	Italy: Machiavelli to Mussolini	
HST 452	Florence in the Time of the Republic, 1250-1550	
ITL 201 & ITL 202	Second Year Italian and Second Year Italian ²	
ITL 205W	Intensive Intermediate Italian ^{2,3}	
ITL/AMS/FST 222	Italian American Culture	
ITL/FST 262	Italian Cinema	
ITL 301	Culture, Society and Politics in Perspective	
ITL 302	Introduction to Italian Literature	
ITL 305W	Intensive Advanced Italian (offered at the Miami University Summer Language Institute in Italy)	
ITL 362	Mafia and Cinema	
ITL/ENG 364	From Marco Polo to Machiavelli	
ITL/ENG 401	Dante's Divine Comedy	
ITL 410	Topics in Italian	
Supplementary Courses		
Select up to six semester hours of the following: ⁴		6
ART 316	Baroque Art in Europe	
ART 382	Greek and Roman Sculpture	
ART 383	Greek and Roman Painting	
CLS 332	Classical Mythology and the Arts	
Total Credit Hours		30-36

¹ Select fewer if choosing ITL 205W or ITL 305W, which are 8 hours each, for a minimum of 18 hours, up to as many as eight three credit courses, for a maximum of 24 semester hours.

² Select either ITL 201 & ITL 202 or ITL 205W.

³ Offered at the Miami University Intensive Italian in Reggio Emilia summer study abroad program.

⁴ ITL 350 - Special Topics courses can be used, with approval of the program director.

Concentration in Italian Language and Literature

A notation will be added to the transcripts of students completing at least 18 credits in courses with an ITL designation, indicating that they have fulfilled the requirements for the Italian Studies Major with a

Concentration in Italian Language and Literature. This concentration requires at least two years of Italian at the university level. ITL 301 and ITL 302 are strongly recommended, as is participation in the Miami University Summer Language Institute in Reggio Emilia, Italy.

Code	Title	Credit Hours
Required Courses		
Select one of the following: ¹		6-8
ITL 201 & ITL 202	Second Year Italian and Second Year Italian	
ITL 205W	Intensive Intermediate Italian (or the equivalent.) ²	
Strongly Recommended		
It is strongly recommended students select 3-14 hours of the following:		3-14
ITL 301	Culture, Society and Politics in Perspective	
ITL 302	Introduction to Italian Literature	
ITL 305W	Intensive Advanced Italian ²	
ITL 410	Topics in Italian	
Select remaining hours, if any, of the following:		
ITL/AMS/FST 222	Italian American Culture	
ITL/FST 262	Italian Cinema	
ITL/ENG 364	From Marco Polo to Machiavelli	
ITL/ENG 401	Dante's Divine Comedy (in English)	
Total Credit Hours		9-22

¹ Eight semester hours if ITL 205W is chosen.

² Offered at the Miami University Intensive Italian in Reggio Emilia summer study abroad workshop.

Students seeking the Bachelor of Arts in Italian Studies meet the College of Arts and Science writing in the major requirement by completing the following course/s: ITL 221 and ITL 425.

Journalism- Bachelor of Arts

For information, contact the area coordinator of the journalism program, Dr. Rosemary Pennington, 149 Williams Hall, 513-529-3460 or penninrm@miamioh.edu.

This program provides students with a liberal arts approach to integrated journalism (print, broadcast, and web) focusing on proficiency in critical thinking, writing, reporting, and editing. These skills prepare students for careers in print and broadcast journalism, new media, related professions, and graduate studies. The program further emphasizes the importance of acting as ethical and productive members of the media and the community at large. In addition, all journalism students must choose and complete a **second major**.

Program Requirements

(39 semester hours minimum, plus a second major)

No more than 9 credit hours may be counted toward both the completion of the Journalism major and the completion of a second major.

Code	Title	Credit Hours
Core requirements		
JRN 101 or JRN 120	Journalism and American Life Prodesse Scholars: Truth, Lies, and the News	3
JRN 102	Precision Language for News Writing (JRN 102 should be taken before students enroll in JRN 201.)	3
JRN 201	Reporting and News Writing I ¹	3
JRN 202	Reporting and News Writing II	3
JRN 303	Multimedia Journalism	3
JRN 318	Advanced Storytelling in Journalism	3
JRN 412	Public Affairs Reporting	3
MJF 105	Media, Culture and You	3
MJF 146	Foundations of Production	3
Electives		
Select three of the following:		9-11
JRN 310	Topics in Journalism Studies	
JRN 313	Digital Audio Reporting	
JRN 314	Digital Video Reporting	
JRN 316	Editing and Design	
JRN 333	International Journalism	
JRN 350	Specialized Journalism ^{2,3}	
JRN 418	Critical Writing in Journalism	
JRN 427	Inside Washington Semester Experience	
JRN 454	The Washington Community	
MJF 301	Media Law and Ethics	
Capstone		
Select one of the following:		3-8
JRN 415	Capstone in Television Journalism	
JRN 421	Capstone in Journalism	
JRN/MAC/POL 426	Inside Washington	
Internship ²		
JRN 340	Internship ³	
Total Credit Hours		39-46

¹ Prerequisite for JRN 202 and all 300- and 400-level JRN writing/editing courses

² An internship is not required but **strongly** encouraged for all majors.

³ This course can be repeated.

Students seeking the Bachelor of Arts in Journalism meet the College of Arts and Science writing in the major requirement by completing the following course: JRN 201.

Latin American, Latino/a & Caribbean Studies- Bachelor of Arts

For information, contact the LAS Program, 120 MacMillan Hall, 513-529-5333.

Latin American Latino/a & Caribbean Studies (LAS) offer an interdisciplinary major and minor based in mutually enriching perspectives in the humanities, fine arts, social and physical sciences. Courses examine and analyze Latin American and Caribbean cultures, economies, social and political systems, literature, art, music, history, and geography across the hemisphere. Opportunities to study abroad and to engage with Latin American communities in Ohio promote the active application of international knowledge to issues vital to today's changing world.

Program Requirements

(At least 30 semester hours)

Code	Title	Credit Hours
Introduction to Latin America		
Select three semester hours of the following: ¹		3
LAS 208/ ATH 206	Introduction to Latin America	
LAS/HST 217	Modern Latin American History	
LAS 215	Latin America in the United States	
Interdisciplinary Writing		
LAS 211	Writing with Purpose: Interdisciplinary Inquiry and Communication	3
Culmination of Latin American Studies		
Select three semester hours of the following: ¹		3
LAS 410	Current Latin American Issues	
LAS 477	Independent Studies	
Language Requirement		
Select one of the following options:		3-7
Option 1: select one course		
FRE 301	Culture & Interpretation	
SPN 311	Grammar Review and Introductory Composition	
Option 2: select two courses		
SPN 202	Second Year Spanish (or the equivalent)	
POR 211	Intermediate Portuguese (or the equivalent)	
FRE 202	Critical Analysis of French Culture (or the equivalent)	
One course from a second language selected from SPN, POR or FRE		
Core Courses		
Select at least 15 hours, with at least 6 credits of the Core Course hours coming from LAS courses or their cross-listed equivalents. At least 3 of the LAS course credits must be from the 300-level.		15
AMS 302	Immigrant America	
ART 317	The Arts of Colonial Latin America	
ATH 305	Latin America: Anthropological Perspectives	
ATH 313	Latin American Archaeology	
ATH 415	Field Methods in Archaeology	
FST/MUS/POR 204	Brazilian Culture Through Music and Film	

ENG/LAS 254	Caribbean, Latin American and Latinx Literatures
LAS/HST/CRE 243	History of the Atlantic Slave Trade, 1400s to 1800s
LAS 277	Independent Studies
or LAS 377	Independent Studies
or LAS 477	Independent Studies
LAS 300	Special Topics
LAS 315	Latin American Diaspora: Communities, Conditions and Issues
LAS/HST 319	Revolution in Latin America
LAS 325	Identity, Race, Gender, Class
LAS/SPN 332	Latin American Popular Culture
LAS/HST/CRE 385	Race, Science, and Disease in the Americas
LAS 390	Special Topics
LAS 424	Seminar on Modern Architecture in Latin America
POL 337	Politics of Latin America
SPN 315	Intro to Hispanic Literatures
SPN 331	Spanish for Community Work
SPN 361 & SPN 362	Marginalized Voices and Spanish American Cultural History II
SPN 430	Selected Topics in Literature and Culture: Spanish America
SPN 450	Topics in Hispanic Culture and Language
SPN 461	Spanish American Film, Visual, and Digital Studies
SPN 463	Spanish American Interdisciplinary Studies

Related Courses

Select up to three semester hours	3
AMS 207	America: Global and Intercultural Perspectives
ATH 175	Global Cultural Diversity
ATH 185	Cultural Diversity in the U.S.
ATH 312	North American Archaeology
EDL 204	Sociocultural Studies in Education
FSW 206	Social Welfare Policies & Programs
GEO 111	World Regional Geography: Patterns and Issues
HST 371	Native American History to 1840
HST 386	Race in U.S. Society
IDS 159	Strength Through Cultural Diversity
ITS 201	Introduction to International Studies
MUS 186	Global Popular Music
SJS 215	EMPOWER I: Educational and Economic Justice and Service-Learning
SOC 153	Sociology in a Global Context
SOC 348	Race and Ethnic Relations

Total Credit Hours

30-34

¹ Additional credits here are counted toward the core courses requirement.

Study Abroad

The LAS Program highly values study abroad in all Latin American contexts and will extend credit by petition to international study experiences that fulfill program criteria

New courses

New courses, one-time only courses, sections of variable content courses, and other that relate to Latin America may be recognized by petition for credit toward appropriate categories.

Students seeking the Bachelor of Arts in Latin American, Latino/a and Caribbean Studies meet the College of Arts and Science writing requirement by completing LAS 211 and an LAS culmination course: LAS 410 or LAS 477.

Linguistics- Bachelor of Arts

For information, contact the Department of English, 356 Bachelor Hall, 513-529-5221.

The English department offers four majors: creative writing, literature, linguistics, and professional writing. These concentrations lead to a Bachelor of Arts degree.

Linguistics is the study of language. Linguists look at how people use language and try to find the rules that govern that use.

Program Requirements

(36 semester hours)

Code	Title	Credit Hours
Core Courses		
LIN 201	Introduction to Linguistics	3
LIN 202	American Dialects, Culture, and Identity	3
LIN 210	Special Topics in Language Awareness	3
LIN 301	History of the English Language	3
or LIN 302	Structure of Modern English	
LIN 460	Capstone in Linguistics	3
or ATH 465	Ethnography of Communication	
Capstone course:		
Tracks		12
Select one of the following three tracks:		
Applied Linguistics		
ENG 408	Second Language Acquisition	
LIN 302	Structure of Modern English	
LIN 410	Selected Topics in Linguistics	
SPA 223	Theories of Language Development	
SPA 334	Clinical Phonetics and Articulation Disorders	

SPA 413	Senior Seminar in Communication Disorders (Variable topics as applicable; permission of instructor required)
SPN 484	Second Language Acquisition: Spanish
TCE 311	Educational Strategies for Non-Majors
TCE 444	Language Teaching and Learning I
TCE 445	Language Teaching & Learning II

Foreign Languages and Linguistics

At least two of the courses must be in the same foreign language. Foreign language literature or culture courses taught in English translation do not count toward this track.

Courses taken at the 200 level or above in the following languages may count toward this track: Arabic, American Sign Language, Chinese, Greek, Hebrew, Japanese, Korean, Latin, and Russian.

Courses taken at the 300 level or above in the following languages may count toward this track: French, German, Italian, Portuguese, and Spanish.

Sociocultural Linguistics

ATH 265	Introduction to Linguistic Anthropology
ATH 361	Language and Power
ATH 364	Language and Culture in Native North America
ATH 378	Doctors, Clinics, and Epidemics
ATH 465	Ethnography of Communication
ENG 298	Introduction to Literary and Cultural Studies
FRE 341	Conversation and Current Events in France
GER 471	Linguistic Perspectives on Contemporary German
LIN 210	Special Topics in Language Awareness
LIN 301	History of the English Language
LIN 410	Selected Topics in Linguistics
PSY 374	Psychology of Language and Thought
SPN 381	Language and Society: Past and Present
SPN 382	Spanish Language and Hispanic Culture II
SPN 483	History of the Spanish Language
STC 236	Intercultural Communication

Electives 9

Choose from among the unused courses in the pre-approved tracks, and/or from the list of electives below.

ATH 265	Introduction to Linguistic Anthropology
ATH 304	Native North America: Anthropological Perspectives
ATH 345	Global Media, Ethnography, and Film
ATH 358	Travelers, Migrants, and Refugees: Transnational Migration and Diasporic Communities
ATH 361	Language and Power

ATH 364	Language and Culture in Native North America
ATH 366	African Oral Traditions
ATH 378	Doctors, Clinics, and Epidemics
ATH 425	Ethnographic Field Methods
ATH 465	Ethnography of Communication
CIT 154	Personal Computer Concepts and Applications
CSE 151	Computers, Computer Science, and Society
CSE 174	Fundamentals of Programming and Problem Solving
CSE 274	Data Abstraction and Data Structures
CSE 283	Data Communication and Networks
CSE 473	Automata, Formal Languages, and Computability
CSE 474	Compiler Design
CSE 486	Introduction to Artificial Intelligence
ENG/IMS 224	Professional Communication & Digital Rhetoric
ENG 226	Introduction to Creative Writing: Short Fiction and Poetry
ENG 298	Introduction to Literary and Cultural Studies
LIN 210	Special Topics in Language Awareness
LIN 301	History of the English Language
LIN 302	Structure of Modern English
ENG 313	Technical Writing
ENG 327	Medieval Literature
AAA 410	Asian/Asian American Studies
LIN 410	Selected Topics in Linguistics
ENG/IMS 411	Visual Rhetoric
ENG/IMS 416	Writing for Global Audiences
FRE 341	Conversation and Current Events in France
FRE 361	French Pronunciation
GER 471	Linguistic Perspectives on Contemporary German
IDS 259	Introduction to the Miami Tribe of Oklahoma
MTH 483	Introduction to Mathematical Logic
PHL 273	Formal Logic
PHL 373	Symbolic Logic
PSY 271	Survey of Perception, Action, and Cognition
PSY 374	Psychology of Language and Thought
PSY 470	Seminar in Cognition
SPA 223	Theories of Language Development
SPA 334	Clinical Phonetics and Articulation Disorders
SPN 311	Grammar Review and Introductory Composition
SPN 312	Introduction to Spanish Language/ Linguistics

SPN 381	Language and Society: Past and Present
SPN 382	Spanish Language and Hispanic Culture II
SPN 440	Selected Topics in Spanish Language and Hispanic Culture
SPN 481	Spanish Phonology and Syntax
SPN 482	Language Variation in Spanish
SPN 483	History of the Spanish Language
SPN 484	Second Language Acquisition: Spanish
SOC 262	Research Methods
SOC 462	Applied Sociological Research
STC 262	Research Methods
STC 236	Intercultural Communication

Total Credit Hours **36**

Students seeking the Bachelor of Arts in Linguistics meet the College of Arts and Science writing in the major requirement by completing the following course/s: LIN 210 and LIN 460 .

Mathematics- Bachelor of Arts

For information, contact the Department of Mathematics, 123 Bachelor Hall, 513-529-5818.

The Bachelor of Arts program in Mathematics requires all sections of the College of Arts and Science Requirement (CAS) and the related hours requirement. All MTH and STA courses applied to the program and all courses in the 12-hour section of the related hours must be taken for grades, not credit/no-credit. In the MTH and STA courses, the GPA must be at least 2.00. Service courses do not figure into the GPA unless explicitly approved by the department.

Program Requirements: Bachelor of Arts

(9 prerequisite hours, 6-7 introductory hours, 19 major hours, 15 related hours; 40-50 total hours)

Each degree requires the following introductory courses:

Code	Title	Credit Hours
MTH 252	Calculus III ¹	4
MTH 222 or MTH 222T	Introduction to Linear Algebra	2-3
Total Credit Hours		6-7

¹ The Honors version of this course will also apply. Prerequisites include Calculus I and Calculus II.

Select courses from the lists below to meet the following hours requirements:

- The selected courses must include at least 19 semester hours at the 300 level or above.
- The selected courses must include at least 16 hours at the 400 level.

- The selected courses must include at least 9 semester hours at the 400 level earned at Miami.

Code	Title	Credit Hours
Transition Course		
MTH 331	Proof: Introduction to Higher Mathematics	3
or MTH 331T	Proof: Introduction to Higher Mathematics (H)	
Theoretical Courses:		
Take one of the following:		3-4
MTH 421	Introduction to Abstract Algebra	
MTH 441	Real Analysis	
Take an unused theoretical course above or one of the following:		3
MTH 411	Foundations of Geometry	
MTH 438	Theory and Applications of Graphs	
MTH 483	Introduction to Mathematical Logic	
MTH 486	Introduction to Set Theory	
MTH 491	Introduction to Topology	
Applied Courses:		
Take two of the following:		6-7
MTH 347	Differential Equations	
MTH 432	Optimization	
MTH 439	Combinatorics	
MTH 447	Topics in Mathematical Finance	
MTH 451	Introduction to Complex Variables	
MTH 453	Numerical Analysis	
MTH 455	Introduction to Partial Differential Equations	
MTH/MME 495	Introduction to Applied Nonlinear Dynamics	
STA 401	Probability	
Elective Courses:		
Select enough additional courses from the following list, or unused courses from the lists above, to meet the hours requirements stated above.		2-4
MTH 410	Topics In Geometry	
MTH 420	Topics in Algebra	
MTH 425	Number Theory	
MTH 435	Mathematical Modeling Seminar	
MTH 437	Game Theory and Related Topics	
MTH 440	Topics in Analysis	
MTH 482	Great Theorems of Mathematics	
Total Credit Hours		19

Students seeking the Bachelor of Arts in Mathematics meet the College of Arts and Science writing in the major requirement by completing at least one course from each of the following tiers:

Code	Title	Credit Hours
Tier 1 (Introductory Course)		
MTH 331	Proof: Introduction to Higher Mathematics	3

MTH 347	Differential Equations	3
Tier 2 (Theory Course)		
MTH 421	Introduction to Abstract Algebra	4
MTH 438	Theory and Applications of Graphs	3
MTH 441	Real Analysis	3
MTH 491	Introduction to Topology	3
Tier 3 (Capstone Course)		
MTH 425	Number Theory	3
MTH 435	Mathematical Modeling Seminar	3
MTH 482	Great Theorems of Mathematics	3

There is one exception that is possible. Students with transfer credit for MTH 331 and MTH 347, or students who are so well prepared as to skip these courses, may take a second course from Tier 2 in place of a Tier 1 course.

Related Hours

A program of related courses is intended to provide the student with opportunities to see and do mathematics or statistics in the context of other disciplines and, perhaps, enhance the student's employment prospects. The departmental requirement is for a program of at least 15 hours. Please note that all related area courses must be taken for a grade, not as credit/no credit. Each program includes two parts, as follows:

Part I: Computer Programming Requirement: Every major is required to demonstrate computer programming proficiency by passing one approved programming course. Approved courses include:

Code	Title	Credit Hours
CSE 153	Introduction to C/C++ Programming ¹	3
CSE 163	Introduction to Computer Concepts and Programming ¹	3
CSE 174	Fundamentals of Programming and Problem Solving ¹	3
STA 402	Statistical Programming ²	3
MTH 408	Mathematical Problem Solving with Technology ³	3
PHY 286	Introduction to Computational Physics ⁴	3

¹ Any CSE course with one of CSE 153, 163, 174 as a prerequisite can be used to satisfy the programming requirement.

² STA 402 cannot be used to satisfy any other Mathematics or Mathematics and Statistics degree requirement if it is used toward the programming requirement.

³ MTH 408 can only be used toward the programming requirement by students who have been admitted to an AYA teacher licensure cohort.

⁴ PHY 286 can only be used toward the programming requirement by students who are also majoring in Physics.

Part II: Related Area Requirement: Every major must include in their program a cluster of courses in one area of study which mathematics or statistics is used. Minimally (but see **Related Area Reduction** below), the area is to consist of at least 12 credit hours, with at least 6 advanced hours. Advanced hours include

all courses numbered 200 level or above in CHM, CSE, PHY, and all courses numbered 300 level or above in ACC, ECO, ECE, ISA, STA. Pre-approved related areas are listed below. If your interests are not accommodated by the pre-approved areas listed below, you may elect to design your own program of related courses. Such programs must be approved by the Chief Departmental Adviser **in advance of applying for graduation**. Pre-approved related areas include:

- Actuarial Science: ECO 201, ECO 202, ACC 221, ACC 222, FIN 301 (Students interested in an actuarial career are urged to complete the Minor in Actuarial Science, which will also satisfy this Related Area Requirement.)
- Teacher Education: The secondary licensure program in The College of Education, Health, and Society (This option is available only for Integrated Mathematics Education Majors).
- Accounting (ACC)
- Chemistry (CHM)
- Computer Science and Software Engineering (CSE)
- Economics (ECO)
- Electrical and Computer Engineering (ECE)
- Information Systems & Analytics (ISA)
- Physics (PHY)
- Statistics (STA)

Unless using the Actuarial Science or Teacher Education option, all related area hours must come from the same department. Students majoring in Mathematics (Bachelor of Arts or Bachelor of Science) may use statistics as their related area. There is no restriction on the statistics courses that can count (service courses are OK), but courses applied to the related area cannot also be counted towards the requirements of the major. On the other hand, students majoring in Mathematics and Statistics (Bachelor of Science) cannot use statistics as their related area. Students may simultaneously use any related area courses towards the university Thematic Sequence requirement, or toward a minor or second major. But, related area courses cannot be used towards the requirements of a Mathematics or Mathematics and Statistics major.

Related Area Reduction: Some students may want to have the flexibility to include in their program an additional course in mathematics or statistics. To that end, the cluster of related courses required can be reduced by up to 3 hours (of the 6 advanced hours) by taking the same number of hours in a MTH or STA course, numbered 400 or higher and listed among the possible courses to fulfill requirements of your chosen degree. This decision must be made in consultation with your adviser or one of the CDAs.

Teacher Licensure

Students who wish to combine teacher licensure with a major in the Department of Mathematics should apply for admission to a licensure cohort as outlined in the College of Education, Health and Society chapter. For information, contact the Office of Student Services in

the College of Education, Health and Society, 202 McGuffey Hall, 513-529-6418.

To earn an A.B. degree in addition to teacher licensure, you must complete the requirements for the Bachelor of Arts degree, while also satisfying your professional education course requirements. As a consequence, the following courses (not all of which apply toward the A.B.) are automatically required to be in your academic program:

These courses must include:

Code	Title	Credit Hours
MTH 331	Proof: Introduction to Higher Mathematics	3
MTH 408/ MTH 508	Mathematical Problem Solving with Technology	3
MTH 409/ MTH 509	Secondary Mathematics from an Advanced Perspective	3
MTH 411/ MTH 511	Foundations of Geometry	3
MTH 421/ MTH 521	Introduction to Abstract Algebra	4
MTH 482	Great Theorems of Mathematics	3
STA 301	Applied Statistics	3
STA 401/STA 501	Probability	3

One additional course is required for completion of the A.B. degree. See the A.B. requirements for details about the selection of this course.

To earn a B.S. degree in addition to teacher licensure, you must complete the requirements for the B.S. in Mathematics or the B.S. in Mathematics and Statistics. Each of these programs requires four or five additional courses. See the B.S. requirements for details about the selection of these courses.

Mathematics- Bachelor of Science

For information, contact the Department of Mathematics, 123 Bachelor Hall, 513-529-5818.

The Bachelor of Science in Mathematics includes the related hours requirement as well as the foreign language requirement from the College of Arts and Science (CAS) Requirements. All MTH and STA courses applied to the program and all courses in the 12-hour section of the related hours must be taken for grades, not credit/no-credit. In the MTH and STA courses, the GPA must be at least 2.00. Service courses do not figure into the GPA unless explicitly approved by the department.

Program Requirements: Bachelor of Science

(9 prerequisite hours, 6-7 introductory hours, 28 major hours, 15 related hours; 49-59 total hours)

Each degree requires the following introductory courses:

Code	Title	Credit Hours
MTH 252	Calculus III ¹	4
MTH 222 or MTH 222T	Introduction to Linear Algebra	2-3
Total Credit Hours		6-7

¹ The Honors version of this course will also apply. Prerequisites include Calculus I and Calculus II.

Select courses from the lists below to meet the following hours requirements:

- The selected courses must include at least 28 semester hours at the 300 level or above.
- The selected courses must include at least 22 semester hours at the 400 level.
- The selected courses must include at least 12 semester hours at the 400 level earned at Miami.

Code	Title	Credit Hours
------	-------	--------------

All of the following courses are required.

MTH 331	Proof: Introduction to Higher Mathematics	3
or MTH 331T	Proof: Introduction to Higher Mathematics (H)	
MTH 421	Introduction to Abstract Algebra	4
MTH 441	Real Analysis	3
Select at least two of the following theoretical courses.		6-7

MTH 411	Foundations of Geometry	
MTH 425	Number Theory	
MTH 438	Theory and Applications of Graphs	
MTH 483	Introduction to Mathematical Logic	
MTH 486	Introduction to Set Theory	
MTH 491	Introduction to Topology	

Select at least two of the following applied courses. 6-7

MTH 347	Differential Equations	
MTH 432	Optimization	
MTH 435	Mathematical Modeling Seminar	
MTH 439	Combinatorics	
MTH 447	Topics in Mathematical Finance	
MTH 451	Introduction to Complex Variables	
MTH 453	Numerical Analysis	
MTH 455	Introduction to Partial Differential Equations	
MTH/MME 495	Introduction to Applied Nonlinear Dynamics	
STA 401	Probability	

Select enough additional courses from the following list, or from the lists above, to meet the hours requirement stated above. ² 4-6

MTH 410	Topics In Geometry	
MTH 420	Topics in Algebra	
MTH 437	Game Theory and Related Topics	
MTH 440	Topics in Analysis	

MTH 482	Great Theorems of Mathematics	
Total Credit Hours		28

² Up to two semester hours from MTH 430 or MTH 477 may also be counted towards the hours requirements.

Related Hours

A program of related courses is intended to provide the student with opportunities to see and do mathematics or statistics in the context of other disciplines and, perhaps, enhance the student's employment prospects. The departmental requirement is for a program of at least 15 hours. Please note that all related area courses must be taken for a grade, not as credit/no credit. Each program includes two parts, as follows:

Part I: Computer Programming Requirement: Every major is required to demonstrate computer programming proficiency by passing one approved programming course. Approved courses include:

Code	Title	Credit Hours
CSE 153	Introduction to C/C++ Programming ¹	3
CSE 163	Introduction to Computer Concepts and Programming ¹	3
CSE 174	Fundamentals of Programming and Problem Solving ¹	3
STA 402	Statistical Programming ²	3
MTH 408	Mathematical Problem Solving with Technology ³	3
PHY 286	Introduction to Computational Physics ⁴	3

¹ Any CSE course with one of CSE 153, 163, 174 as a prerequisite can be used to satisfy the programming requirement.

² STA 402 cannot be used to satisfy any other Mathematics or Mathematics and Statistics degree requirement if it is used toward the programming requirement.

³ MTH 408 can only be used toward the programming requirement by students who have been admitted to an AYA teacher licensure cohort.

⁴ PHY 286 can only be used toward the programming requirement by students who are also majoring in Physics.

Part II: Related Area Requirement: Every major must include in their program a cluster of courses in one area of study which mathematics or statistics is used. Minimally (but see **Related Area Reduction** below), the area is to consist of at least 12 credit hours, with at least 6 advanced hours. Advanced hours include all courses numbered 200 level or above in CHM, CSE, PHY, and all courses numbered 300 level or above in ACC, ECO, ECE, ISA, STA. Pre-approved related areas are listed below. If your interests are not accommodated by the pre-approved areas listed below, you may elect to design your own program of related courses. Such programs must be approved by the Chief Departmental Adviser **in advance of applying for graduation**. Pre-approved related areas include:

- Actuarial Science: ECO 201, ECO 202, ACC 221, ACC 222, FIN 301 (Students interested in an actuarial career are urged to complete the Minor

in Actuarial Science, which will also satisfy this Related Area Requirement.)

- Teacher Education: The secondary licensure program in The College of Education, Health, and Society (This option is available only for Integrated Mathematics Education Majors).
- Accounting (ACC)
- Chemistry (CHM)
- Computer Science and Software Engineering (CSE)
- Economics (ECO)
- Electrical and Computer Engineering (ECE)
- Information Systems & Analytics (ISA)
- Physics (PHY)
- Statistics (STA)

Unless using the Actuarial Science or Teacher Education option, all related area hours must come from the same department. Students majoring in Mathematics (Bachelor of Arts or Bachelor of Science) may use statistics as their related area. There is no restriction on the statistics courses that can count (service courses are OK), but courses applied to the related area cannot also be counted towards the requirements of the major. On the other hand, students majoring in Mathematics and Statistics (Bachelor of Science) cannot use statistics as their related area. Students may simultaneously use any related area courses towards the university Thematic Sequence requirement, or toward a minor or second major. But, related area courses cannot be used towards the requirements of a Mathematics or Mathematics and Statistics major.

Related Area Reduction: Some students may want to have the flexibility to include in their program an additional course in mathematics or statistics. To that end, the cluster of related courses required can be reduced by up to 3 hours (of the 6 advanced hours) by taking the same number of hours in a MTH or STA course, numbered 400 or higher and listed among the possible courses to fulfill requirements of your chosen degree. This decision must be made in consultation with your adviser or one of the CDAs.

Teacher Licensure

Students who wish to combine teacher licensure with a major in the Department of Mathematics should apply for admission to a licensure cohort as outlined in the College of Education, Health and Society chapter. For information, contact the Office of Student Services in the College of Education, Health and Society, 202 McGuffey Hall, 513-529-6418.

To earn an A.B. degree in addition to teacher licensure, you must complete the requirements for the Bachelor of Arts degree, while also satisfying your professional education course requirements. As a consequence, the following courses (not all of which apply toward the A.B.) are automatically required to be in your academic program:

These courses must include:

Code	Title	Credit Hours
MTH 331	Proof: Introduction to Higher Mathematics	3
MTH 408/ MTH 508	Mathematical Problem Solving with Technology	3
MTH 409/ MTH 509	Secondary Mathematics from an Advanced Perspective	3
MTH 411/ MTH 511	Foundations of Geometry	3
MTH 421/ MTH 521	Introduction to Abstract Algebra	4
MTH 482	Great Theorems of Mathematics	3
STA 301	Applied Statistics	3
STA 401/STA 501	Probability	3

One additional course is required for completion of the A.B. degree. See the A.B. requirements for details about the selection of this course.

To earn a B.S. degree in addition to teacher licensure, you must complete the requirements for the B.S. in Mathematics or the B.S. in Mathematics and Statistics. Each of these programs requires four or five additional courses. See the B.S. requirements for details about the selection of these courses.

Mathematics and Statistics- Bachelor of Science

For information, contact the Department of Mathematics, 123 Bachelor Hall, 513-529-5818, or the Department of Statistics, 311 Upham Hall, 513-529-7828.

The Bachelor of Science in Mathematics and Statistics includes the related hours requirement as well as the foreign language requirement from the College of Arts and Science (CAS) Requirements. All MTH and STA courses applied to the program and all courses in the 15-hour section of the related hours must be taken for a letter grade, not credit/no-credit. In the MTH and STA courses, the GPA must be at least 2.00. Service courses do not figure into the GPA unless explicitly approved by the department.

Program Requirements

(9 prerequisite hours, 6-7 introductory hours, 31 major hours, 15 related hours; 52-62 total hours)

Each degree requires the following introductory courses:

Code	Title	Credit Hours
MTH 252	Calculus III ¹	4
MTH 222 or MTH 222T	Introduction to Linear Algebra	2-3
Total Credit Hours		6-7

¹ The Honors version of this course will also apply. Prerequisites include Calculus I and Calculus II.

Select courses from the lists below to meet the following hours requirements:

- The selected courses must include at least 31 semester hours at the 300 level or above.
- The selected courses must include at least 22 semester hours at the 400 level.
- The selected courses must include at least 12 semester hours at the 400 level earned at Miami.

Code	Title	Credit Hours
------	-------	--------------

All of the following mathematics courses are required.

MTH 331	Proof: Introduction to Higher Mathematics	3
or MTH 331T	Proof: Introduction to Higher Mathematics (H)	
MTH 347	Differential Equations ¹	3
MTH 421	Introduction to Abstract Algebra	4
MTH 441	Real Analysis	3
Select at least one of the following mathematics courses.		3-4
MTH 432	Optimization	
MTH 435	Mathematical Modeling Seminar	
MTH 439	Combinatorics	
MTH 447	Topics in Mathematical Finance	
MTH 451	Introduction to Complex Variables	
MTH 453	Numerical Analysis	
MTH 455	Introduction to Partial Differential Equations	
MTH/MME 495	Introduction to Applied Nonlinear Dynamics	

All of the following statistics courses are required.

STA 363	Introduction to Statistical Modeling	3
STA 401	Probability	3
STA 462	Inferential Statistics	3
or STA 466	Experimental Design Methods	
STA 463	Regression Analysis	4
Select enough additional hours from the following list, or from the lists above, to meet the hours requirements stated above. ²		1-2

MTH 410	Topics In Geometry	
MTH 411	Foundations of Geometry	
MTH 420	Topics in Algebra	
MTH 425	Number Theory	
MTH 437	Game Theory and Related Topics	
MTH 438	Theory and Applications of Graphs	
MTH 440	Topics in Analysis	
MTH 482	Great Theorems of Mathematics	
MTH 483	Introduction to Mathematical Logic	
MTH 486	Introduction to Set Theory	
MTH 491	Introduction to Topology	
STA 402	Statistical Programming	
STA 427	Introduction to Bayesian Statistics	
STA 467	Statistical Learning	
STA 475	Data Analysis Practicum	

STA 483	Analysis of Forecasting Systems
Total Credit Hours	31

¹ Students who have taken MTH 245 or MTH 246 as a requirement for another major may substitute it for MTH 347. (However, as it is a 200-level course, it will not count toward the required hours at the 300 level or above.)

² Up to two semester hours from MTH 430, MTH 477, or STA 477 may also be counted toward the hours requirements.

Related Hours

A program of related courses is intended to provide the student with opportunities to see and do mathematics or statistics in the context of other disciplines and, perhaps, enhance the student's employment prospects. The departmental requirement is for a program of at least 15 hours. Please note that all related area courses must be taken for a grade, not as credit/no credit. Each program includes two parts, as follows:

Part I: Computer Programming Requirement: Every major is required to demonstrate computer programming proficiency by passing one approved programming course. Approved courses include:

Code	Title	Credit Hours
CSE 153	Introduction to C/C++ Programming ¹	3
CSE 163	Introduction to Computer Concepts and Programming ¹	3
CSE 174	Fundamentals of Programming and Problem Solving ¹	3
STA 402	Statistical Programming ²	3
MTH 408	Mathematical Problem Solving with Technology ³	3
PHY 286	Introduction to Computational Physics ⁴	3

¹ Any CSE course with one of CSE 153, 163, 174 as a prerequisite can be used to satisfy the programming requirement.

² STA 402 cannot be used to satisfy any other Mathematics or Mathematics and Statistics degree requirement if it is used toward the programming requirement.

³ MTH 408 can only be used toward the programming requirement by students who have been admitted to an AYA teacher licensure cohort.

⁴ PHY 286 can only be used toward the programming requirement by students who are also majoring in Physics.

Part II: Related Area Requirement: Every major must include in their program a cluster of courses in one area of study which mathematics or statistics is used. Minimally (but see **Related Area Reduction** below), the area is to consist of at least 12 credit hours, with at least 6 advanced hours. Advanced hours include all courses numbered 200 level or above in CHM, CSE, PHY, and all courses numbered 300 level or above in ACC, ECO, ECE, ISA, STA. Pre-approved related areas are listed below. If your interests are not accommodated by the pre-approved areas listed below, you may elect to design your own program of related courses. Such programs

must be approved by the Chief Departmental Adviser **in advance of applying for graduation**. Pre-approved related areas include:

- Actuarial Science: ECO 201, ECO 202, ACC 221, ACC 222, FIN 301 (Students interested in an actuarial career are urged to complete the Minor in Actuarial Science, which will also satisfy this Related Area Requirement.)
- Teacher Education: The secondary licensure program in The College of Education, Health, and Society (This option is available only for Integrated Mathematics Education Majors).
- Accounting (ACC)
- Chemistry (CHM)
- Computer Science and Software Engineering (CSE)
- Economics (ECO)
- Electrical and Computer Engineering (ECE)
- Information Systems & Analytics (ISA)
- Physics (PHY)
- Statistics (STA); Note: students majoring in Mathematics and Statistics (Bachelor of Science) cannot use statistics as their related area

Unless using the Actuarial Science or Teacher Education option, all related area hours must come from the same department. Students majoring in Mathematics (Bachelor of Arts or Bachelor of Science) may use statistics as their related area. There is no restriction on the statistics courses that can count (service courses are OK), but courses applied to the related area cannot also be counted towards the requirements of the major. On the other hand, students majoring in Mathematics and Statistics (Bachelor of Science) cannot use statistics as their related area. Students may simultaneously use any related area courses towards the university Thematic Sequence requirement, or toward a minor or second major. But, related area courses cannot be used towards the requirements of a Mathematics or Mathematics and Statistics major.

Related Area Reduction: Some students may want to have the flexibility to include in their program an additional course in mathematics or statistics. To that end, the cluster of related courses required can be reduced by up to 3 hours (of the 6 advanced hours) by taking the same number of hours in a MTH or STA course, numbered 400 or higher and listed among the possible courses to fulfill requirements of your chosen degree. This decision must be made in consultation with your adviser or one of the CDAs.

Teacher Licensure

Students who wish to combine teacher licensure with a major in the Department of Mathematics should apply for admission to a licensure cohort as outlined in the College of Education, Health and Society chapter. For information, contact the Office of Student Services in the College of Education, Health and Society, 202 McGuffey Hall, 513-529-6418.

To earn an A.B. degree in addition to teacher licensure, you must complete the requirements for the Bachelor of Arts degree, while also satisfying your professional education course requirements. As a

consequence, the following courses (not all of which apply toward the A.B.) are automatically required to be in your academic program:

These courses must include:

Code	Title	Credit Hours
MTH 331	Proof: Introduction to Higher Mathematics	3
MTH 408/ MTH 508	Mathematical Problem Solving with Technology	3
MTH 409/ MTH 509	Secondary Mathematics from an Advanced Perspective	3
MTH 411/ MTH 511	Foundations of Geometry	3
MTH 421/ MTH 521	Introduction to Abstract Algebra	4
MTH 482	Great Theorems of Mathematics	3
STA 301	Applied Statistics	3
STA 401/STA 501	Probability	3

One additional course is required for completion of the A.B. degree. See the A.B. requirements for details about the selection of this course.

To earn a B.S. degree in addition to teacher licensure, you must complete the requirements for the B.S. in Mathematics or the B.S. in Mathematics and Statistics. Each of these programs requires four or five additional courses. See the B.S. requirements for details about the selection of these courses.

Media and Communication - Bachelor of Arts

Students in the Media and Communication program examine how media products, practices, industries, and technologies allow us to communicate and connect with others and shape how we experience the world. MAC majors will develop expertise in up to three areas:

1. Researching and analyzing media representations, technologies, industries, and practices to assess their impacts on individuals, cultures, and society.
2. Gaining the skills and experiences necessary for success in a wide range of media and related industries.
3. Producing high-quality audio, video, and film content in our professional grade studios.

Program Requirements

(minimum 36 semester hours plus 12 related hours)

Code	Title	Credit Hours
Foundation courses		
MJF 105	Media, Culture and You	3
MJF 146	Foundations of Production	3
MJF 205	Introduction to Comm & Tech	3
Core courses		
MAC 202	The Smartphone and Society	3

MAC 212 Media, Representation, and Society 3

Specializations 12-13

Select TWO Areas of Specialization. Take TWO courses in EACH of those two areas for a total of 4 courses¹

Major electives 6

Take TWO additional courses with MAC or MJF designators; and other courses as approved by the Chief Departmental Advisor.

Senior Experience courses 3-4

Select ONE of the following

MAC 414 Capstone Pictures: Project in Digital Narrative Film Production

MAC 445 Electronic Media Policy and Regulation

MAC 447 Senior Seminar in Applied Media Analysis

Related hours 12

Take 12 hours at the 200 level or higher. Can include any additional courses in MAC, MJF, FST, STC, or JRN; any courses from the following programs: AMS, ART, CRE, ENG, HST, IMS, LAS, MUS, WGS; and other courses as approved by the Chief Departmental Advisor.

OR complete a minor, co-major, or 2nd major.

Total Credit Hours 48-50

¹ Courses that appear under more than one area of specialization can only count ONCE toward the completion of the curriculum requirement.

Specialization: Technology + Everyday Life

Analyze how media and communication technologies impact how we live and work

Code	Title	Credit Hours
MAC 310	Topics in Media History (Topics in Media History)	3
MAC 325	Social Media Cultures	3
MAC 344	Sound and Music in Media Cultures (Sound and Music in Media Cultures)	3
MAC 351	Media Ethnography (Media Ethnography)	3
MAC 353	Audience Studies	3
MAC 355	Media Technology & Culture	3

Specialization: Culture, Diversity, + Social Change

Understand the power of media and communication to create social change

Code	Title	Credit Hours
FST 282	Sexualities and Film	3
MAC 310	Topics in Media History (May count with permission of advisor)	3
MAC 325	Social Media Cultures	3
MAC 446	Media Globalization	3

MAC/WGS 461	Gender, Sexuality and Media	3
STC 236	Intercultural Communication	3
STC 437	Media, Advocacy & Social Change	3

Specialization: Advertising + Consumer Culture

Analyze how organizations construct and persuade audiences

Code	Title	Credit Hours
MAC 258	Copywriting for Digital Media	3
MAC 309	Advertising in Consumer Culture	3
MAC 310	Topics in Media History (May count with permission of advisor)	3
MAC 353	Audience Studies	3
MAC 362	Media and the Data Society (Media and the Data Society)	3
STC 422	Trendsetters & Coolchasers (Trendsetters and Coolchasers)	3
STC 431	Persuading Audiences	3

Specialization: Media Industries

Analyze and experience the business of media

Code	Title	Credit Hours
MAC 310	Topics in Media History (Topics in Media History)	3
MAC 358	Working in Media (Working in Media)	3
MAC 362	Media and the Data Society (Media and the Data Society)	3
MAC 425	Inside Hollywood	3
MAC 426	Inside Washington	8
MAC 443	Media Industries and Economics	3
MAC 446	Media Globalization	3
MJF 301	Media Law and Ethics	3
STC 478	Inside New York City- Study Away	3

Only ONE travel away program (MAC 425, MAC 426, STC 478, NYC Media, Inside Chicago) can count as one of the TWO courses required for this specialization.

Specialization: Digital Film/Video Production

Create content for film, television, and streaming

Code	Title	Credit Hours
JRN 202	Reporting and News Writing II	3
MAC 211	Intermediate Video Production	4
MAC/ENG 213	Writing for Film and TV	3

Students who select digital film/video production as one of their TWO areas of specialization must take MAC 211 as one of their courses. For the other, they can select either MAC 213 or JRN 202

Students interested in further video production courses should consider taking MAC 311, MAC 312 or other advanced production courses for their general MAC electives.

Specialization: Digital Audio Production + Theory

Study and create soundtracks, podcasts, and music

Code	Title	Credit Hours
JRN 313	Digital Audio Reporting	3
MAC 343	Advanced Audio Production	3
MAC 344	Sound and Music in Media Cultures (Sound and Music in Media Cultures)	3
MUS 304	Electronic Music	3

Notes on Curriculum

MAC Internships (MAC 340) do not fulfill any specific Media and Communication curriculum requirement.

MAC Independent Studies (MAC 177, MAC 277, MAC 377, MAC 477) may only count toward the major with permission of advisor.

No more than nine credit hours may be counted toward both the completion of the MAC major and the completion of a co-major or 2nd major. No more than six credit hours may be counted toward both the completion of the MAC major and the completion of a minor.

Students seeking the Bachelor of Arts in Media and Communication meet the CAS writing requirement by taking the following courses: MAC 212.

Medical Laboratory Science- Bachelor of Science

For information, contact the Department of Microbiology, 212 Pearson Hall, 513-529-5422.

This program is for students who are preparing for the national examination, including sections on key lab specialties such as molecular biology, biochemistry, toxicology, microbiology, parasitology, immunology, immunohematology (blood bank) and hematology, for certification as Medical Laboratory Scientists (MLS) by the American Society for Clinical Pathology (ASCP).

Special Curriculum Requirements

This program requires 124 semester hours. Required courses include a twelve month, 32 credit medical laboratory internship. No pre-internship science or related course may be taken on a credit/no-credit basis.

Program Requirements

(75-86 semester hours)

Code	Title	Credit Hours
Core Biology Courses		
BIO/MBI 115	Biological Concepts: Ecology, Evolution, Genetics, and Diversity	4

BIO/MBI 116	Biological Concepts: Structure, Function, Cellular, and Molecular Biology	4
MBI 201	General Microbiology	4
MBI 365 or BIO 444	Molecular and Cell Biology Molecular Biology	3
Core Chemistry Courses		
CHM 141 & CHM 142 or CHM 141R & CHM 142	College Chemistry and College Chemistry College Chemistry and College Chemistry	6-7
CHM 144 & CHM 145	College Chemistry Laboratory and College Chemistry Laboratory	4
Organic chemistry - select one of the following options:		4-10
Option 1:		
CHM 231	Fundamentals of Organic Chemistry	
Option 2:		
CHM 241 & CHM 242	Organic Chemistry and Organic Chemistry	
CHM 244 & CHM 245	Organic Chemistry Laboratory and Organic Chemistry Laboratory	
CHM 332 or CHM 432	Outlines of Biochemistry Fundamentals of Biochemistry	3-4
Core Math Courses		
MTH 151 or STA 261	Calculus I Statistics	4
Practicum/Internship Courses		
MBI 487	Medical Laboratory Science Practicum	8
MBI 488	Medical Laboratory Science Practicum	12
MBI 489	Medical Laboratory Science Practicum	12
Elective Courses		
Select one of the following:		3-5
BIO 203	Introduction to Cell Biology	
BIO 342	Genetics	
CHM 363	Analytical Chemistry	
MBI 435	Medical Mycology	
MBI 464	Human Viruses	
PHY 161	Physics for the Life Sciences with Laboratory I	
PHY 191	General Physics with Laboratory I	
Select one of the following:		4
BIO 161	Principles of Human Physiology	
BIO 305	Human Physiology	
MBI 405	Medical Bacteriology	
MBI 414	Immunology Principles	
MBI 415	Immunology Principles and Practice	

Total Credit Hours 75-85

Microbiology- Bachelor of Arts

For information, contact the Department of Microbiology, 212 Pearson Hall, 513-529-5422.

The Bachelor of Arts degree is designed for students interested in careers in microbiology, life sciences, and environmental sciences, or

who plan to pursue advanced degrees in medicine as well as other healthcare-related fields. Students who anticipate graduate study in microbiology should elect the B.S. in Microbiology program.

No course required for the major in microbiology may be taken on a credit/no-credit basis. Of the 100-level courses, only those that satisfy departmental degree requirements can be counted toward the GPA or the 32 hours required for the Bachelor of Arts major in microbiology.

Program Requirements

(32 MBI semester hours plus 19-25 related hours)

Code	Title	Credit Hours
Core courses		
BIO/MBI 116	Biological Concepts: Structure, Function, Cellular, and Molecular Biology	4
MBI 201	General Microbiology	4
MBI 255	Modern Microbiology Applications	4
MBI 365	Molecular and Cell Biology	3
MBI 490	Undergraduate Seminar	1
Focus Courses		14
Breadth Requirement- select at least 1 course from each Focus Group		
• Biomedical Focus Group - select at least one of the following:		
MBI 361	Fundamentals of Epidemiology	
MBI 405	Medical Bacteriology ²	
MBI 415 or MBI 414	Immunology Principles and Practice ¹ Immunology Principles	
MBI 435	Medical Mycology	
MBI 464	Human Viruses	
• Integrative Focus Group - select at least one of the following:		
MBI 423	Synthetic and Systems Biology	
MBI 465	Bacteriophage Gene Expression Laboratory	
MBI 475	Microbial Ecology: Exploration of the Diverse Roles of Microorganisms in Earth's Ecology ²	
MBI 485	Bioinformatics Principles	
MBI 495	Bacterial Cellular and Developmental Biology	
• Advanced Core Focus Group - select at least one of the following:		
MBI 425	Microbial Physiology ²	
MBI 445	Microbial Genetics	
Depth Requirement- select at least 2 four-credit hour lab courses		
Hours Requirement- select sufficient Focus Courses to total at least 14 credit hours		
Elective Courses		2

Select from additional Focus Courses, from the Elective Courses (below) or from Biology or Chemistry (at 300 - level or higher) to complete the 32 required hours.

Related Hours (19-25)

Select one of the following Chemistry options: 7-10

Chemistry option one:

CHM 231 Fundamentals of Organic Chemistry
& CHM 332 and Outlines of Biochemistry

Chemistry option two:

CHM 241 Organic Chemistry
& CHM 242 and Organic ChemistryCHM 244 Organic Chemistry Laboratory
& CHM 245 and Organic Chemistry Laboratory

Select one of the following Mathematics/Statistics courses: 4

MTH 151 Calculus I
or STA 261 Statistics

Select one of the following Physics options: 8-10

Physics option one:

PHY 161 Physics for the Life Sciences with
& PHY 162 Laboratory I
and Physics for the Life Sciences with
Laboratory II

Physics option two (calculus-based):

PHY 191 General Physics with Laboratory I
& PHY 192 and General Physics with Laboratory II**Total Credit Hours 51-56**¹ Credit not given for both MBI 414 and MBI 415.² Counts as a 4-credit hour lab course**Elective Courses**

Select from additional Focus Courses, from the following Elective Courses (Microbiology at 200 - level or higher) or from Biology or Chemistry (at 300 - level or higher) to complete the 32 required hours.

Code	Title	Credit Hours
BIO/MBI 115	Biological Concepts: Ecology, Evolution, Genetics, and Diversity	4
MBI 224	Bacteriophage Genomics	1
MBI 223	Bacteriophage Biology	1
MBI 350 or MBI 450	Topics in Microbiology	1-6
MBI 256	Introduction to Programming for the Life Sciences	3
MBI 410	Senior Internship	2
MBI 440	Research Problems ¹	1-4
MBI 466	Bioinformatics Computing Skills	3
MBI 477	Independent Studies ¹	0-5
MBI 480	Departmental Honors ¹	1-6
GLG 402	Geomicrobiology	3

¹ MBI 440, MBI 477, and MBI 480 have a maximum of four credit hours that can receive a standard grade.

Students seeking the Bachelor of Arts in Microbiology meet the College of Arts and Science writing in the major requirement by completing the following course: MBI 255.

Microbiology- Bachelor of Science

For information, contact the Department of Microbiology, 212 Pearson Hall, 513-529-5422.

The Bachelor of Science in Microbiology is designed to provide more in-depth study than the Bachelor of Arts, particularly in preparation for pursuit of a graduate degree in microbiology and related fields. As part of this preparation, students are required to conduct independent research leading to public presentation of their results.

No course required for the major in microbiology may be taken on a credit/no-credit basis. Of the 100-level courses, only those that satisfy departmental degree requirements can be counted toward the GPA or the 40 hours required for the Bachelor of Science major in microbiology.

Program Requirements

(40 semester hours plus 23-28 related hours)

Code	Title	Credit Hours
Core Courses		
BIO/MBI 116	Biological Concepts: Structure, Function, Cellular, and Molecular Biology	4
MBI 201	General Microbiology	4
MBI 255	Modern Microbiology Applications	4
MBI 365	Molecular and Cell Biology	3
MBI 425	Microbial Physiology	4
MBI 445	Microbial Genetics	3
MBI 490	Undergraduate Seminar	1
Focus Courses		14
Lab Requirement - select at least two of the following:		
MBI 405	Medical Bacteriology	
MBI 415	Immunology Principles and Practice ¹	
MBI 423	Synthetic and Systems Biology	
MBI 435	Medical Mycology	
MBI 475	Microbial Ecology: Exploration of the Diverse Roles of Microorganisms in Earth's Ecology	
MBI 485	Bioinformatics Principles	
Research Requirement - select at least one of the following:		
MBI 465	Bacteriophage Gene Expression Laboratory	
MBI 477	Independent Studies (MBI 477R - research)	
Hours Requirement - select additional Focus Courses, including from the following, to total at least 14 credit hours		
MBI 361	Fundamentals of Epidemiology	

MBI 414	Immunology Principles ¹
MBI 464	Human Viruses
MBI 495	Bacterial Cellular and Developmental Biology

Elective Courses 3

Select from additional Focus Courses or from the Elective Courses (below) to complete the 40 required hours

Related Hours

Select one of the following Chemistry options: 7-10

Chemistry option one:

CHM 231 Fundamentals of Organic Chemistry
& CHM 332 and Outlines of Biochemistry

Chemistry option two:

CHM 241 Organic Chemistry
& CHM 242 and Organic Chemistry
CHM 244 Organic Chemistry Laboratory
& CHM 245 and Organic Chemistry Laboratory

Select both of the following Mathematics/Statistics courses: 8

MTH 151 Calculus I

STA 261 Statistics

Select one of the following Physics options: 8-10

Physics option one:

PHY 161 Physics for the Life Sciences with
& PHY 162 Laboratory I
and Physics for the Life Sciences with
Laboratory II

Physics option two (calculus-based):

PHY 191 General Physics with Laboratory I
& PHY 192 and General Physics with Laboratory II

Total Credit Hours 63-68

¹ Credit not given for both MBI 414 and MBI 415.

Elective Courses

Select from additional Focus Courses or from the following Elective Courses (Microbiology at the 200-level or higher) to complete the 40 required hours:

Code	Title	Credit Hours
BIO/MBI 115	Biological Concepts: Ecology, Evolution, Genetics, and Diversity	4
MBI 223	Bacteriophage Biology	1
MBI 224	Bacteriophage Genomics	1
MBI 350 or MBI 450	Topics in Microbiology	1-6
MBI 433	Field Ecology	3
MBI 410	Senior Internship	2
MBI 440	Research Problems ¹	1-4
MBI 466	Bioinformatics Computing Skills	3
MBI 477	Independent Studies ¹	0-6
MBI 480	Departmental Honors ¹	1-6
GLG 402	Geomicrobiology	3

¹ MBI 440, MBI 477, and MBI 480 have a maximum of four credit hours that can receive a standard grade.

Neuroscience Co-Major

For information, contact the Department of Biology, 212 Pearson Hall, 513-529-3100 or the Department of Psychology, 100 Psychology building, 513-529-2400; this co-major is offered cooperatively.

The inter-departmental Neuroscience Co-major offers students the opportunity to pursue an in-depth exploration of the biology of individual nerve cells; the organization of nerve cells into a functional nervous system; and the role of the nervous system in behavior and cognition. The co-major is multidisciplinary, including coursework in biology, psychology, chemistry and statistics. It provides a basic framework for students planning advanced work at the graduate level. Students in the co-major must also be enrolled in, and complete, a primary major; the co-major cannot be taken as a stand-alone major. Upon graduation, students are awarded the degree of their primary major; there is no specific degree designation for the co-major.

Program Requirements

(40-43 semester hours)

Code	Title	Credit Hours
Biological Science and Psychology		
BIO/MBI 116	Biological Concepts: Structure, Function, Cellular, and Molecular Biology	4
BIO/PSY 159	Seminar in Neuroscience	1
BIO 203 or MBI 365	Introduction to Cell Biology Molecular and Cell Biology	3
BIO 305	Human Physiology	4
PSY 251	Introduction to Biopsychology	3
Chemistry		
CHM 141 & CHM 144	College Chemistry and College Chemistry Laboratory	5
CHM 142 & CHM 145	College Chemistry and College Chemistry Laboratory	5
Statistics		
Select one course:		3-4
STA 363	Introduction to Statistical Modeling	
PSY 294	Writing and Research Methods in Psychology	
Neuroscience Hours		12-14
Select at least two courses from each area:		
Advanced Biology		
BIO 361	Patterns in Development	
BIO 452	Neuromodulation: Cells to Circuits	
BIO 454	Endocrinology	
BIO 457	Neuroanatomy	
BIO 459	Advanced Neuroscience with Lab	
BIO 464	Laboratory in Cell and Molecular Biology	

BIO 465	Animal Behavior
BIO 466	Bioinformatics Computing Skills
BIO 469	Neurophysiology
BIO 471	Molecular Physiology
Advanced Psychology	
PSY 351	Advanced Biopsychology
PSY 356	Psychopharmacology
PSY 451	Cognitive Neuroscience
PSY 452	Structured Research Experience in Behavioral Neuroscience II
PSY 456	Advanced Biological Bases of Behavior
PSY 458	Capstone Seminar in Neuroscience

Total Credit Hours **40-43**

Strongly recommended but not required courses

Code	Title	Credit Hours
CHM 241 & CHM 244	Organic Chemistry and Organic Chemistry Laboratory	5
CHM 242 & CHM 245	Organic Chemistry and Organic Chemistry Laboratory	5
PHY 161	Physics for the Life Sciences with Laboratory I	4
PHY 162	Physics for the Life Sciences with Laboratory II	4
PHY 191	General Physics with Laboratory I	5
PHY 192	General Physics with Laboratory II	5

An independent research project with BIO 320 or PSY 477

Organizational Leadership- Bachelor of Arts

For information, contact the Department of Sociology and Gerontology, 375 Upham Hall, 513-529-2628.

The Organizational Leadership major allows students to apply sociological, psychological, and political science theories and methods to real world organizational problems. The major is designed to maximize graduates' ability to flexibly adapt to today's continually shifting job requirements, emerging technologies, and new ways of organizing. Students develop skills and knowledge relevant for jobs across a variety of sectors, including for-profit businesses, nonprofit organizations, and government. Graduates are also well equipped for a variety of graduate school programs in the social sciences and areas such as business, law, and public policy.

Code	Title	Credit Hours
Core courses		
MGT 211	Introduction to Management for Non-business Majors	3
or MGT 291	Introduction to Management & Leadership	
ORG 340	Internship	3
ORG 354	The Social Dynamics of Strategy and Leadership	3
ORG 361	Innovation in Organizations	3

ORG 471	Organizational Leadership Capstone	3
PSY 111	Introduction to Psychology ¹	3
PSY 221	Social Psychology	3
SOC 153	Sociology in a Global Context	3
SOC 262	Research Methods	3
STA 261	Statistics	4

Electives

Choose 6 credits from each of the three lists below, with at least 9 credits at the 300 level or above

Business Foundations (choose 6 hours):² 6

ACC 211	Accounting for the Non-Business Major	
FIN 211	Financial Capital	
MKT 211	Business Concepts in Customer Engagement	

ISA 211	Information Technology and Data Driven Decision Making in Business	
---------	--	--

Leading Organizations (choose 6 hours) 6

APC 339	Introduction to Organizational Communication	
---------	--	--

MSC 121	Foundations of Officership	
---------	----------------------------	--

MSC 122	Introduction to Tactical Leadership	
---------	-------------------------------------	--

MSC 221	Individual Leadership	
---------	-----------------------	--

NSC 211	Leadership and Management	
---------	---------------------------	--

ORG 360	Current Issues in Organizational Leadership	
---------	---	--

POL 362	Public Management, Leadership, and Administrative Politics	
---------	--	--

PSY 376	Psychology of Judgment, Decision Making, and Reasoning	
---------	--	--

EGM 411	Leading and Managing Projects	
---------	-------------------------------	--

MGT 304	Diversity and Cross-Cultural Management	
---------	---	--

MGT 414	Employee Engagement and Motivation	
---------	------------------------------------	--

MGT 415	Leadership and Learning	
---------	-------------------------	--

POL 467	Public Budgeting	
---------	------------------	--

POL 468	Public Personnel Administration	
---------	---------------------------------	--

SLM 272	Contemporary Perspectives on Leadership in Sport Contexts	
---------	---	--

Organizations and their Environments (choose 6 hours): 6

SOC 225	Work and Occupational Justice	
---------	-------------------------------	--

SOC 305	Introduction to the Sociology of Globalization	
---------	--	--

SOC 417	Economy and Society	
---------	---------------------	--

SOC 454	Formal Organization	
---------	---------------------	--

EDL 290	The Nature of Group Leadership ³	
---------	---	--

Students seeking the Bachelor of Arts in Organizational Leadership meet the College of Arts and Science writing in the major requirement by completing ORG 361.

Total Credit Hours **49**

¹ Students with 3 hours of AP or transfer credit for PSY 111 are not required to take PSY 112 (1); students taking PSY 111 at Miami will need to register for the co-requisite PSY 112.

² Students with 3 hours of AP or transfer credit for ACC 211 are not required to take ACC 211 (1); students taking ACC 211 at Miami will need to register for the co-requisite ACC 211 (1).

³ Students with 3 hours of AP or transfer credit for EDL 290 are not required to take EDL 290 (1); students taking EDL 290 at Miami will need to register for the co-requisite EDL 290 (1).

² Students interested in a career in the private sector are encouraged to choose ACC 211 and FIN 211; they are also encouraged to consider adding a General Business minor.

³ Up to 4 hours of EDL 290 can count in the electives; courses must be different content.

Philosophy- Bachelor of Arts

For information, contact the Department of Philosophy, 212 Hall Auditorium, 513-529-2440.

Philosophy is the attempt to understand what matters and why, examining the nature of reality and exploring the origin and development of ideas that structure and underlie the world and our lives. Philosophy majors learn how to read complex texts critically, to write meaningfully and with clarity, and to understand and develop sophisticated lines of reasoning.

Program Requirements

(34 semester hours)

Code	Title	Credit Hours
PHL 245	Writing Philosophy	3
PHL 301	Ancient Philosophy	4
PHL 302	Modern Philosophy	4
PHL 404	What is Philosophy?	3
Select any two 400/500 level seminars (4 credits each)		8
Select 12 credit hours in philosophy ¹		12
Total Credit Hours		34

¹ No more than one course may be at the 100 level, not more than two of the additional courses may be at the 200 level and not more than 3 credits can be from independent study.

A minimum 2.00 GPA is required for all courses in the major, and courses must be taken for a grade, not credit/no credit.

Students seeking the Bachelor of Arts in Philosophy should meet the College of Arts and Science writing in the major requirement by completing PHL 245 and PHL 404.

Physics- Bachelor of Science

For information, contact the Department of Physics, 217 Kreger Hall, 513-529-5625.

The Physics B.S. degree prepares students for graduate study or employment in physics and related fields, including applied and engineering physics, biophysics, biomedical engineering, medical school, teacher licensure in physics, or careers in business or law. Students are encouraged to speak with a Department advisor early in order to select the most appropriate advanced coursework for their career goals.

Teacher Licensure

Students who wish to combine teacher licensure with an Arts and Science major must observe the rules, procedures, and restrictions pertaining to admission to a licensure cohort as outlined in the College of Education, Health and Society chapter. For information,

contact the Office of Student Services in the College of Education, Health and Society, 202 McGuffey Hall, 513-529-6418.

Program Requirements

(54-63 credit hours, plus 15 related hours)

Core Requirements and Related Hours

Code	Title	Credit Hours
Core requirements (25 credit hours)		
PHY 191	General Physics with Laboratory I	5
PHY 192	General Physics with Laboratory II	5
PHY 281	Contemporary Physics I: Foundations	3
PHY 282	Contemporary Physics II: Frontiers	3
PHY 286	Introduction to Computational Physics	3
PHY 292	Electronic Instrumentation	2
PHY 293	Contemporary Physics Laboratory	2
PHY 294	Laboratory in Electronic Instrumentation	2
PHY 401	Physics Assessment Examination	0
Related hours (15 credit hours)		
MTH 151	Calculus I	4
MTH 222	Introduction to Linear Algebra	3
MTH 251	Calculus II	4
MTH 252	Calculus III	4
Total Credit Hours		40

Advanced Coursework

In addition to the core requirements and related hours, advanced coursework is required. Complete the following advanced coursework **OR** select one concentration.

Designed for students interested in the applied or engineering physics, or the interdisciplinary study of physics.

Code	Title	Credit Hours
Advanced Coursework (at least 29 credit hours)		
PHY 483	Mathematical Methods in Physics	4
Any one of PHY 437, PHY 451, PHY 461, or PHY 491.		4
Any PHY course numbered 400 and above excluding seminar and independent study.		3-4
Any second major, co-major, or minor. ¹		18+
Total Credit Hours		29+

¹ For an applied or engineering physics emphasis, select a second major or minor from the College of Engineering and Computing. For a biomedical engineering emphasis, the Concentration in Biological Physics is the recommended advanced coursework option.

Concentration in Advanced Physics

Designed for students intending graduate study in physics or for students interested in a broad theoretical background in physics.

Code	Title	Credit Hours
Advanced Coursework (32-34 credit hours)		
MTH 347	Differential Equations	3
PHY 437	Intermediate Thermodynamics and Introduction to Statistical Physics	4
PHY 451	Classical Mechanics	4
PHY 461	Electromagnetic Theory	4
PHY 483	Mathematical Methods in Physics	4
PHY 491	Introduction to Quantum Mechanics I	4
PHY 488A	Research Capstone in Physics	3
Select one advanced laboratory course from the following:		3-4
PHY 441	Optics and Laser Physics	
PHY 442	Spectroscopy of Atoms and Molecules	
PHY 471	Advanced Electronics	
PHY 486	Advanced Computational Physics	
Select one advanced elective from the following or an additional advanced laboratory course:		3-4
PHY 421	Molecular and Cellular Biophysics	
PHY 422	Physics for Medicine and Biology	
PHY 431	Elementary Particle Physics	
PHY 467	Seismology	
PHY 481	Gravitation and Spacetime	
Total Credit Hours		32-34

Concentration in Biological Physics

Designed for students interested in biophysics, physics-based biomedical fields, or medical school. The Physics B.S. with a Concentration in Biological Physics satisfies at least 39 of the 61-66 hours required of the Premedical and Pre-Health Studies Co-Major.

Code	Title	Credit Hours
Advanced Coursework (35-38 credit hours)		
BIO 116	Biological Concepts: Structure, Function, Cellular, and Molecular Biology	4
CHM 141	College Chemistry	3
CHM 142	College Chemistry	3
CHM 144	College Chemistry Laboratory	2
CHM 145	College Chemistry Laboratory	2
CHM 241	Organic Chemistry	3
CHM 244	Organic Chemistry Laboratory	2
PHY 421	Molecular and Cellular Biophysics	4
or PHY 422	Physics for Medicine and Biology	
STA 301	Applied Statistics	3
Any one of the following:		3-4
BIO 203	Introduction to Cell Biology	
MBI 201	General Microbiology	
Any one of the following:		3-4
MTH 347	Differential Equations	
PHY 483	Mathematical Methods in Physics	

Any PHY course numbered 400 and above excluding seminar and independent study. 3-4

Total Credit Hours **35-38**

Political Science- Bachelor of Arts

For information, contact the Department of Political Science, 218 Harrison Hall, 513-529-2000.

This major is for liberal arts students interested in the study of politics, government, and public affairs. For this major, at least 15 of the required 33 major hours and at least nine of the required 18 related hours must be from Miami. Required political science and related hours may not be taken on a credit/no-credit basis. A GPA of at least 2.00 is required for political science courses as well as related hours.

Program Requirements

(33 semester hours minimum)

Choose political science hours from the following major fields: political theory, comparative politics, American government, public administration, and international politics, with the following requirements:

Code	Title	Credit Hours
Required course		
POL 241	American Political System	3
Select at least two of the following:		6
POL 201	Political Thinking ¹	
POL 221	Comparative Politics ¹	
POL 261	Public Administration ¹	
POL 271	World Politics ¹	
Advanced Courses		
In consultation with your faculty advisor, select at least 18 additional hours from other POL courses at the 300 level and above, with at least one course from two of the five major fields.		18
Political Science MP Capstone course:		
Select one of the following:		
POL 411	American Political Thought	
POL 419	Civil Society and Modern Politics	
POL 459	Capstone Seminar on the American Political System	
POL 466	Public Policy Analysis	
POL 471	The International System	
POL 487	Individual Lives and International Politics	
POL 489	Conflict Management in a Divided World	
Additional Courses		
Select additional hours from POL courses at 200-level and above to complete the 33 hour requirement ²		6
Total Credit Hours		33

¹ Prerequisites for 300 and 400-level courses in those subfields.

² 100-level POL courses do NOT apply to the major

Code	Title	Credit Hours
------	-------	--------------

Related hours

Select 18 hours

(At least 12 hours must be at the 200 level or higher.)

Take a total of 18 hours from cognate disciplines including: AMS, ATH, BLS, BUS, CRE, ECO, ESP, GEO, GIC, GTY, HST, ISA, ITS, JRN, LAS, MAC, MGT, PHL, PSY, REL, SOC, STC, WGS or AES 221, AES 222, AES 431, AES 432; ENG 432; NSC 202, NSC 311 or NSC 402; and other courses as approved by the Chief Departmental Advisor or Chair.

CAS Writing Competency Requirement

Students seeking the Bachelor of Arts in Political Science meet the College of Arts and Science writing in the major requirement by completing one of the following courses:

Code	Title	Credit Hours
POL 343	American Presidency	3
POL 349	Voice & Power in U.S. Politics	3
POL 364	Federalism and Intergovernmental Relations	3
POL 366	Policy Evaluation	3

Note about Double Majoring in the Department

The Department of Political Science does not allow Political Science majors to pursue another major in the Department. A double major between Public Administration and Diplomacy and Global Politics is allowed, but will not meet the Miami Plan's thematic sequence requirement as a double major that is in the same department. We strongly discourage a Diplomacy and Global Politics - International Studies double major due to all the "double counting" that is involved.

Premedical and Pre-Health Studies Co-Major

Provides a broad-based premedical background and prepares students to pursue advanced degrees in medicine as well as other healthcare related fields. Integrates comprehensive, regularly scheduled premedical advising with courses that cover fundamental concepts in the biological, physical, and social sciences required for admission to medical school or other health professional schools, and/or in preparation for standardized professional healthcare program admission tests (e.g., MCAT, DAT, GRE, PA-CAT). A co-major must be taken in conjunction with a primary major, which provides the significant depth and breadth of an academic discipline; it cannot be taken independently. There is no specific degree designation for the co-major; students receive the degree designation of their primary major.

Note: Students are not required to complete the co-major for successful application and admittance to medical school or other health professional schools. Premedical Studies courses as well as access to services provided by the Mallory-Wilson Center for Healthcare Education and the Prehealth Advisory Committee are available to all students.

Program Requirements

Required courses (61-66 hrs)

Complete a major in one of the divisions of the university.

Core Courses

Code	Title	Credit Hours
Biology		4
BIO 116	Biological Concepts: Structure, Function, Cellular, and Molecular Biology	
Chemistry		
General Chemistry:		10
CHM 141 & CHM 144	College Chemistry and College Chemistry Laboratory	
CHM 142 & CHM 145	College Chemistry and College Chemistry Laboratory	
Organic Chemistry:		10
CHM 241 & CHM 244	Organic Chemistry and Organic Chemistry Laboratory	
CHM 242 & CHM 245	Organic Chemistry and Organic Chemistry Laboratory	
English Composition		3
ENG 111	Composition and Rhetoric ¹	
Statistics		
Select one of the following:		3-4
STA 261	Statistics	
STA 301	Applied Statistics	
ISA 225	Principles of Business Analytics	
Professional Development		2
PMD 101	Explorations in Healthcare Careers	
PMD 301	Navigating Healthcare Professional School Admissions	
Psychology		4
PSY 111 & PSY 112	Introduction to Psychology and Foundational Experiences in Psychology	
Total Credit Hours		36-37

¹ Some professional programs may require an additional course in composition. See your advisor for more information

Concentrations (one required):

Code	Title	Credit Hours
Premedical		
Biology		7-8
BIO 305	Human Physiology	

or MBI 201 General Microbiology

Select one or more of the following:

BIO 201	Human Anatomy
BIO 203	Introduction to Cell Biology
BIO 342	Genetics
MBI 365	Molecular and Cell Biology

Chemistry 4

CHM 432 Fundamentals of Biochemistry

Physics 8-10

Select one of the following sequences:

PHY 161 & PHY 162	Physics for the Life Sciences with Laboratory I and Physics for the Life Sciences with Laboratory II
-------------------	--

OR

PHY 191 & PHY 192	General Physics with Laboratory I and General Physics with Laboratory II
-------------------	--

Sociology 3

SOC 153 Sociology in a Global Context

Recommended Electives for the Premedical Concentration

Biology

BIO 115	Biological Concepts: Ecology, Evolution, Genetics, and Diversity
---------	--

OR

One additional BIO/MBI course at the 200-level or above

Math

MTH 151	Calculus I
---------	------------

Total Credit Hours 22-25

Pre-Health

Code	Title	Credit Hours
------	-------	--------------

Biology 16

BIO 115	Biological Concepts: Ecology, Evolution, Genetics, and Diversity
BIO 201	Human Anatomy
BIO 305	Human Physiology
or BIO 161	Principles of Human Physiology
MBI 201	General Microbiology

Biochemistry 3-4

CHM 432	Fundamentals of Biochemistry
or CHM 332	Outlines of Biochemistry

Additional Coursework: Choose the Pre-PA or the Pre-Health option 6-10

Pre-PA option:

PSY 231	Developmental Psychology
or PSY 242	Abnormal Psychology
KNH 209	Medical Terminology for Health Professionals

Pre-Health option:

PHY 161 & PHY 162	Physics for the Life Sciences with Laboratory I and Physics for the Life Sciences with Laboratory II
-------------------	--

OR

PHY 191 & PHY 192	General Physics with Laboratory I and General Physics with Laboratory II
-------------------	--

Total Credit Hours 25-30

Professional Writing- Bachelor of Arts

For information, contact the Department of English, 356 Bachelor Hall, 513-529-5221.

The English department offers four majors: creative writing, literature, linguistics, and professional writing. These concentrations lead to an A.B.

Program Requirements

(36 semester hours)

The Bachelor of Arts with a major in Professional Writing is designed for students who wish to engage with the theory and practice of writing for various purposes and in different print and digital media. Students may choose one of four tracks:

1. Digital and Technical Communication
2. Editing in Professional Contexts
3. Public Writing and Rhetoric
4. Intercultural Rhetoric and Writing

The major requires 36 hours: five core courses (15 hours); five track courses, one of which is required (15 hours); and two elective courses in any 200-level or above course in the English Department (6 hours). (Note: You may not "double-dip" a course as both a track-elective and an open-elective.)

Code	Title	Credit Hours
------	-------	--------------

Core courses

ENG/IMS 171	Humanities and Technology	3
ENG 223	Rhetorical Strategies for Writers	3
ENG/IMS 224	Professional Communication & Digital Rhetoric	3
ENG/IMS 411	Visual Rhetoric	3
ENG Capstone:		
ENG 415	Capstone in Professional Writing ¹	3

Track

Select one of four tracks	15
---------------------------	----

Open Electives

Select two courses from any 200-level or above course in the English Department. ²	6
---	---

Total Credit Hours 36

¹ ENG 495R may be substituted for ENG 415.

² This may include 200-level and above ENG courses from the tracks.

Tracks

Editing in Professional Contexts

Code	Title	Credit Hours
Required course		
ENG 412	Print and Digital Editing	3
Elective courses		
Select four courses from the following, two of which must be at the 300 or 400 level:		12
LIN 202	American Dialects, Culture, and Identity	
ENG 216	Style: Strategies for Editing and Writing	
ENG 222	The Rhetoric of Information and Data Visualization	
ENG 226	Introduction to Creative Writing: Short Fiction and Poetry	
ENG 310	Special Topics in Rhetoric and Persuasion	
ENG 315	Business Writing	
ENG 321	The Literary Marketplace	
ENG 323	Intermediate Creative Writing: Creative Nonfiction	
ENG 340	Internship	
ENG/IMS 407	Interactive Business Communication	
ENG 413	Grant and Proposal Writing	
ENG/IMS 416	Writing for Global Audiences	
ENG/IMS/JRN 424	Ethics and Digital Media	
ENG/IMS 426	Developing & Publishing Digital Books	
ENG 481	Writing Center Theory and Practice	
JRN 316	Editing and Design	
LIN 302	Structure of Modern English	
Total Credit Hours		15

Public Writing and Rhetoric

Code	Title	Credit Hours
Required course		
ENG 310	Special Topics in Rhetoric and Persuasion	3
or ENG 413	Grant and Proposal Writing	
Elective courses		
Select four courses from the following, two of which must be at the 300 or 400 level:		12
AAA/AMS/CRE/LAS/WGS 211	Writing with Purpose: Interdisciplinary Inquiry and Communication	
ENG/MAC 213	Writing for Film and TV	
ENG 216	Style: Strategies for Editing and Writing	
ENG 222	The Rhetoric of Information and Data Visualization	
ENG 315	Business Writing	
ENG 316	Legal Writing and Reasoning	
ENG 340	Internship	

ENG/IMS 407	Interactive Business Communication	
ENG 412	Print and Digital Editing	
ENG/IMS 416	Writing for Global Audiences	
ENG/IMS/JRN 424	Ethics and Digital Media	
ENG/IMS 426	Developing & Publishing Digital Books	
ENG/IES/JRN 429	Environmental Communication	
ENG 481	Writing Center Theory and Practice	
JRN 318	Advanced Storytelling in Journalism	
JRN 412	Public Affairs Reporting	
LIN 210	Special Topics in Language Awareness	

Total Credit Hours **15**

Digital and Technical Communication

Code	Title	Credit Hours
Required course		
ENG 313	Technical Writing	3
Elective courses		
Select four courses from the following, two of which must be at the 300 or 400 level		12
ENG 216	Style: Strategies for Editing and Writing	
ENG 222	The Rhetoric of Information and Data Visualization	
ENG/IMS 238	Narrative and Digital Technology	
ENG 310	Special Topics in Rhetoric and Persuasion	
ENG 340	Internship	
ENG/IMS 407	Interactive Business Communication	
ENG 412	Print and Digital Editing	
ENG 413	Grant and Proposal Writing	
ENG 414	Usability and User Experience	
ENG/IMS 416	Writing for Global Audiences	
ENG/JRN/IMS 424	Ethics and Digital Media	
ENG/IMS 426	Developing & Publishing Digital Books	
IMS 222	Introduction to Interaction Design and Development	
IMS 413	User Experience Research	
IMS/MKT 418	Social Media Marketing and Online Community Management	
IMS/MKT 419	Digital Branding	
IMS 422	Advanced Interaction Design and Development	
Total Credit Hours		15

Intercultural Rhetoric and Writing

Code	Title	Credit Hours
Required course		
ENG/IMS 416	Writing for Global Audiences	3
Elective courses		
Choose four, two of which must be at the 300 or 400 level		12

AAA/AMS/CRE/ LAS/WGS 211	Writing with Purpose: Interdisciplinary Inquiry and Communication
AMS 207	America: Global and Intercultural Perspectives
ENG/DST 169	Disability and Literature
LIN 202	American Dialects, Culture, and Identity
ENG 216	Style: Strategies for Editing and Writing
ENG/WGS 237	GLBTQ Literature
ENG/AMS 246	Native American Literature
ENG/AAA/AMS 248	Asian American Literature
ENG/LAS 254	Caribbean, Latin American and Latinx Literatures
ENG/AAA 269	Colonial & Postcolonial Literature
ENG 298	Introduction to Literary and Cultural Studies
ENG 310	Special Topics in Rhetoric and Persuasion
ENG/CRE 336	African American Writing, 1746-1877
ENG/CRE 337	African American Writing, 1878-1945
ENG/CRE 338	African American Writing, 1946- Present
ENG/AMS 348	Ethnic American Literatures
ENG/AAA/WGS 351	Cultural Politics of Gender and Sexuality in Asian/America
ENG/FST/WGS 356	Women and Gender in Film
ENG/IMS/JRN 424	Ethics and Digital Media
ENG/CRE/WGS 432	Feminism and the Diaspora: U.S. Women of Color
ENG/WGS 435	Queer Theory
ENG/CRE/WGS 437	Black Feminist Theory
GIC 301	Approaches to Global and Intercultural Studies: Globalization and Belonging
LIN 210	Special Topics in Language Awareness
STC 236	Intercultural Communication
WGS 201	Introduction to Women's Studies
WGS/GEO 406	Indigenous Peoples and Their Sacred Lands
Total Credit Hours	15

In consultation with your advisor and with administrative approval, you may design your own track. Your track (1) must have a coherent and clearly identified identity or theme in professional writing, and (2) must include at least three courses at the 300 level or above from the above list.

Students seeking the Bachelor of Arts in Professional Writing meet the College of Arts and Science writing in the major requirement by completing the following course: ENG 223 and either ENG 415 or ENG 495R.

Psychology- Bachelor of Arts

For information, contact the Department of Psychology, 100 Psychology Building, 513-529-2400, psychology@MiamiOH.edu (psychology@miamioh.edu).

You must have at least a 2.00 cumulative GPA for all psychology courses attempted and for which a letter grade has been earned. All courses used to satisfy basic departmental requirements must be taken for a letter grade. If you wish to transfer courses from another institution to meet requirements for the major, we strongly recommend you have those approved IN ADVANCE by the Lead Departmental Advisor.

Departmental Honors

Students with both a cumulative and major GPA of 3.25 are eligible to apply to complete an honors thesis, which requires the support of a faculty advisor for the project. Departmental honors candidates complete PSY 480 (minimum 4; maximum 6), in which they write and present a thesis. PSY 400 is strongly recommended.

Recommended Courses of Study

This department offers a single major; all majors are encouraged to take a variety of courses in psychology. For flexible career planning, the department suggests courses of study consistent with your career goals. Choose those courses with your academic advisor.

Program Requirements

(minimum of 36 semester hours in PSY)

Code	Title	Credit Hours
PSY 111	Introduction to Psychology (pre- or co-requisite PSY 112, or PSY 112M) ¹	3
Take one of the following:		1
PSY 112	Foundational Experiences in Psychology	
PSY 112M	Foundational Experiences for Majors	
Take the following three courses in this order. PSY294 is a prerequisite for most 300 level and above courses:		
STA 261	Statistics ²	4
PSY 293	Introduction to Psychological Statistics	4
PSY 294	Writing and Research Methods in Psychology (pre or co-requisite PSY 112 or PSY 112M)	4
Select at least one course from each breadth area: Biopsychology, Cognitive, Developmental, Individual and Social group ³		15
Additional requirements:		
Select one of the following two courses:		3
PSY 410	Capstone Seminar in Psychology: The Multiple Determinants of Behavior	
PSY 458	Capstone Seminar in Neuroscience	
Approved area of focus ⁴		6-9

Select three 300-level or higher courses, at least one of which must be at the 400-level (this does not include PSY 410 or PSY 458). ⁵

Additional courses to make up minimum of 36 semester hours in psychology

Total Credit Hours 40-43

¹ If you have taken EDP 101, you cannot receive credit for it and PSY 111, so the department will count it as meeting the requirement for PSY 111.

² Consult with the chief departmental advisor if you have taken a statistics course other than STA261 (e.g., STA/ISA 125 or STA301).

³ Please see below for a list of courses that will count for each of these areas.

⁴ Must take 3 courses within a single area of focus; 1 course may overlap with the breadth area requirement.

⁵ PSY 294 is a prerequisite for nearly all courses at or above the 300-level.

Breadth Areas

Biopsychology

Code	Title	Credit Hours
PSY 251	Introduction to Biopsychology	3
PSY 351	Advanced Biopsychology	4
PSY 356	Psychopharmacology	3
PSY 451	Cognitive Neuroscience	3
PSY 452	Structured Research Experience in Behavioral Neuroscience II	3
PSY 456	Advanced Biological Bases of Behavior	3
PSY 458	Capstone Seminar in Neuroscience	3

Completion of 3 courses from this list will satisfy the biopsychology area of focus

Cognitive

Code	Title	Credit Hours
PSY 271	Survey of Perception, Action, and Cognition	3
PSY 372	Learning & Cognition	3
PSY 374	Psychology of Language and Thought	3
PSY 375	Laboratory in Perception, Action, and Cognition	4
PSY 376	Psychology of Judgment, Decision Making, and Reasoning	3
PSY 451	Cognitive Neuroscience	3
PSY 470	Seminar in Cognition	3
PSY 473	Human Factors/Ergonomics	4
PSY 474	Advanced Cognitive Processes	3

Completion of 3 courses will satisfy the cognitive area of focus

Developmental

Code	Title	Credit Hours
PSY 231	Developmental Psychology	3
PSY 331	Infant Development	3
PSY 332	Child Development	3
PSY 333	Adolescent Development	3
PSY 334	Adulthood and Aging	3

PSY 430	Seminar in Developmental Psychology	3
---------	-------------------------------------	---

Completion of PSY 231 and two other courses will satisfy the developmental area of focus

Individual

Code	Title	Credit Hours
PSY 241	Personality	3
PSY 242	Abnormal Psychology	3
PSY 343	Psychopathology	3
PSY 345	Childhood Psychopathology and Developmental Disabilities	3
PSY 440	Special Topics in Psychopathology	3

Completion of PSY 242, PSY 343, & PSY 345 will satisfy the psychopathology area of focus

Social

Code	Title	Credit Hours
PSY 221	Social Psychology	3
PSY 324	Advanced Social Psychology	3
PSY 325	Psychology of Prejudice and Minority Experience	3
PSY 326	Psychology of Gender	3
PSY 327	Intro to Social Cognition	3
PSY 420	Seminar in Social Psychology	3

Completion of PSY 221 and two other courses will satisfy the social area of focus

Additional Areas of focus

Culture & Diversity

Code	Title	Credit Hours
PSY 210	Psychology Across Cultures	3
PSY 327	Intro to Social Cognition	3
PSY 331	Infant Development	3
PSY 332	Child Development	3
PSY 333	Adolescent Development	3
PSY 343	Psychopathology	3
PSY 420	Seminar in Social Psychology	3
PSY 430	Seminar in Developmental Psychology	3
PSY 440	Special Topics in Psychopathology	3

Completion of PSY 210 and two other courses will complete this area of focus

Decisions, Leadership, & Organization

Code	Title	Credit Hours
------	-------	--------------

choose 1 course from:

PSY 221	Social Psychology	
PSY 271	Survey of Perception, Action, and Cognition	

AND 1 course from:

PSY 210	Psychology Across Cultures	
PSY 325	Psychology of Prejudice and Minority Experience	

AND 1 course from:

PSS 310	Introduction to Industrial and Organizational Psychology
PSY 326	Psychology of Gender
PSY 327	Intro to Social Cognition
PSY 376	Psychology of Judgment, Decision Making, and Reasoning
PSY 473	Human Factors/Ergonomics

PSY 325 may be used as the 3rd course if student takes PSY 210.

A seminar can also be used if the topic is relevant- ask the department for a list and complete a department petition form prior to graduation.

Persuasion, Intervention & Behavioral Change

Code	Title	Credit Hours
PSY 221	Social Psychology	3
PSY 334	Adulthood and Aging	3
PSY 374	Psychology of Language and Thought	3
PSY 473	Human Factors/Ergonomics	4

A seminar can also be used if the topic is relevant- ask the department for a list and complete a department petition form prior to graduation.

Completion of PSY 221 and two other courses will complete this area of focus

Students seeking the Bachelor of Arts in Psychology meet the College of Arts and Science writing in the major requirement by completing the following course: PSY 294.

Public Administration- Bachelor of Arts

For information, contact the Department of Political Science, 218 Harrison Hall, 513-529-2000.

The Public Administration major is designed for undergraduates interested in studying and understanding the issues of governance and management in government and not-for-profit organizations, and more specifically about the link between politics and public policy implementation. It is appropriate for those interested in public service careers in the federal government, state government, and/or local government including: city and county management, public finance administration, public personnel administration, public policy analysis and program evaluation. This major also prepares students for continued education in professional and graduate schools of public administration, public policy analysis, and related fields. It also serves as a pre-law course of study.

At least half of the required semester hours in the Public Administration Core and half of the required semester hours in the Related Hours must be from Miami. Required hours in the Core and Related Hours may not be taken credit/no-credit. A GPA of at least 2.00 is required in the Core as well as in the Related Hours courses.

Program Requirements

(At least 36 semester hours)

Code	Title	Credit Hours
Public Administration Core		
POL 241	American Political System	3
POL 261	Public Administration ¹	3
POL 306	Applied Research Methods	3
ECO 201	Principles of Microeconomics	3
ECO 202	Principles of Macroeconomics	3
Core electives ²		
Select at least 12 hours of the following:		12
POL 268	State and Local Government and Politics	
POL 307	Public Opinion Laboratory	
POL 351	Criminal Justice	
POL 361	Nonprofits: Politics & Policy	
POL 362	Public Management, Leadership, and Administrative Politics	
POL 363	Administrative Law	
POL 364	Federalism and Intergovernmental Relations	
POL 365	Decision-Making in Public Affairs	
POL 460	Seminar on Public Administration and Policy Analysis	
POL 467	Public Budgeting	
POL 468	Public Personnel Administration	
Select no more than six hours of the following professional related courses:		6
ACC 468	Accounting for Not-for-Profit and Governmental Organizations	
AMS 302	Immigrant America	
APC 339	Introduction to Organizational Communication	
ECO 331	Public Sector Economics	
ECO 406	Environmental Economics	
ENG 313	Technical Writing	
GEO 441	Geographic Information Systems	
GEO 442	Advanced Geographic Information Systems	
GEO 451	Urban and Regional Planning	
GTU 365	Social Policy and Programs in Gerontology	
IES 431	Principles and Applications of Environmental Science	
IES 450	Environmental Law	
JRN 412	Public Affairs Reporting	
SOC 454	Formal Organization	
Senior Capstone Seminar		
POL 466	Public Policy Analysis ³	3
Total Credit Hours		36

¹ POL 261 is a prerequisite for 300/400-level courses in Public Administration.

² Courses appropriate to the major, but not listed as core electives, may in some cases be counted toward the major with the written approval of the student's public administration advisor.

³ Requires Senior standing, completion of the core requirements and 15 hours from above.

Internships

Public administration internships (POL 340) for majors are coordinated through the Center for Public Management and Regional Affairs, 311 Harrison Hall. Internships provide an added dimension to your educational experience. Internship credits do not fulfill any requirements for the Public Administration major. For information, consult the Political Science Internship Coordinator.

CAS Writing Competency Requirement

Students seeking the Bachelor of Arts in Public Administration meet the College of Arts and Science writing in the major requirement by completing one of the following courses:

Code	Title	Credit Hours
POL 343	American Presidency	3
POL 349	Voice & Power in U.S. Politics	3
POL 364	Federalism and Intergovernmental Relations	3
POL 366	Policy Evaluation	3
POL 374	Foreign Policy Analysis	3

Note about Double Majoring in the Department

The Department of Political Science does not allow Political Science majors to pursue another major in the Department. A double major between Public Administration and Diplomacy and Global Politics is allowed, but will not meet the Miami Plan's thematic sequence requirement as a double major that is in the same department. We strongly discourage a Diplomacy and Global Politics - International Studies double major due to all the "double counting" that is involved.

Public Health- Bachelor of Arts

For more information about the Human Disease and Epidemiology concentration, contact the Department of Microbiology, 212 Pearson Hall, 513-529-5422, Email: microbiology@MiamiOH.edu

For more information about the Health Policy and Administration concentration, contact the Department of Sociology and Gerontology, 375 Upham Hall, 513-529-2628, Email: socgty@MiamiOH.edu

Public Health is a field of study focused on preventing illness and promoting health in individuals, communities, and society as a whole. The Public Health program at Miami builds on the University's strengths in three areas: Human Disease and Epidemiology, Health Policy and Administration, and Health Promotion and Education. The program is housed jointly in the College of Education, Health and Society and in the College of Arts and Science. Students will complete a core curriculum covering the critical elements of Public Health along with additional courses focused on one of the specialty areas. Public Health students choosing to focus on Health Promotion and Education will complete all of the requirements of the College of Education, Health and Society. Public Health students choosing to focus on Human Disease and Epidemiology or Health Policy and

Administration will select that focus area as a concentration within the major and will also complete all of the requirements of the College of Arts and Science. These curricula will prepare students for either graduate school or employment in the field.

Program Requirements

Code	Title	Credit Hours
Core Courses		
Take the following:		
GTU 365	Social Policy and Programs in Gerontology	3
or KNH 321	National and Global Health Policy	
IES 441	Environmental Public Health	3
KNH 218	Applied Health Behavior Change	3
MBI 131	Community Health Perspectives	3
or KNH 125	Introduction to Public Health	
MBI 361	Fundamentals of Epidemiology (Note: enroll in a W section to meet the CAS writing in the major requirement)	3
STA 261	Statistics	3-4
or STA 301	Applied Statistics	
Concentrations (one required):		21-23
HUMAN DISEASE & EPIDEMIOLOGY		
Take the following:		
BIO/MBI 116	Biological Concepts: Structure, Function, Cellular, and Molecular Biology	
BIO 203	Introduction to Cell Biology	
BIO 305	Human Physiology	
MBI 111	Microorganisms and Human Disease	
MBI 461	Human Disease and Epidemiology	
Select two of the following:		
ATH 348	Introduction to Medical Anthropology	
ATH 378	Doctors, Clinics, and Epidemics	
BIO 342	Genetics	
MBI 414	Immunology Principles	
STA 363	Introduction to Statistical Modeling	
HEALTH POLICY & ADMINISTRATION		
Take the following:		
GTU 465	Policies & Programs in an Aging Society	
POL 261	Public Administration	
POL 340	Internship ¹	
or GTY 440	Gerontology Capstone Internship	
Select one of the following administration courses:		
POL 362	Public Management, Leadership, and Administrative Politics	
POL 467	Public Budgeting	
POL 468	Public Personnel Administration	
SOC 454	Formal Organization	
Select one of the following policy courses:		
ATH 448	Developing Solutions in Global Health	
ECO 332	Health Economics	

GTY 362	Data & Decision Making in Aging
POL 466	Public Policy Analysis
Select one additional course from the administration and policy courses listed above.	
Total Credit Hours	39-42

¹ In the Health Policy & Administration concentration, a minimum of 6 hours of internship are required; however, a student may apply up to 8 hours toward the major, depending on the course.

Students seeking the Bachelor of Arts in Public Health meet the College of Arts and Science writing in the major requirement by completing MBI 361W, the writing-intensive section of the epidemiology course required in the core.

Quantitative Economics- Bachelor of Science

For information, contact the Department of Economics, 2054 Farmer School of Business, 513-529-2836.

This program enables students to undertake a more rigorous and quantitative course of study, while still completing their degree work in four years. Additional required courses (including more quantitative courses), combined with more advanced mathematics and statistics requirements are an ideal preparation for graduate training in economics, as well as jobs in business, industry and government that require the more technical tools of economic theory and econometrics.

Honors in Economics

For details on honors in economics please see the departmental website.

Program Requirements

(36 semester hours, plus 20-21 related hours)

Code	Title	Credit Hours
Core Courses		
ECO 201	Principles of Microeconomics	3
ECO 202	Principles of Macroeconomics	3
ECO 311	Examining Economic Data and Models	3
ECO 315	Intermediate Microeconomic Theory	3
ECO 317	Intermediate Macroeconomic Theory	3
Select one of the following:		3
ECO 414	Mathematical Economics	
ECO 465		
An acceptable alternative economics, mathematics, or statistics course ¹		
Select 18 hours in economics that are at the 300-level or above; at least six of these hours must be in courses that require ECO 315 and/or ECO 317 as a prerequisite and are numbered at 410 or above. ^{2,3}		18
Related Hours (20 required)		
Mathematics:		
MTH 222	Introduction to Linear Algebra	3

MTH 249	Calculus II	4-5
or MTH 251	Calculus II	
MTH 252	Calculus III	4
Select one of the following:		3
ISA 444	Business Forecasting	
MTH 347	Differential Equations	
MTH 432	Optimization	
MTH 441	Real Analysis	
STA 463	Regression Analysis	
STA 467	Statistical Learning	
STA 483	Analysis of Forecasting Systems	
Statistics: take both		
STA 301	Applied Statistics	3
STA 401	Probability	3
Total Credit Hours		56-57

- ¹ Alternatives must be approved by the departmental chief advisor, ideally before the student enrolls in the course.
- ² ECO 315 and ECO 317 must be taken at Miami. At least three additional hours of economics numbered 300 must be taken at Miami. Up to three hours of Summer Scholar credit can be applied toward the 15 hours of advanced economics. Exceptions must be approved by the director of undergraduate studies.
- ³ Prerequisites for all 300- and 400-level course include ECO 201 and ECO 202 unless otherwise stated.

Religion- Bachelor of Arts

For information, contact the Department of Comparative Religion, 200 Upham Hall, 513-529-4300.

In virtually all cultures, religion has developed as a powerful dimension of social, political, and economic life. Religion has shaped and is shaped by literature, the arts, social structure, and human thought. A brief glance at today's headlines will show how religion permeates every corner of human affairs. In this major, you will encounter a variety of religious practice and belief, you will learn the history and development of various religious communities, and engage people who do vastly different things in the name of religion. You will apply what you learn to better understand and engage the interrelated social, political, economic, and aesthetic dimensions of culture as they impact individuals and societies in today's world that construct their identities in significant ways through religion.

Program Requirements

(42 semester hours)

Code	Title	Credit Hours
Required course:		3
REL 201	Methods for the Study of Religion	
Select one of the following:		3
REL 241	Religions of the American Peoples	
REL 275	Introduction to the Critical Study of Biblical Literature	
REL 286	Global Jewish Civilization	
REL 306	History of Christian Thought	

Select one of the following: 3

REL 203	Global Religions of India
REL 223	Introduction to Buddhism
REL 226	Introduction to Islam

Select one of the following not yet taken: 3

REL 101	Introduction to the Study of Religion
REL 203	Global Religions of India
REL 223	Introduction to Buddhism
REL 226	Introduction to Islam
REL 241	Religions of the American Peoples
REL 275	Introduction to the Critical Study of Biblical Literature
REL 286	Global Jewish Civilization
REL 306	History of Christian Thought

Select at least four of the following: 12

CLS 210L	Ancient Religions
REL 305	Becoming Christianity
REL 313	Marriage Across Cultures
REL 314	Social and Religious History of the Jewish People
REL 316	The Age of the Reformation
REL 331	Paul and the Beginnings of Christianity
REL 333	Religion, Dress, and Status
REL 336	Reconstructing Jesus
REL 341	Protestantism and the Development of American Culture
REL 342	Religious Pluralism in Modern America
REL 343	African-American Religions
REL 355	Religion and Law
REL 360	Interdisciplinary Special Topics
REL 373	Religion after Communism
REL 376	Global Jihadism

Select one of the following or an approved 400-level CAS writing course in another department: 3-4

REL 402	Basic Structures in the History of Religions
REL 470A	Havighurst Colloquium
REL 480	Independent Reading for Departmental Honors

Related hours: 15

Select 15 hours outside of REL, nine of which must be at the 300 level or above, selected with the departmental advisor

Total Credit Hours 42-43

Note: Students seeking the Bachelor of Arts in Comparative Religion will meet the College of Arts and Science "writing in the major" requirement by completing the following course: REL 201.

Russian, East European, and Eurasian Studies- Bachelor of Arts

For information, contact the Department of German, Russian, Asian, and Middle Eastern Languages and Cultures, 172 Irvin Hall, 513-529-2526, gramelac@MiamiOH.edu.

This interdisciplinary major allows students to study the history, politics, language, literature, and culture of Russia, Eastern Europe, and Eurasia, broadly defined as the territory of the former Soviet republics and their sphere of influence, from medieval times to today. Drawing from a range of disciplines and approaches, students have the opportunity to explore issues of political, social, and regional identity and cultural diversity, as well as official and popular culture. Majors may choose to participate in the Dawisha Fellows program sponsored by the Havighurst Center for Russian and Post-Soviet Studies

Proficiency at the level of RUS 302 or above is required. Students are encouraged to attend a Miami summer Russian language workshop in Russia, Eastern Europe, and Eurasia or an approved academic study program in Russia, Central Asia, the Caucasus, or Eastern Europe. Special financial support may be available through the Havighurst Center and ROTC programs.

Program Requirements

(36 semester hours)

Code	Title	Credit Hours
Core Requirements		
RUS/ATH/CLS/HST/POL/REL 254	Introduction to Russian and Eurasian Studies	3
RUS 201 & RUS 202	Intermediate Russian and Intermediate Russian	6
RUS 301 & RUS 302	Advanced Russian and Advanced Russian	6
RUS 311	Reading in Russian	3
RUS 436	Havighurst Colloquium	3
Electives		15
Select from the following:		
HST 324	Eurasian Nomads and History	
HST 374	History of the Russian Empire	
HST 375	The Soviet Union and Beyond	
HST 428	History Through Literature	
POL 331	Communism and Soviet Politics, 1917-1991	
POL 334	Politics of Eastern Europe	
REL 133	Imagining Russia	
REL 373	Religion after Communism	
RUS 137	Magic and Power in Russian Folklore	
RUS/ENG 255	Love and Death in Nineteenth-Century Russian Literature	
RUS/ENG 256	Empire and Utopia in Russian Literature	

RUS 257/ ENG 267	Communism and Catastrophe in Modern Russian Literature
RUS/FST 263	Soviet and Post-Soviet Russian Cinema
RUS/CLS 325	Russian Reception of Classical Culture
RUS 480	Departmental Honors

Total Credit Hours **36**

Students seeking the Bachelor of Arts in Russian, East European, and Eurasian Studies meet the College of Arts and Science writing in the major requirement by completing the following courses: CLS 254/HST 254/POL 254/REL 254/RUS 254 and HST 436/RUS 436/POL 440/POL 540.

Social Justice - Bachelor of Arts

For information, contact the Department of Sociology and Gerontology, 375 Upham Hall, 513-529-2628.

The Bachelor of Arts in Social Justice (SJS) offers a sociologically-based foundation of knowledge and skills to examine ideals of justice, realities of injustice, and change strategies to bridge the gap between the two. It prepares students for graduate work, law school, and a broad range of careers in areas including public policy, business, social activism, human services, public health, foreign affairs, and humanitarian relief.

Program Requirements

(40 Semester hours)

Code	Title	Credit Hours
Core Courses		12
Select all of the following:		
SJS/SOC 165	Social Justice Perspectives	
SJS 303	Life After Graduation: Careers in Sociology/Social Justice	
SJS/SOC 323	Social Justice and Change	
SJS/SOC 470	Social/Political Activism	
Logic, Reasoning, Research Methods		3-4
Select one of the following:		
SOC 262	Research Methods	
PHL 273	Formal Logic	
STA 261	Statistics	
or STA 301	Applied Statistics	
Electives		15
Select 15 hours from the courses below; minimum of 3 required hours per category		
Identities and Inequalities Courses (Electives category 1)		
ATH 325	Identity, Race, Gender, Class	
SOC 221	Sexualities	
SOC 203	Sociology of Gender	
SOC/EDP/DST 272	Introduction to Disability Studies	
SOC 279	African Americans in Sport	
SOC 318	Social Forces and Aging	
SOC 348	Race and Ethnic Relations	
SOC 372	Social Stratification	

Institutions and Processes Courses (Electives category 2)

AMS 302	Immigrant America
ATH 358	Travelers, Migrants, and Refugees: Transnational Migration and Diasporic Communities
GHS 101	Introduction to Global Health
JRN 101	Journalism and American Life
SJS 159	Creating Global Peace
SJS 215	EMPOWER I: Educational and Economic Justice and Service-Learning
SJS 216	EMPOWER II: The Intersections of Race, Class, and Education
SOC 225	Work and Occupational Justice
SOC 305	Introduction to the Sociology of Globalization
SOC/SJS 350	Topics in Justice Studies
SOC 352	Criminology
SOC 357	Medical Sociology
SOC 362	Family Poverty
SOC 372	Social Stratification
SOC 440A	Internship in Applied Sociology ¹
SJS 419	Environment, Society & Justice

Related hours **10**

Courses must be taken in the same department or program. If your interests are not accommodated by the pre-approved areas listed below, you may elect to design an individualized course of study with approval from the Chief Departmental Advisor. Pre-approved related areas include:

Community-Based Leadership (CBL)
Critical Race and Ethnic Studies (CRE)
Disability Studies (DST)
Entrepreneurship (ESP)
Environmental Science (IES)
Food Systems and Food Studies (IES)
International Studies (ITS)
Latin American, Latino/a and Caribbean Studies (LAS)
OTR Residency
Social Work (BSW)
Sustainability (IES)
Women's, Gender, and Sexuality Studies (WGS)

Total Credit Hours **40-41**

¹ Maximum of 4 credit hours count for the Major. Must be pre-approved as a social justice-related placement.

Students seeking the Bachelor of Arts in Social Justice meet the College of Arts and Science writing in the major requirement by completing the following courses: SJS 165, SJS 323, and SJS 470.

Sociology- Bachelor of Arts

For information, contact the Department of Sociology and Gerontology, 375 Upham Hall, 513-529-2628.

This major is for students interested in the study of society, social institutions, and human interaction. These range from two-person interactions to relations between large social institutions to relations between nations. Students select a general sociology concentration or a criminology concentration. The general sociology concentration offers coursework focusing on a variety of social processes and institutions, and the criminology concentration focuses on the social-scientific study of crime, and systems of legal and criminal justice.

Required sociology courses and related hours (excluding fieldwork) may not be taken credit/no-credit; however, hours in excess of the required minimum may be taken credit/no-credit. A GPA of at least 2.00 is required for this major, and only three hours of independent study may be included. Not all courses are offered each semester or every year; consult with your sociology advisor before registering each semester. A sociology capstone class is required for the major. If you complete more than one sociology capstone class, the hours from the additional course(s) will count as elective hours. **Note:** A capstone class will count as a capstone **ONLY** if you have senior standing.

Students majoring in one concentration may not minor in the other concentration. Students may not double major in the sociology and criminology concentration.

Program Requirements

(39-40 semester hours)

Note: All 300 and 400 level sociology courses require SOC 151 or SOC 153 as a prerequisite. Prerequisites may be waived with permission of instructor. Credit toward the sociology major **cannot** be granted for both SOC 151 and SOC 153.

Sociology Major

(39 semester hours)

Code	Title	Credit Hours
Core Curriculum		
SOC 151 or SOC 153	Social Relations in the U.S. ¹ Sociology in a Global Context	3
STA 261	Statistics	4
SOC 482	Sociological Theory	4
SOC 262	Research Methods	3
Sociology Capstone course -select one of the following:		3
SOC 459	Sociology Capstone	
SOC 462	Applied Sociological Research	
Select one of the following concentrations:		22-23
Sociology Concentration (22-23 hours)		
Required Course		
SOC 372	Social Stratification	
Related Hours (minimum of 20 additional SOC hours, with at least 9 hours at or above the 300 level)		
Criminology Concentration (22-23 hours)		
Required Courses		
SOC 352	Criminology	
SOC 409	Systems of Justice	
Criminology Electives (6-7 Credits)		

SOC 201 or SOC 202	Social Problems Social Deviance
SOC/SJS 323	Social Justice and Change
SOC 410	Topics in Criminology
SOC 412	Sociology of Law
SOC 413	Juvenile Justice
Engaged Learning Requirement (3 credits)	
SOC 440C	Internship in Criminology ²
Diversity Requirement (6 credits)	
ATH/ITS 301	Intercultural Relations
ATH/CRE/LAS/ WGS 325	Identity, Race, Gender, Class
SOC/WGS 203	Sociology of Gender
SOC 305	Introduction to the Sociology of Globalization
SOC/EDP/DST 272	Introduction to Disability Studies
SOC/FSW/WGS 221	Sexualities
SOC/GTY 318	Social Forces and Aging
SOC/CRE 348	Race and Ethnic Relations
SOC/CRE/FSW 362	Family Poverty
SOC 372	Social Stratification
SOC/DST/EDP/ WGS 375	(Dis)Ability Allies: To be or not to be? Developing Identity and Pride from Practice
WGS 201	Introduction to Women's Studies

Credit requirements can be met by taking additional SJS or SOC courses or by completing any of the related courses (list available from the CDA).

Total Credit Hours **39-40**

¹ Only one of these courses may count toward major credit requirements.

² Maximum of 4 credits from SOC 440C count toward the major.

Students seeking the Bachelor of Arts in Sociology meet the College of Arts and Science writing in the major requirement by completing the following courses: SOC 262, SOC 482, and SOC 459 or SOC 470.

Spanish- Bachelor of Arts

For information, contact the Department of Spanish and Portuguese, 268 Irvin Hall, 513-529-4500.

No courses in Spanish may be taken credit/no credit. Courses taken cannot fulfill more than one requirement for the Spanish major.

This program offers students the opportunity to study language, literature, and culture of the Spanish-speaking world. Courses are offered in Spanish language and conversation, Spanish in specialized settings such as health care and business, and Spanish linguistics. Courses on the literatures and cultures of peninsular Spain and Spanish America explore the diversity of the Spanish-speaking world.

The department offers a number of its own study-abroad programs in Spain and Latin America, which are available during Summer and

Winter terms. These are complemented by approved programs for study in Spanish-speaking countries during Fall or Spring semesters.

Program Requirements

(36 semester hours in SPN)

Note: SPN 101, SPN 102, SPN 111, SPN 201, SPN 202 or SPN 203, and SPN 211, do not count in the required 36 hours.

Code	Title	Credit Hours
Required Core Courses		
SPN 311	Grammar Review and Introductory Composition	3
SPN 312	Introduction to Spanish Language/ Linguistics	3
SPN 315	Intro to Hispanic Literatures	3
Required Intermediate Courses		
Select 9 hours from the following		9
SPN 351	Historical Perspectives on Current Issues	
SPN 352	Cultural History of Spain II	
SPN 361	Marginalized Voices	
SPN 362	Spanish American Cultural History II	
SPN 381	Language and Society: Past and Present	
SPN 382	Spanish Language and Hispanic Culture II	
Required Advanced Courses		
Select from any 400/500 SPN courses		6
Required Capstone Course		
SPN 490	Issues in Hispanic Literature, Linguistics, or Culture	3
Major Electives		
Select 9 hours from the following:		9
Any 300 or 400-level SPN course		
POR 381	Afro-Brazilian Diaspora Through Film and Arts	
or POR 383	Brazilian Women through Literature and Film	
Study Abroad		
Recommended but not required		
Total Credit Hours		36

Students seeking the Bachelor of Arts in Spanish meet the College of Arts and Science writing in the major requirement by completing SPN 315 (Intro to Hispanic Literatures) AND SPN 490 (Issues in Hispanic Literature, Linguistics, or Culture).

Teacher Licensure

Students who wish to combine teacher licensure with an Arts and Science major must observe the rules, procedures, and restrictions pertaining to admission to a licensure cohort as outlined in the College of Education Health and Society chapter. For information, contact the Office of Student Services in the College of Education Health and Society, 202 McGuffey Hall, 513-529-6418.

Speech Pathology and Audiology- Bachelor of Science

For information, contact the Department of Speech Pathology and Audiology, 2 Bachelor Hall, 513-529-2500.

Miami offers the Bachelor of Science in speech pathology and audiology. The State of Ohio requires a graduate degree in order to practice as a speech-language pathologist or audiologist; you cannot be licensed in Ohio without the required graduate degree. Students who plan to apply to graduate school are encouraged to achieve an undergraduate GPA of *at least* 3.0. More information is available from the Department of Speech Pathology and Audiology and on the Department's website.

Program Requirements

(63 semester hours)

Code	Title	Credit Hours
SPA Required Major Courses		
SPA 127	Introduction to Communication Disorders	3
SPA 216	Research Design	3
or FSW 295	Research and Evaluation Methods	
or SOC 262	Research Methods	
SPA 222	Anatomy and Physiology Speech Production	3
SPA 223	Theories of Language Development	3
SPA 293	Sophomore Seminar in Speech Pathology and Audiology	1
SPA 316	Introduction to Audiology	3
SPA 325	Foundations of Neurology for Communication Sciences and Disorders	3
SPA 326	Aural Rehabilitation	3
SPA 334	Clinical Phonetics and Articulation Disorders	3
SPA 393	Junior Clinical Experience	1
SPA 402	Counseling Strategies for Speech Pathologists and Audiologists	3
SPA 426	Language Disorders	3
SPA 427	Augmentative and Alternative Communication Systems for Individuals with Complex Communication Needs	3
SPA 435	Speech and Hearing Science	3
SPA 493	Senior Seminar in Speech Pathology and Audiology	2
SPA Required Related Courses		
BIO 161	Principles of Human Physiology	4
EDL 204	Sociocultural Studies in Education	3
EDP 256	Psychology of the Exceptional Learner	3
or EDP 272	Introduction to Disability Studies	
FSW 261	Diverse Family Systems Across the Life Cycle	3

or FSW 245	Children and Families: Ages Conception - 12	
PHY 131	Physics for Music	3
or PHY 101	Physics and Society	
PSY 111	Introduction to Psychology	3
or EDP 201	Human Development and Learning in Social and Educational Contexts	
STA 261	Statistics	4
Total Credit Hours		63

Additional SPA Elective Courses that students can elect to take: SPA 101, SPA/DST 312, and SPA 413. Some graduate programs may require one or more of these courses.

Strategic Communication- Bachelor of Arts

For more information, please contact the Department of Media, Journalism, and Film, 120 Williams Hall, 513-529-3521.

The major in Strategic Communication prepares students for communication- and media-related careers in a range of corporate, non-profit, and public service fields. Students specialize in analyzing and influencing cultural trends and crafting messages on behalf of organizations, policies, brands, products, and social causes. This major equips students with the essential skills in communication, research, and campaign design to thrive as independent thinkers and creative and ethical problem solvers in a rapidly changing industry. Students explore strategic communication as dynamic arrangements of technologies, institutions, and individual practices, understanding how campaigns circulate alongside diverse cultural forms, across media platforms, and in a global and multicultural society.

Program Requirements

(39 semester hours; plus a minor, co-major, or second major)

The Strategic Communication major requires students to choose and complete a minor/co-major/second major. No more than 9 credit hours may be counted toward both the completion of the Strategic Communication major and the completion of a minor, co-major, or second major. Students majoring in Strategic Communication cannot major in Communication Studies through the College of Liberal Arts and Applied Science.

Code	Title	Credit Hours
Core Courses		18
JRN 102	Precision Language for News Writing ¹	
MJF 105	Media, Culture and You	
MJF 146	Foundations of Production	
MJF 205	Introduction to Comm & Tech	
STC 135	Principles of Public Speaking	
STC 262	Research Methods ²	
Campaign Sequence		9
STC 259	Foundations of Campaign Design	
STC 359	Advanced Strategic Communication Writing ³	
STC 459	Strategic Communication Campaigns	
Advanced Diversity and Inclusion		3

Select one of the following:

FST 206	Diversity and Culture in American Film
FST 282	Sexualities and Film
MAC 212	Media, Representation, and Society
MAC 446	Media Globalization
MAC 461	Gender, Sexuality and Media
STC 236	Intercultural Communication

Electives **9**

Select three of the following:

AMS 303	Consumer Culture
APC 339	Introduction to Organizational Communication
ENG 315	Business Writing
ENG 407	Interactive Business Communication
ENG 411	Visual Rhetoric
ENG 416	Writing for Global Audiences
ESP 331	Social Entrepreneurship
ESP 351	Creativity in Entrepreneurship
FST 345	Global Media, Ethnography, and Film
JRN 310	Topics in Journalism Studies
JRN 316	Editing and Design
JRN 313	Digital Audio Reporting
JRN 314	Digital Video Reporting
JRN 318	Advanced Storytelling in Journalism
JRN 333	International Journalism
JRN 350	Specialized Journalism
JRN 412	Public Affairs Reporting
JRN 418	Critical Writing in Journalism
MAC 309	Advertising in Consumer Culture
MAC 325	Social Media Cultures
MAC 344	Sound and Music in Media Cultures
MAC 351	Media Ethnography
MAC 353	Audience Studies
MAC 355	Media Technology & Culture
MAC 358	Working in Media
MAC 362	Media and the Data Society
MAC 443	Media Industries and Economics
MJF 301	Media Law and Ethics
MJF 405	Practicum in Media Literacy and Leadership
STC 311	Communication in Everyday Life
STC 331	Branding in Politics
STC 340	Internship
STC 421	Managing Crisis & Reputation
STC 422	Trendsetters & Coolchasers
STC 431	Persuading Audiences
STC 437	Media, Advocacy & Social Change
STC 450	Topics in Communication

Any Media, Journalism & Film "Inside" Program. Only one may count toward the nine elective hours.

MAC 425	Inside Hollywood
MAC 426	Inside Washington
STC 478	Inside New York City- Study Away

STC 482	Inside Chicago
Other Journalism Electives Requiring JRN 201 Prerequisite	
JRN 303	Multimedia Journalism
JRN 313	Digital Audio Reporting
JRN 314	Digital Video Reporting
JRN 350	Specialized Journalism
JRN 412	Public Affairs Reporting
JRN 418	Critical Writing in Journalism
Total Credit Hours	39

- ¹ Or JRN 201 before Fall 2021.
- ² Requires STA 261 as prerequisite.
- ³ Meets MP & CAS-W Advanced Writing requirements.

Note: Students seeking the Bachelor of Arts in Strategic Communication meet the Miami Plan Advanced Writing and the College of Arts and Science writing in the major requirement by completing the following course: STC 359. Independent Studies (STC 177, STC 277, STC 377, and STC 477) do not fulfill any specific Strategic Communication curriculum requirement, but may fill one elective with advisor or CDA approval.

Sustainability Co-Major

For more information, contact the Institute for the Environment and Sustainability, 118 Shideler Hall, 513-529-5811.

The Sustainability Co-major emphasizes human-nature interaction in understanding environmental patterns and processes. Students are prepared to pursue a wide variety of career paths and post-graduate degrees in sustainability, especially those with design, management, and policy specializations. The term "co-major" indicates that students must complete another major at Miami University. The Sustainability Co-major complements the primary major, which provides significant depth and breadth in an academic discipline. There is no specific degree designation for the co-major; students receive the degree designation of their primary major.

Program Requirements

(37-42 semester hours)

Complete a major in one of the divisions of the university.

Code	Title	Credit Hours
Introductory Experience		
IES 274	Introduction to Environment and Sustainability	3
Foundations to Sustainability		
Ecological Dimensions:		
Select one of the following:		3
BIO 131	Plants, Humanity, and Environment	
BIO 121	Environmental Biology	
BIO 176	Ecology of North America	
Physical Dimensions:		
Select one of the following:		4
GEO 121	Earth's Physical Environment	

GLG 121 & GLG 115L	Environmental Geology and Understanding the Earth	
Social Dimensions:		
Select one of the following:		3
ARC 188	Ideas in Architecture	
ATH 175	Global Cultural Diversity	
ECO 131	Economic Perspectives on Inequality in America	
ECO 201	Principles of Microeconomics	
GEO 101	Global Forces, Local Diversity	
POL 261	Public Administration	
Integrative Perspectives		
Natural Resources & Ecosystems:		
Select one of the following:		3-4
BIO 204	Evolution of Plant Biodiversity: Genes to Biosphere	
BIO 206	Evolutionary Biology	
BIO 209	Fundamentals of Ecology	
GEO 271	Human Dimensions of Natural Resource Conservation	
Select two of the following: ¹		6-8
BIO/GEO 431	Global Plant Diversity	
BIO/MBI 433	Field Ecology	
BIO 351	Environmental Education: Focus on Natural History	
BIO 467	Conservation Biology	
BIO 463	Limnology	
CHM 491	Chemistry in Societal Issues	
GEO 333	Global Perspectives on Natural Disasters	
GEO 425	Hydrogeography	
GEO 426	Watershed Management	
GEO 432	Ecoregions of North America	
GLG 307	Water and Society	
GLG 335	Ice Age Earth	
GLG 408	Introduction to Hydrogeology	
GLG 428	Hydrogeological Modeling: Groundwater Flow and Contaminant Transport and Fate	
Social Systems & Human Landscape:		
Select one of the following:		3
IES 211	Energy and Policy	
BUS/IES 494	Sustainability Perspectives in Resources and Business	
GEO 454	Urban Geography	
IES 419 or SJS 419	Environment, Society & Justice	
Select two of the following: ¹		6-7
ARC 406	Seminars (406C: Sustainable Design Case Studies)	
ARC 413	Environmental Systems I	
ATH 471	Ecological Anthropology	
ECO 406	Environmental Economics	
GEO 451	Urban and Regional Planning	

IES/ENG 264	Environmental Literature	
IES 431	Principles and Applications of Environmental Science	
IES 450	Environmental Law	
MKT 412	Sustainable Marketing Management	
MME 451	Sustainability Considerations in Design and Development	
PHL 376	Environmental Philosophy	
POL 362	Public Management, Leadership, and Administrative Politics	
POL 363	Administrative Law	
WGS/GEO 406	Indigenous Peoples and Their Sacred Lands	
WGS/GEO 436	Women, Gender, and the Environment	
Environmental Measures & Metrics:		
Select one of the following:		3-4
GEO 441	Geographic Information Systems	
GEO 444	GIScience Techniques in Landscape Ecology	
IES 411	Environmental Protocols	
ISA 225	Principles of Business Analytics	
STA 261	Statistics	
STA 301	Applied Statistics	
STA 475	Data Analysis Practicum	
Project-Based Synthesis:		
IES 474	Sustainability in Practice	3
Total Credit Hours		37-42

¹ A workshop or one-time seminar on sustainability may be substituted with permission of advisor.

Urban and Regional Planning-Bachelor of Arts

For information, contact the Department of Geography, 118B Shideler Hall, 513-529-5010.

The Urban and Regional Planning major provides an integrated perspective on towns and cities, and how to promote more efficient and sustainable development. Students learn to interpret urban contexts, analyze the nature and scope of social and environmental problems, and apply planning concepts and techniques through collaborative problem solving. The major prepares students with broad knowledge and specialized skills for diverse careers in public service, consulting, and development.

Program Requirements

(39-40 semester hours)

Code	Title	Credit Hours
Urban Contexts		
GEO 101	Global Forces, Local Diversity	3
GEO 201	Geography of Urban Diversity	3
Planning Concepts and Techniques		
GEO 451	Urban and Regional Planning	3

GEO 459	Advanced Urban and Regional Planning ¹	3
Development and Planning in Practice		
Select two of the following:		6
GEO 352	Geographies of Urban Change	
GEO 454	Urban Geography	
GEO 462	Citizenship and the City	
GEO 467	Land Use, Law and the State: Geographic Perspectives	
GEO 475	Global Periphery's Urbanization	
Spatial Analysis and Graphical Communication		
ARC 211	Introduction to Landscape and Urban Design	3
or ART/IMS 259 Art and Digital Tools I		
GEO 242	Mapping a Changing World	3
GEO 441	Geographic Information Systems	3
Field Research Experience		
Select one of the following:		3-4
GEO 455	Race, Urban Change, and Conflict in America	
GEO 491	Geography and Sustainable Development Research Seminar	
GEO 493	Urban Field Experience	
Multidisciplinary Focus		
Select at least 9 hours from any of the following:		9
Urban Social Issues		
ARC 427	The American City Since 1940	
GEO 205	Population and Migration	
GEO 276	Geography of the Global Economy	
GEO 476	Global Poverty	
LAS/ATH 325	Identity, Race, Gender, Class	
SJS 323	Social Justice and Change	
SOC/CRE 348	Race and Ethnic Relations	
SOC/CRE 362	Family Poverty	
Selected GEO 460 courses with permission of chief advisor		
Environment and Sustainable Design		
ARC 435	Theory and History of Landscape Architecture	
GEO 271	Human Dimensions of Natural Resource Conservation	
GEO 333	Global Perspectives on Natural Disasters	
GEO 426	Watershed Management	
GEO 432	Ecoregions of North America	
GEO 436	Women, Gender, and the Environment	
IES 274	Introduction to Environment and Sustainability	
IES 450	Environmental Law	
SJS/IES 419	Environment, Society & Justice	
Selected GEO 460 courses with permission of chief advisor		
Administration and Economic Development		

ACC 211	Accounting for the Non-Business Major
ECO 201	Principles of Microeconomics
ECO 331	Public Sector Economics
ECO 332	Health Economics
FIN 301	Introduction to Business Finance
FIN 331	Real Estate Principles
GEO 276	Geography of the Global Economy
POL 261	Public Administration
POL 268	State and Local Government and Politics
POL 362	Public Management, Leadership, and Administrative Politics
POL 363	Administrative Law
POL 364	Federalism and Intergovernmental Relations
POL 467	Public Budgeting
Selected GEO 460 courses with permission of chief advisor	
Geospatial and Analytical Techniques	
GEO 442	Advanced Geographic Information Systems
GEO 443	Python Programming for Geospatial Applications
GEO 444	GIScience Techniques in Landscape Ecology
GEO 448	Techniques and Applications of Remote Sensing
STA 261	Statistics
or ISA 125	Introduction to Business Statistics
Selected GEO 460 courses with permission of chief advisor	
Total Credit Hours	39-40

¹ **Portfolio Requirement:** All students will develop a portfolio of their work (plans, maps, research papers, presentations, resume) in courses across the planning curriculum, and will be compiled and assessed within GEO 459.

Students seeking the Bachelor of Arts in Urban and Regional Planning meet the Miami Plan Advanced Writing and College of Arts and Science writing in the major requirements by completing the following courses: GEO 201 and GEO 451 .

Women's, Gender, and Sexuality Studies- Bachelor of Arts

For information, contact the Women's, Gender, and Sexuality Studies Program Office, 126 MacMillan Hall, 513-529-4616.

Women's Studies is an interdisciplinary program that investigates how our lives are affected by gender race, class, age, sexuality, religion, (dis)ability, gender identity, and nationality. Women's, Gender, and Sexuality Studies emphasizes the importance of understanding gender as a part of wider social and political structures of power, knowledge, experience, culture, embodiedness, intimacy, and labor. Women's, Gender, and Sexuality Studies courses are organized

around contemporary feminist research and theory, and focus intersectionally on women, gender, and sexuality as subjects of inquiry. Our coursework also focuses on how theory and practice come together. Students may choose from courses spanning departments, disciplines, divisions and ideologies. The Women's, Gender, and Sexuality Studies program provides a context in which women's work and women's issues are explored in-depth, celebrating women's creativity, women's lives, and women's work. In Women's, Gender, and Sexuality Studies, students find an active and supportive community, close interaction with faculty, opportunities to take on leadership roles, and an academic program that allows them to cross the traditional disciplinary boundaries.

Flexibility of the major requirements allows you to design a program to suit your needs and interests. This major prepares you for graduate or professional school and for a career in research and writing, a nonprofit agency, public policy, social services, business, law, education, or communication.

Departmental Honors

To receive departmental honors you must complete WGS 470, register for one additional credit of WGS 470 which entails the completion of a special project, and have a cumulative GPA of 3.50 in the major. Students must register their intent to pursue departmental honors and file a proposal for their project in the WGS program office, 126 MacMillan.

Program Requirements

(30 semester hours)

Code	Title	Credit Hours
Core courses		
WGS 201	Introduction to Women's Studies	3
WGS/AAA/AMS/ CRE/LAS 211	Writing with Purpose: Interdisciplinary Inquiry and Communication	3
WGS 301	Women and Difference: Intersections of Race, Class, and Sexuality	3
Select one of the following theory courses:		3
WGS 351	Cultural Politics of Gender and Sexuality in Asian/America	
WGS/PHL 355	Feminist Theory	
WGS/ENG 356	Women and Gender in Film	
WGS/ENG 435	Queer Theory	
WGS/CRE/ENG 437	Black Feminist Theory	
Feminist theory course approved by a WGS advisor		
Select one of the following capstones:		3
WGS 401	The Role of Women in a Transforming Society	
WGS/CRE/ENG 432	Feminism and the Diaspora: U.S. Women of Color	
Focus Area		
Select at least 15 hours of WGS or WGS cross-listed courses ¹		15
Total Credit Hours		30

¹ A maximum of 6 semester hours, taken in an approved internship, community action, or service learning experience, may be substituted for course work. A course cannot count both as a core course and toward one's additional 15 hours.

Students seeking the Bachelor of Arts in Women's, Gender and Sexuality Studies meet the College of Arts and Science writing in the major requirement by completing the following courses: WGS 211/AAA 211/AMS 211/CRE 211/LAS 211 and either WGS 432 or WGS 401.

Zoology- Bachelor of Arts

For information, contact the Department of Biology, 212 Pearson Hall, 513-529-3100.

Zoology is the natural science that focuses on the study of animals. The zoology major can be tailored to meet the needs of students interested in the health sciences, animal physiology, cell and molecular biology, ecology or environmental studies, or evolution and systematics. It is possible to complete a Zoology Major while earning either the Bachelor of Arts or Bachelor of Science. Students may double major in Botany and Zoology, but in that case only nine credits of the Advanced Hours requirement may be used for both degrees. Students may not double major in Biology and Zoology.

Program Requirements

(32 semester hours, plus 18 related hours)

Code	Title	Credit Hours
Core courses		
BIO/MBI 115	Biological Concepts: Ecology, Evolution, Genetics, and Diversity	4
BIO/MBI 116	Biological Concepts: Structure, Function, Cellular, and Molecular Biology	4
Advanced courses requirement		24
Select 24 hours in zoology-focused biology courses at 200 level or above. Please refer to the footnote below for courses that will not count. ^{1,2}		
Related Hours		18
One year of chemistry:		
CHM 141	College Chemistry or CHM 141R College Chemistry or CHM 141H College Chemistry	
CHM 144	College Chemistry Laboratory or CHM 144M College Chemistry Laboratory for Majors	
CHM 142	College Chemistry or CHM 142H College Chemistry or CHM 142N College Chemistry for Majors	
CHM 145	College Chemistry Laboratory or CHM 145M College Chemistry Laboratory	
Remaining related courses ³		
Total Credit Hours		50

Advanced Course Requirement:

- ¹ No specific courses are required toward the advanced course requirement. However, the following courses will not count: BIO 204, 205, 221, 232, 241, 244, 302, 306, 314, 402, 425, 431, 432, 490. IES 275 may be used towards the advanced hour requirement. One 400-level course is recommended.
- ² No more than three semester hours of independent study/research/internship may apply to the major.
Related Hour Requirement:
- ³ Remaining related courses may be chosen from BIO, CHM, GEO, GLG, MTH, MBI, PHY, PSY, STA, and CSE. A year of organic chemistry, a year of physics (with a lab), and a year of mathematics (including calculus and statistics) are highly recommended.

Students seeking the Bachelor of Arts in Zoology meet the College of Arts and Science writing in the major requirement by completing the following courses: two W Biology courses at the 200- or 300-level and one biology W course at the 400-level. As an alternative to the 400-level course, students may complete an independent study that includes technical science writing. Upon completion of an independent study, the student must submit, with the signed support of a faculty member, a letter of certification indicating that s/he has successfully completed the technical science writing requirement.

Zoology- Bachelor of Science

For information, contact the Department of Biology, 212 Pearson Hall, 513-529-3100.

Zoology is the natural science that focuses on the study of animals. The zoology major can be tailored to meet the needs of students interested in the health sciences, animal physiology, cell and molecular biology, ecology or environmental studies, or evolution and systematics. It is possible to complete a Zoology Major while earning either the Bachelor of Arts or Bachelor of Science. Students may double major in Botany and Zoology, but in that case only nine credits of the Advanced Hours requirement may be used for both degrees. Students may not double major in Biology and Zoology.

Program Requirements

(36 semester hours, plus 48 related hours)

Code	Title	Credit Hours
Core Courses		
Select all of the following:		
BIO/MBI 115	Biological Concepts: Ecology, Evolution, Genetics, and Diversity	4
BIO/MBI 116	Biological Concepts: Structure, Function, Cellular, and Molecular Biology	4
Advanced Courses Requirement^{1,2}		
BIO 203	Introduction to Cell Biology	3
BIO 209	Fundamentals of Ecology	3
BIO 305	Human Physiology	4
BIO 342	Genetics	3
Select at least one 400 level course, plus additional advanced zoology-focused Biology courses at the 200 level or above to total 28 advanced hours, 36 total BIO hours. Please refer to the footnote below for courses that will not count. ¹		15

Related Hours (48 required)

Two years of chemistry are required: 17-19

CHM 141 College Chemistry
or CHM 141R College Chemistry
or CHM 141H College Chemistry

CHM 144 College Chemistry Laboratory
or CHM 144M College Chemistry Laboratory for Majors

CHM 142 College Chemistry
or CHM 142H College Chemistry
or CHM 142M College Chemistry for Majors

CHM 145 College Chemistry Laboratory
or CHM 145M College Chemistry Laboratory

Select one of the following options:

Option 1:

CHM 241 Organic Chemistry
& CHM 244 and Organic Chemistry Laboratory

CHM 242 Organic Chemistry
& CHM 245 and Organic Chemistry Laboratory

Option 2:

CHM 231 Fundamentals of Organic Chemistry
& CHM 332 and Outlines of Biochemistry
& CHM 332L and Outlines of Biochemistry Lab

Select one of the following options: 8-10

Option 1:

PHY 161 Physics for the Life Sciences with
& PHY 162 Laboratory I
and Physics for the Life Sciences with
Laboratory II

Option 2:

PHY 191 General Physics with Laboratory I
& PHY 192 and General Physics with Laboratory II

Select at least eight semester hours of mathematics³ 8Select additional hours to total 48⁴ 11-15**Total Credit Hours 84**

¹ The following courses will **NOT** count toward the advanced hours in zoology: BIO 204, 205, 221, 232, 241, 244, 302, 306, 314, 402, 425, 431, 432, 490.

One 400-level course other than BIO 400, 419R, or 477 must be taken (minimum three semester hours).

² No more than three semester hours of independent study/research/internship may apply to the major.

³ Mathematics hours must include a calculus course and a statistics course.

⁴ From chemistry, geography, geology, mathematics (200 level or above), microbiology, physics, psychology, statistics (200 level or above), computer science and software engineering, IES 431.

Actuarial Science Minor

For information, contact the Department of Statistics, 311 Upham Hall, 513-529-7828.

This minor is designed for students who are preparing for a possible career as an actuary. Courses in the minor may also be used to satisfy the requirements of a major.

All courses in this minor must be taken for a grade, not credit/no-credit.

This minor satisfies the Thematic Sequence requirement of the Miami Plan for all students including those majoring in the Departments of Mathematics or Statistics.

Program Requirements

Code	Title	Credit Hours
ACC 221	Introduction to Financial Accounting	3
ACC 222	Introduction to Managerial Accounting	3
ECO 201	Principles of Microeconomics	3
ECO 202	Principles of Macroeconomics	3
FIN 301	Introduction to Business Finance	3
STA 401	Probability	3
STA 462	Inferential Statistics	3
STA 463	Regression Analysis	4
Total Credit Hours		25

Students are encouraged to select MTH 447, FIN 401, and/or FIN 404 as an elective course that will enhance this program.

Students in the Bachelor of Arts in Mathematics may count at most two courses from STA 401, STA 462, or STA 463 toward the requirements of the major.

The prerequisites for the statistics courses in the program include calculus, linear algebra, introductory statistics, and an introduction to statistical model (STA 363).

Aerospace Studies Minor

For information, contact the Department of Aerospace Studies, 50 Millett Hall, 513-529-2031.

This minor is an interdisciplinary program open to all majors. It introduces students to the broad field of air and space service and provides specific information on the organization and operation of the United States Air Force.

Courses may not be taken on a credit/no-credit basis. A minimum 2.00 GPA is required for all courses in the minor. If there is a specific Political Science (POL) 300 level regional course that a student would like to substitute for one of the listed POL courses, they may be substituted with the approval of the Aerospace Studies Chair.

Program Requirements

(19 semester hours)

Code	Title	Credit Hours
Required sequence:		
AES 121	Heritage and Values of the United States Air Force	1
AES 122	Heritage and Values of the United States Air Force	1
AES 221	Team and Leadership Fundamentals	1
AES 222	Team and Leadership Fundamentals	1

AES 332	Leading People and Effective Communication	3
AES 431	National Security/Leadership Responsibilities/Commissioning Preparation	3
Select one of the following:		3
AES 331	Leading People and Effective Communication	
MGT 291	Introduction to Management & Leadership	
NSC 211	Leadership and Management	
Select at least one course in each of two departments for a minimum of six hours:		6
AES 432	National Security/Leadership Responsibilities/Commissioning Preparation	
GEO 301	Geography of Sub-Saharan Africa	
GEO 308	Geography of East Asia	
GEO 378	Political Geography	
GEO 408	Geography of the Silk Road (The Heart of Asia)	
HST 222	U.S. Foreign Relations Since 1898	
HST 224	Africa to 1884	
HST 225	The Making of Modern Africa	
HST 296	World History Since 1945: Conflict and Community	
HST 333	Reconstruction of Europe Since 1945	
HST 354	Modern Chinese History	
HST 356	Modern Japanese History	
HST 375	The Soviet Union and Beyond	
HST/CRE/LAS 385	Race, Science, and Disease in the Americas	
NSC 311	Evolution of Warfare	
POL 221	Comparative Politics	
POL 271	World Politics	
POL 331	Communism and Soviet Politics, 1917-1991	
POL 334	Politics of Eastern Europe	
POL 336	Politics of the Middle East	
POL 337	Politics of Latin America	
POL 373	American Foreign Policy	
POL 374	Foreign Policy Analysis	
POL 376	U.S. National Security Policy	
POL 382	International Law	
POL 387	International Security Issues	
POL 489	Conflict Management in a Divided World	

Total Credit Hours 19

American Studies Minor

For information, contact the program advisor in the Department of Global and Intercultural Studies, 120 MacMillan Hall, 513-529-5333.

This interdisciplinary minor is open to all students and provides valuable context for majors from across the university including

business, communication, education, fine arts and science; it also complements well-established liberal arts fields such as political science, English, history, sociology, and psychology. Focusing broadly on American culture and society in global context, the minor fosters critical and creative thinking, intercultural awareness, interdisciplinary research skills, synthetic analytical skills, strong writing and oratory skills, an understanding of multiple kinds of media and texts, and a broad understanding of social, cultural, and historical contexts—skills necessary to succeed in professional work in any field. Students take three core courses in American Studies and then work with the program director to develop an area of concentration that reflects their specific intellectual interests. This allows students to individually tailor the minor to support work they are doing in their major field.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Core Courses:		
AMS 205 or AMS 207	Introduction to American Cultures America: Global and Intercultural Perspectives	3
AMS 206	Approaches to American Culture	3
Select any two courses from the five below: ¹		6
AMS 301	American Identities	
AMS 302	Immigrant America	
AMS 303	Consumer Culture	
AMS 305	American Icons	
AMS 310	Special Topics in American Studies	
American Culture Focus:		
With the approval from the CDA, students take 6 additional semester hours from AMS courses cross-listed with other departments or courses examining U.S. society and culture offered by other departments. Culture focus hours must include 2 disciplines.		6
Total Credit Hours		18

¹ With the approval of the CDA, the second course can be one of the courses above OR it can be a 300-level cross-listed AMS class.

Anthropology Minor

For information, contact the Department of Anthropology, 120 Upham Hall, 513-529-8399.

The Anthropology Minor is designed to help students pursue their interests in human communication, biology, and culture, in the past and present, without fulfilling the full range of requirements of the major. Anthropology is the ideal complement to a number of majors and pre-professional degrees. Anthropological holism encourages critical thinking and interdisciplinarity, while the cross-cultural approach of anthropology will be of particular importance to those interested in adding global and pan-human perspectives to their major course of study.

Students planning to take this minor should inform the chief departmental advisor and formally declare this minor. A minimum GPA of 2.00 is required for all courses in the minor. These courses

must be taken for a grade, not credit/no-credit. This minor is not open to an anthropology major.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Select one of the following:		3
ATH 145	Lost Cities & Ancient Civilizations	
ATH 155	Introduction to Anthropology	
ATH 175	Global Cultural Diversity	
ATH 185	Cultural Diversity in the U.S.	
Select two of the following:		8
ATH 212	Introduction to Archaeological Theory and Methods	
ATH 231	Foundations of Cultural Anthropology	
ATH 255	Introduction to Biological Anthropology	
ATH 265	Introduction to Linguistic Anthropology	
Additional anthropology courses:		
Take additional ATH courses to total at least 18 semester hours. At least one course must be at the 300-level or above.		7
Total Credit Hours		18

Note: Only four credits of field method courses (ATH 415 and ATH 491) count toward the 18 hours needed for the minor.

Arabic Minor

For information, contact the program advisor in the Department of German, Russian, Asian, Middle Eastern Languages and Cultures, 172 Irvin Hall, 513-529-2526.

The Arabic minor provides systematic Arabic language training in the four modalities (speaking, listening, writing, and reading) as well as cultures of the Arabic speaking world. A minimum GPA of 2.50 is required for courses taken at Miami. Courses for the Arabic minor must be taken for a grade (not credit/no credit). Study abroad in a Miami University-approved program, during the academic year or summer, is recommended.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
ARB 201	Intermediate Modern Arabic	3
ARB 202	Intermediate Modern Arabic	3
ARB 301	Advanced Arabic	3
ARB 302	Advanced Arabic	3
Select two of the following:		6
ARB 230	Topics in Arabic Literature in Translation	
ARB 311	Media Arabic	
HST 241	Introduction to Islamic History	

POL 336 Politics of the Middle East

REL 226 Introduction to Islam

Total Credit Hours

18

Archaeology Minor

For information, contact the Department of Anthropology, 120 Upham Hall, 513-529-8399.

The Archaeology Minor allows students to develop their skills in archaeological approaches to the human past, including field and laboratory techniques, material culture analysis, and cultural heritage management. This transdisciplinary minor is ideal for students interested in focusing their studies on the deep and diverse history of humans by analyzing and preserving the material remains of past communities. Archaeology combines critical thinking, scientific methods, and experiential research, making it a fitting and unique complement to a variety of student majors.

Students planning to take this minor should inform the chief departmental advisor and formally declare this minor. A minimum GPA of 2.00 is required for all courses in the minor. These courses must be taken for a grade, not credit/no-credit. Minor may be completed with an Anthropology Major; please see notes section below on restrictions.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Core Courses:		
Select one introductory course:		3
ATH 145	Lost Cities & Ancient Civilizations	
CLS 101	Greek Civilization in its Mediterranean Context	
CLS 102	Roman Civilization: From City to Empire	
Take the following theory and methods courses:		
ATH 212	Introduction to Archaeological Theory and Methods	4
ATH 416	Applying Archaeology	3
Elective Courses (to total 18 credit hours):		8
ART 382	Greek and Roman Sculpture	
ART 383	Greek and Roman Painting	
ART 384	Greek and Roman Decorative Arts	
ATH 314	Old World Archaeology	
ATH 312	North American Archaeology	
ATH 313	Latin American Archaeology	
ATH 355	Paleoanthropology	
ATH 388	Culture, Art, and Artifacts	
ATH 415	Field Methods in Archaeology	
ATH 431	Archaeology of Power	
CCA 222		
CCA 232		
CLS 216	Greek and Roman Cities	
CLS 299	Discovering Greece ¹	

CLS 323	Discoveries of Archaeology
GEO 441	Geographic Information Systems
GEO 448	Techniques and Applications of Remote Sensing
GLG 111	The Dynamic Earth
GLG 354	Geomorphology
GLG 436	Paleoclimatology
Total Credit Hours	18

¹ CLS 299 is a 6 credit, Winter-Term study abroad course. Students may petition to have up to 3 credits from this course count toward the Archaeology Minor.

Notes:

- No more than 6 credit hours of variable content courses may count towards the minor: ATH 340; ATH 177, 277, 377, 477; ATH 480; ATH 491.
- Only 9 credit hours may overlap with any other major/minor.

Bioinformatics Minor

This minor is offered cooperatively by the Departments of Biology, Computer Science and Software Engineering, Microbiology, and Statistics. For information, contact the Department of Biology, 212 Pearson Hall, 513-529-3100.

Bioinformatics, or the application of computational techniques to molecular biology problems, is a fast-growing field of significant importance in both academia and industry. Students completing a bioinformatics minor will gain the basic knowledge of biology and programming needed to work in this area, as well as an understanding of how computational techniques can be used to advance our knowledge of biology and the life sciences.

Program Requirements

(19-20 semester hours)

Code	Title	Credit Hours
Required Courses		
BIO/MBI 116	Biological Concepts: Structure, Function, Cellular, and Molecular Biology	4
BIO/CSE/MBI 256	Introduction to Programming for the Life Sciences	3
or CSE 271	Object-Oriented Programming	
BIO/CHM/CSE/MBI 466	Bioinformatics Computing Skills	3
Select one of the following:		3-4
STA 363	Introduction to Statistical Modeling	
STA 402	Statistical Programming	
STA 463	Regression Analysis	
STA 466	Experimental Design Methods	
BIO, CHM, CSE, or MBI at the 200-level or above (BIO 342, MBI 365, or CSE 443 are strongly recommended)		3

BIO/MBI 485/ CSE 456	Bioinformatics Principles	3
Total Credit Hours		19-20

Chinese Minor

For information, contact the Department of German, Russian, Asian, Middle Eastern Languages and Cultures, 172 Irvin Hall, 513-529-2526, gramelac@MiamiOH.edu.

This minor offers students substantial language training and fundamental cultural understanding. Three years course work or the equivalent training in language gives students adequate skills for daily communication and some tools for handling more sophisticated materials. Literature and culture courses provide students with knowledge of traditional and modern Chinese world views and social realities.

Chinese language and culture and literature credits transferred to Miami from other institutions may be used to fulfill the requirements. The courses must be passed with a 2.00 GPA. Courses taken on a credit/no-credit basis may not be applied to the minor.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Select 18 hours, at least 12 of which must be in Chinese language.		
Chinese language		
CHI 201	Second Year Chinese	
CHI 202	Second Year Chinese	
CHI 301	Third Year Chinese	
CHI 302	Third Year Chinese	
CHI 311	Business Chinese I	
CHI 312	Business Chinese II	
CHI 330	Chinese Verbal Theatre Performance ¹	
CHI 401	Fourth Year Chinese I	
CHI 402	Fourth Year Chinese II	
Chinese culture		
CHI 251	Traditional Chinese Literature in English Translation	
CHI 252	Modern Chinese Literature in English Translation	
CHI 253	Three Kingdoms	
CHI 254	Modern Chinese Autobiography	
CHI 255	Drama In China/Japan:Eng Trans	
CHI 257	Chinese Satire	
CHI 264	Chinese Cinema and Culture	
CHI 271	Chinese Culture Live	
JPN 255	Drama In China/Japan:Eng Trans	

¹ Maximum 6 hours

Classical Studies Minor

This minor offers students the opportunity to become acquainted with the rich spectrum of classical literature, language, art, and civilization. A minimum 2.00 GPA is required for all courses in the minor. These courses must be taken for a grade, not credit/no-credit.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Select two of the following:		6
CLS 101	Greek Civilization in its Mediterranean Context	
CLS 102	Roman Civilization: From City to Empire	
CLS 121	Introduction to Classical Mythology	
Select 12 additional hours of any CLS 200-300 level courses (at least one 300 level) or any LAT or GRK course starting form 202 for LAT and 201 for GRK. ART 382 and ART 383 can be used for the minor as well.		12
Total Credit Hours		18

Comparative Religion Minor

For information, contact the Department of Comparative Religion, 200 Upham Hall (513-529-4300).

In virtually all cultures, religion has developed as a powerful dimension of social, political, and economic life. Religion has shaped and is shaped by literature, the arts, social structure, and human thought. A brief glance at today's headlines will show how religion permeates every corner of human affairs. In this minor, you will encounter a variety of religious practice and belief, you will learn the history and development of various religious communities, and engage people who do vastly different things in the name of religion. You will apply what you learn to better understand and engage the interrelated social, political, economic, and aesthetic dimensions of culture as they impact individuals and societies in today's world that construct their identities in significant ways through religion.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Required course:		3
REL 201	Methods for the Study of Religion	
Elective Courses		15
At least 15 additional semester hours in Comparative Religion, nine hours of which must be at the 300 level or above.		
Total Credit Hours		18

Creative Writing Minor

For information, contact the Department of English, 356 Bachelor Hall, 513-529-5221.

This minor offers students a chance to use their elective hours to strengthen their degree, satisfy a personal interest, or enhance their career opportunities. It explores intersections between creative practice and critical practice through the writing and study of fiction, creative nonfiction, poetry, screenwriting, graphic narratives and digital literature. Students transform their ideas into polished final products with the support of peers and faculty. This minor is open to all majors except English: Creative Writing.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Required Course		
ENG 226	Introduction to Creative Writing: Short Fiction and Poetry	3
Writing Courses		
Select two of the following:		6
ENG 320	Intermediate Creative Writing: Fiction	
ENG 323	Intermediate Creative Writing: Creative Nonfiction	
ENG 330	Intermediate Creative Writing: Poetry	
ENG 420	Advanced Creative Writing: Fiction Workshop	
ENG 422	Advanced Creative Writing: Screenwriting Workshop	
ENG 423	Advanced Creative Writing: Nonfiction Workshop	
ENG 430	Advanced Creative Writing: Poetry Workshop	
THE 418	Playwriting	
Electives		
Select three of the following (no more than one course at the 100 level):		9
ENG 122	Popular Literature	
ENG 123	Introduction to Poetry	
ENG 124	Introduction to Fiction	
ENG 125	Introduction to Drama	
ENG 129	Books You Need To Read	
ENG 134	Introduction to Shakespeare	
ENG 163	Literature and Travel	
ENG/DST 169	Disability and Literature	
ENG/IMS 171	Humanities and Technology	
ENG/MAC 213	Writing for Film and TV	
ENG/FST 220	Literature and Film	
ENG/FST 221	Shakespeare and Film	
ENG 231	The Short Story	
ENG/WGS 232	Women Writers	
ENG/WGS 237	GLBTQ Literature	
ENG/IMS 238	Narrative and Digital Technology	
ENG/AMS 246	Native American Literature	
ENG/AAA/AMS 248	Asian American Literature	
ENG/FST 249	Asian & Asian American Cinema	

ENG 251	Introduction to European Literature
ENG/LAS 254	Caribbean, Latin American and Latinx Literatures
ENG 262	Children's Literature
ENG 263	Literature and Medicine
ENG/IES 264	Environmental Literature
ENG/AAA 269	Colonial & Postcolonial Literature
ENG 272	English Literature to 1660
ENG 273	English Literature 1660-1900
ENG 274	English Literature 1901 to Present
ENG 275	American Literature to 1900
ENG 276	American Literature 1900 to the Present
ENG 293	Contemporary American Fiction
ENG 311	Reading for Creative Writing: Contemporary Literature
ENG 327	Medieval Literature
ENG 328	Sixteenth-Century English Literature
ENG 331	Seventeenth-Century English Literature
ENG 335	English Literature of the 18th Century
ENG/CRE 336	African American Writing, 1746-1877
ENG/CRE 337	African American Writing, 1878-1945
ENG/CRE 338	African American Writing, 1946-Present
ENG 339	British Romanticism, 1789-1837
ENG 343	Victorian Literature, 1837-1901
ENG 345	British Modernism, 1890-1945
ENG/AMS 348	Ethnic American Literatures
ENG 349	Early American Literature
ENG 352	Antebellum American Literature
ENG 353	American Realism and Naturalism
ENG 354	American Modernism
ENG 355	Contemporary American Literature
ENG/FST/WGS 356	Women and Gender in Film
ENG 360	Interdisciplinary Special Topics
ENG 372	Shakespeare's Principal Plays: Early Works
ENG 373	Shakespeare's Principal Plays: Late Works
ENG 374	English Renaissance Drama
ENG 386	Studies in Drama and Performance
ENG 387	Studies in Poetry
ENG 388	Studies in Prose

Total Credit Hours **18**

Criminology Minor

For information, contact the Department of Sociology and Gerontology, 375 Upham Hall, 513-529-2628.

The Criminology minor focuses on the social-scientific study of crime and the criminal justice system, including juvenile and adult criminal

behavior, policing, the criminal and civil courts, and corrections. Suitable for students in any major.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Select one of the following:		3-4
SOC 151	Social Relations in the U.S.	
SOC 153	Sociology in a Global Context	
SOC 165	Social Justice Perspectives	
or SJS 165	Social Justice Perspectives	
Required course:		3
SOC 352	Criminology	
Engaged Learning Requirement:		3
SOC 440C	Internship in Criminology ¹	
Advanced Criminology Courses:		6
SOC 409	Systems of Justice	
SOC 410	Topics in Criminology ¹	
SOC 412	Sociology of Law	
SOC 413	Juvenile Justice	
SOC/FSW 451	Interpersonal Violence	
SJS 177	Independent Studies ¹	
or SOC 177	Independent Studies	
SJS 277	Independent Studies ¹	
or SOC 277	Independent Studies	
SJS 377	Independent Studies ¹	
or SOC 377	Independent Studies	
SJS 477	Independent Studies ¹	
or SOC 477	Independent Studies	
SOC 490	Current Issues in Sociology ¹	
Diversity Requirement:		3
ATH/ITS 301	Intercultural Relations	
SOC/WGS 203	Sociology of Gender	
SOC/FSW/WGS 221	Sexualities	
SOC/DST/EDP 272	Introduction to Disability Studies	
SOC/GTY 318	Social Forces and Aging	
SOC/CRE 348	Race and Ethnic Relations	
SOC 372	Social Stratification	
WGS 201	Introduction to Women's Studies	

Total Credit Hours **18-19**

¹ Only 3 credit hours may count toward the minor. For independent studies, the content must be relevant to the study of criminology and pre-approved by the Chief Departmental Advisor.

Critical Race and Ethnic Studies Minor

For information, contact the program advisor in the Department of Global and Intercultural Studies, 120 MacMillan Hall, 513-529-5333.

The **Critical Race and Ethnic Studies** minor fosters the critical and interdisciplinary study of race, ethnicity, and/or indigeneity in an increasingly interconnected world. Students develop a deep understanding of the particular historical, social, cultural, and political experiences of individual racialized groups within and beyond the United States, as well as the relations among them.

(18 semester hours)

Code	Title	Credit Hours
Core Course:		
CRE 151	Introduction to Critical Race and Ethnic Studies	3
Electives - Choose 15 credit hours from list, two which must be 300-level or above:		15
AAA 201	Intro to Asian/ Asian Amer	
AAA/REL 203	Global Religions of India	
AAA 207	Asia and Globalization	
AAA/CRE/LAS/WGS 211	Writing with Purpose: Interdisciplinary Inquiry and Communication	
AAA/ENG 248	Asian American Literature	
AAA/ENG/FST 249	Asian & Asian American Cinema	
AAA/ENG 269	Colonial & Postcolonial Literature	
AAA/EDL 334	Transnational Youth Cultures	
AAA/ENG/WGS 351	Cultural Politics of Gender and Sexuality in Asian/America	
AMS 207	America: Global and Intercultural Perspectives	
AMS 301	American Identities	
AMS 302	Immigrant America	
AMS/ENG 348	Ethnic American Literatures	
ART 276	Introduction to the Art of the Black Diaspora	
ATH 185	Cultural Diversity in the U.S.	
ATH 304	Native North America: Anthropological Perspectives	
ATH 307	The Middle East: Anthropological Perspectives	
ATH 312	North American Archaeology	
ATH 313	Latin American Archaeology	
ATH 364	Language and Culture in Native North America	
CRE 156	Introduction to Africa	
CRE 181	Introduction to Civil Rights and Social Movements	
CRE 182	Human Rights & Social Movements	
CRE 221	African-American History	
CRE 222	Race and Ethnicity in Antiquity	

CRE 224	Africa to 1884
CRE 225	The Making of Modern Africa
CRE 243	History of the Atlantic Slave Trade, 1400s to 1800s
CRE 248	African-American Experience
CRE 265	Critical Inquiry: Penny Lecture Series
CRE 279	African Americans in Sport
CRE 301	Geography of Sub-Saharan Africa
CRE 335	Arts of West Africa
CRE 336	African American Writing, 1746-1877
CRE 337	African American Writing, 1878-1945
CRE 338	African American Writing, 1946-Present
CRE 348	Race and Ethnic Relations
CRE 362	Family Poverty
CRE 370	Selected Topics/Black World Studies
CRE 381	Afro-Brazilian Diaspora Through Film and Arts
CRE 385	Race, Science, and Disease in the Americas
CRE 386	Race in U.S. Society
CRE 401	Race and Criminal Justice
CRE 402	Engaged Learning Practicum
CRE 432	Feminism and the Diaspora: U.S. Women of Color
ENG/AMS 246	Native American Literature
ENG/AMS 348	Ethnic American Literatures
GIC 360	Topics in Global and Intercultural Studies ((Global Indigeneity))
HST/AMS 371	Native American History to 1840
HST 372	Native American History since 1840
IDS 259	Introduction to the Miami Tribe of Oklahoma
LAS/ENG 254	Caribbean, Latin American and Latinx Literatures
LAS 215	Latin America in the United States
LAS/AMS 315	Latin American Diaspora: Communities, Conditions and Issues
LAS/ATH/CRE/WGS 325	Identity, Race, Gender, Class
LAS/SPN 332	Latin American Popular Culture
MUS/AMS 285	Introduction to African American Music
MUS/AMS 386	The History and Development of Hip Hop Culture in America
PSY/AAA 210	Psychology Across Cultures
SJS 215	EMPOWER I: Educational and Economic Justice and Service-Learning
SPN/LAS 332	Latin American Popular Culture
TCE 202	Global Childhood Education: Diversity, Education & Society
TCE 205	Race, Cultural Diversity, and Equity in Education
WGS/GEO 309	Native American Women

WGS/GEO 406 Indigenous Peoples and Their Sacred Lands

Total Credit Hours 18

Data Analytics Minor

Data Analytics combines statistical methods, programming skills and deep knowledge in a field of application to extract meaning from large, unstructured or complex data sets with the goal of informing policy, decisions, or scholarly research. This minor is designed for students who anticipate a career involving quantitative research methods or the ability to manage with the unstructured data sets that are common in many areas of business, government or scholarly inquiry. Students minoring in Data Analytics may not major in Data Analytics.

Program Requirements

(19 semester hours)

Prerequisites for this program include:

- Introductory Statistics (AP Statistics, STA 261, STA 301, or ISA 225);
- Precalculus (MTH 104 or MTH 123 or MTH 125) or Calculus 1 (AP Calculus or MTH 141 or MTH 151) or an ACT Math score of at least 26 or an SAT Math score of at least 600 or at least 16 on the Miami Math Placement Test.

Code	Title	Credit Hours
ENG/STC 285	Professional Communication for Data Analytics	3
MTH 133	Mathematical Foundations of Data Analytics	4
STA 308	Introduction to Programming and Scripting for Data Analytics	3
STA 309	Building, Managing and Exploring Data Sets in Analytics	3
STA 363	Introduction to Statistical Modeling	3
Select one of the following:		3
CSE 262	Technology, Ethics, and Global Society	
ENG 424	Ethics and Digital Media	
MJF 301	Media Law and Ethics	
PHL 131	Introduction to Ethics	
PHL 205	Science and Culture	
PHL 286	Data, Ethics, and Society	
Total Credit Hours		19

Economics Minor

For information, contact the Department of Economics, 2054 Farmer School of Business, 513-529-2836.

This minor is designed for students who are interested in exploring how their major area of specialization connects to the wider world of the workplace and the economy. Students who are preparing for law school or a master's degree in business administration (M.B.A.) program will find this minor valuable.

The 18 hours of economics must be completed with at least a 2.00 GPA. Either ECO 315 or ECO 317 must be taken at Miami.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Required Courses		
ECO 201	Principles of Microeconomics	3
ECO 202	Principles of Macroeconomics	3
ECO 315 or ECO 317	Intermediate Microeconomic Theory Intermediate Macroeconomic Theory	3
Electives		
Select nine hours of advanced economics at the 300 level or above, which may include the other intermediate theory course. ¹		9
Total Credit Hours		18

¹ Prerequisites for all 300- and 400-level courses include ECO 201 and ECO 202 unless otherwise stated.

English Literature Minor

For information, contact the Department of English, 356 Bachelor Hall, 513-529-5221.

This minor offers students a chance to use their elective hours to satisfy a personal interest, to strengthen their degree, or to enhance their career opportunities.

When you begin this minor, you must register with the chief departmental advisor, and you must check your progress with the advisor at least once a year until you complete the minor. Courses taken credit/no-credit will not count toward the minor. A minimum 2.00 GPA is required for all courses in the minor. This minor is open to all majors except English: Literature.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Required course		
ENG 298	Introduction to Literary and Cultural Studies	3
Additional courses		
Select 15 hours of the following: ^{1,2}		15
ENG 122	Popular Literature	
ENG 123	Introduction to Poetry	
ENG 124	Introduction to Fiction	
ENG 125	Introduction to Drama	
ENG 129	Books You Need To Read	
ENG 134	Introduction to Shakespeare	
ENG 163	Literature and Travel	
ENG/DST 169	Disability and Literature	
ENG/IMS 171	Humanities and Technology	

ENG/FST 220	Literature and Film
ENG/FST 221	Shakespeare and Film
ENG 231	The Short Story
ENG 232	Women Writers
ENG 237	GLBTQ Literature
ENG/IMS 238	Narrative and Digital Technology
ENG/AMS 246	Native American Literature
ENG/AAA/AMS 248	Asian American Literature
ENG 251	Introduction to European Literature
ENG/LAS 254	Caribbean, Latin American and Latinx Literatures
ENG 262	Children's Literature
ENG 263	Literature and Medicine
ENG/IES 264	Environmental Literature
ENG/AAA 269	Colonial & Postcolonial Literature
ENG 272	English Literature to 1660
ENG 273	English Literature 1660-1900
ENG 274	English Literature 1901 to Present
ENG 275	American Literature to 1900
ENG 276	American Literature 1900 to the Present
ENG 293	Contemporary American Fiction
ENG 327	Medieval Literature
ENG 328	Sixteenth-Century English Literature
ENG 331	Seventeenth-Century English Literature
ENG 335	English Literature of the 18th Century
ENG/CRE 336	African American Writing, 1746-1877
ENG/CRE 337	African American Writing, 1878-1945
ENG/CRE 338	African American Writing, 1946-Present
ENG 339	British Romanticism, 1789-1837
ENG 343	Victorian Literature, 1837-1901
ENG 345	British Modernism, 1890-1945
ENG/AMS 348	Ethnic American Literatures
ENG 349	Early American Literature
ENG/FST 350	Topics in Film
ENG/AAA/WGS 351	Cultural Politics of Gender and Sexuality in Asian/America
ENG 352	Antebellum American Literature
ENG 353	American Realism and Naturalism
ENG 354	American Modernism
ENG 355	Contemporary American Literature
ENG/FST/WGS 356	Women and Gender in Film
ENG 360	Interdisciplinary Special Topics
ENG 370	Introduction to Literary and Cultural Theory
ENG 372	Shakespeare's Principal Plays: Early Works
ENG 373	Shakespeare's Principal Plays: Late Works
ENG 374	English Renaissance Drama

ENG 386	Studies in Drama and Performance
ENG 387	Studies in Poetry
ENG 388	Studies in Prose
ENG 435	Queer Theory
ENG/CRE/WGS 437	Black Feminist Theory
ENG 440	Major English and American Writers
ENG 450	Studies in Genre
ENG 490	Special Topics in Literary Study

Total Credit Hours **18**

¹ At least one course must be a 400-level seminar.

² No more than two courses can be at the 100-level.

Ethics, Society, and Culture Minor

For information, contact the Department of Philosophy, 212 Hall Auditorium, 513-529-2440.

This minor offers students not majoring in philosophy an opportunity to pursue philosophical questions concerning ethics, culture, and society -- what it means to live in the world with others. Students wishing to sign up for the minor should register their interest with the chief departmental advisor. A minimum 2.00 GPA is required for all courses in the minor, and courses must be taken for a grade, not credit/no credit. Special-topics courses at the 300 and 400-levels may also count toward the minor (subject to approval).

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Select one of the following:		3
PHL 103	Society and the Individual	
PHL 105	Theories of Human Nature	
PHL 131	Introduction to Ethics	
Select from the following to total at least 15 hours:		15
PHL 205	Science and Culture	
PHL 241	Philosophy of Art	
PHL 265	Confronting Death	
PHL 311	Ethical Theory	
PHL 312	Contemporary Moral Problems	
PHL 331	Political Philosophy	
PHL 335	Philosophy of Law	
PHL 355	Feminist Theory	
PHL 375	Medical Ethics	
PHL 376	Environmental Philosophy	
PHL 394	Existentialism	
PHL 411	Advanced Ethical Theories	
PHL 459	Political Philosophy Seminar	
PHL 470	Advanced Aesthetics	

Total Credit Hours **18**

Film Studies Minor

For information, contact the Department of Media, Journalism and Film, **120 Williams Hall**, 513-529-3521.

Film studies is an interdisciplinary minor that offers a broad and diverse overview of the medium and art form of film and its interaction with culture, technology and society.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Core courses take both:		
FST 201	Film History and Analysis	3
FST 401	Seminar in Film Study	3
Electives- take 12 hours from any of the following courses:		12
FST/ATH 135	Film as Ethnography	
FST 206	Diversity and Culture in American Film	
FST/ENG 220	Literature and Film	
FST/ENG 221	Shakespeare and Film	
FST/AMS/ITL 222	Italian American Culture	
FST/ENG 235	Classical Hollywood Cinema	
FST/ENG 236	Experimental Film	
FST/HST 252	History at the Movies	
FST/GER 261	German Film in Global Context	
FST/ITL 262	Italian Cinema	
FST/RUS 263	Soviet and Post-Soviet Russian Cinema	
FST/CHI 264	Chinese Cinema and Culture	
FST 282	Sexualities and Film	
FST 301	Film Theory	
FST 330	Film Auteurs	
FST/ATH 345	Global Media, Ethnography, and Film	
FST 350	Topics in Film	
FST 356	Women and Gender in Film	
FST 360	Film Genres	
FST/FRE 460		
MAC 211	Intermediate Video Production	
MAC/ENG 213	Writing for Film and TV	
MAC 311	Fiction Film Production	
MAC 414	Capstone Pictures: Project in Digital Narrative Film Production	
MJF 146	Foundations of Production	
Total Credit Hours		18

French Minor

For information, contact the Department of French, Italian, and Classical Studies, 207 Irvin Hall, 513-529-1480.

This minor provides direction, coherence, and recognition in French studies for non-majors. It is designed to expand your area of interest and expertise and to broaden your career options. Students are

encouraged to participate in the Department's summer programs abroad.

Program Requirements

(18 semester hours)

You must accumulate 18 semester hours, 15 of which must be at 200 level or above, and maintain a 2.50 GPA. FRE 301 and one French course at the 400 level are required. One course in translation counts toward the minor; all courses must be taken for a grade, not credit/no-credit. You must plan your program with an advisor.

Code	Title	Credit Hours
Select the following:		
FRE 301	Culture & Interpretation	3
Select one course at the 400-level:		3
FRE 404	The French Renaissance	
FRE 411	Modern and Contemporary French Society ¹	
FRE 414	Art and Architecture in Dijon and Burgundy, France	
FRE 420	Topics in French & Francophone Comic Art	
FRE 430	Topics in Early Modern French Literature	
FRE 440	Gender, Sexuality, & Creativity	
FRE 442	Literary Innovation, 16th-18th C	
FRE 443	French Medieval Literature	
FRE 451	Rebellions, Revolutions, and Avant-gardes	
FRE 452	The 19th Century	
FRE 453	Poetry	
FRE 454	Modernity: Crisis and Creation	
FRE 462	20th- and 21st-Century Literature, Art, and Thought	
Select 12 hours from unused courses above or the following:		12
FRE 131	Masterpieces of French Culture in Translation	
FRE 201	Intermediate French	
FRE 202	Critical Analysis of French Culture	
FRE 302	Pre-Revolutionary Literature and Life	
FRE 303	Modern and Contemporary Literature and Life	
FRE 310	Texts in Context	
FRE 341	Conversation and Current Events in France	
FRE 350	Topics in French Literature in Translation	
FRE 361	French Pronunciation	
FRE 366	French Cinema in Translation	
Total Credit Hours		18

¹ FRE 411W is offered in our Dijon study abroad program and also counts toward the minor.

Geography Minor

For information, contact the Department of Geography, 118B Shideler Hall, 513-529-5010.

In the Geography Minor students explore interactions between people, places, and environments, integrating social and natural sciences to understand global issues and address them locally. Geography minors learn diverse methods, like geospatial analysis, for studying and managing human and environmental change.

This minor is not available to majors in geography.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Foundation Human		
GEO 101	Global Forces, Local Diversity	3
or GEO 111	World Regional Geography: Patterns and Issues	
Foundation Physical		
GEO 121	Earth's Physical Environment	3-4
or GEO 122	Geographic Perspectives on the Environment	
Connecting Geographic Patterns and Processes		
Select one course from two different areas of the following:		6-7
Integrating Human and Physical Processes:		
GEO 211	Global Sustainable Futures	
People and Places:		
GEO 201	Geography of Urban Diversity	
GEO 205	Population and Migration	
GEO 276	Geography of the Global Economy	
Environmental Principles and Processes:		
GEO 221	Field Methods for Environmental Scientists	
GEO 271	Human Dimensions of Natural Resource Conservation	
IES 275	Principles of Environmental Science	
IES 274	Introduction to Environment and Sustainability	
Geovisualization and Mapping:		
GEO 242	Mapping a Changing World	
Regions:		
GEO 208	The Rise of Industrialism in East Asia	
GEO 301	Geography of Sub-Saharan Africa	
GEO 308	Geography of East Asia	
GEO 406	Indigenous Peoples and Their Sacred Lands	
GEO 408	Geography of the Silk Road (The Heart of Asia)	

A study away, study abroad, or summer workshop experience approved by advisor

Specializations ¹

Select three credit hours in GEO courses at 300 level or above 3

Select three credit hours in GEO courses at 400 level or above 3

Total Credit Hours 18-20

¹ Students are encouraged to consult with their advisor (mary.henry@miamioh.edu) and review departmental publications for suggested specialization courses that align with each student's interests and post-graduation plans. The following topics of specializations are available: urban geography, physical geography, environmental geography and planning, development geography, and geospatial technology.

Geology Minor

For information, contact the Department of Geology & Environmental Earth Science, 118D Shideler Hall , 513-529-3216.

A minimum GPA of 2.25 is required for all courses in the minor. No courses may be taken credit/no-credit. This minor is not available to majors in geology, earth science, environmental earth science or earth science education. Courses must be selected observing all prerequisites. Substitutions may be made with approval of department.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Select one of the following:		3
GLG 111	The Dynamic Earth	
GLG 121	Environmental Geology	
GLG 141	Geology Of U.S. National Parks	
Select this laboratory:		1
GLG 115L	Understanding the Earth	
Electives		
Select any combination of Geology courses at 200-level or above of the following:		14
GLG 204	Survival on an Evolving Planet	
GLG 211	Chemistry of Earth Systems	
GLG 244	Oceanography	
GLG 261	Geohazards and the Solid Earth	
GLG 301	Sedimentology and Stratigraphy	
GLG 307	Water and Society	
GLG 322	Structural Geology	
GLG 335	Ice Age Earth	
GLG 354	Geomorphology	
GLG 356	Mineralogy	
GLG 357	Igneous/Metamorphic Petrology	
GLG 402	Geomicrobiology	
GLG 408	Introduction to Hydrogeology	

GLG 411A	Field Geology
GLG 417	Forensic Isotope Geochemistry
GLG 427	Isotope Geochemistry
GLG 428	Hydrogeological Modeling: Groundwater Flow and Contaminant Transport and Fate
GLG 432	X-ray Powder Diffraction and Clay Analysis
GLG 435	Soils and Paleosols
GLG 436	Paleoclimatology
GLG 437	Paleontology in Conservation
GLG 447	
GLG 450	Sedimentary Basin Analysis
GLG 461	Geophysics
GLG 467	Seismology
GLG 492	Global Tectonics
GLG 496	Isotopes in Environmental Processes

Total Credit Hours 18

In addition, students may apply to the minor a maximum of three credits from any Geology workshop with the approval of the CDA.

German Minor

For information, contact the Department of German, Russian, Asian, Middle Eastern Languages and Cultures, 172 Irvin Hall, 513-529-2526, gramelac@MiamiOH.edu.

Students must accumulate 18 semester hours at 200 level or above. GER 201 and GER 202 may count. All German courses (except those offered only credit/no credit) must be taken for a grade. You must coordinate your program with a department advisor.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Language skill		
GER 301	German Language Through the Media	3
Literature		
GER 311	Passionate Friendships in German Literature from the Middle Ages to the Present	3
or GER 312	Coming of Age in German Life and Thought	
Culture		
GER 321	Cultural Topics in German-Speaking Europe Since 1870	3
or GER 322	Comparative Study of Everyday Culture: German-Speaking Europe and the U.S.A.	

Advanced Study

Select one GER course at 400 level or above 3

Electives to total 18 6

One three-hour GER course taught in English may be taken toward the minor.

GER 201, GER 202, GER 151-400 may be taken

Total Credit Hours 18

Gerontology Minor

For information, contact the Department of Sociology and Gerontology, 375 Upham Hall, 513-529-2628.

Rapid and significant growth of the older population is a global phenomenon; virtually every person in the world has become or is in the process of becoming part of an aging society. The aging of society has an impact on every aspect of our lives and on all of our social institutions.

The Gerontology minor includes two concentration areas or tracks. The *Health and Aging Practice, Policy, and Administration* track is designed to introduce future professionals in fields such as medicine, nursing, public health, public administration, rehabilitation, and social work to current issues, policies, and programs affecting the health and well-being of older adults. The *Leadership and Innovation in an Aging Society* track is designed to prepare students from an array of majors to work and thrive in an aging society. With one-quarter of the nation age 60 and over, societal aging will impact service provision, product development, and organizational structures and functions. This minor uniquely prepares students to live and work in this ever-changing world.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Complete the following:		
GTU 154	Aging in American Society	3
or GTU 254	Global Aging	
Complete One of Two Tracks:		15
1) Health and Aging Practice, Policy, and Administration Track ¹		
Complete all:		
GTU 365	Social Policy and Programs in Gerontology	
or GTU 465	Policies & Programs in an Aging Society	
GTU/SOC 357	Medical Sociology	
or GTU 456	Aging & Health	
Complete 3 credit hours from one or more of the following options:		
EDL 110	The University and the Student	
GTU 110	Opening Minds through Art (OMA) Volunteer Experience	
GTU 310	Opening Minds through Art (OMA) Leadership Experience	
GTU 362	Data & Decision Making in Aging	
GTU 440	Gerontology Capstone Internship	
GTU/POL 474	Using Large Datasets in the Social Sciences	
GTU 479	Research on Inequality in Aging & Health	

Select two of the following:

GTU/SOC 318	Social Forces and Aging
GTU 354	Issues & Controversies in Aging
GTU 362	Data & Decision Making in Aging
GTU 465	Policies & Programs in an Aging Society
GTU/POL 474	Using Large Datasets in the Social Sciences
GTU 479	Research on Inequality in Aging & Health
MBI 131 or KNH 321	Community Health Perspectives National and Global Health Policy
MBI 361	Fundamentals of Epidemiology
ORG 354	The Social Dynamics of Strategy and Leadership
ORG 361	Innovation in Organizations
POL 261	Public Administration
POL 362	Public Management, Leadership, and Administrative Politics
POL 467	Public Budgeting
POL 468	Public Personnel Administration
2) Leadership and Innovation in an Aging Society Track	
Complete all:	
GTU 354	Issues & Controversies in Aging
ORG 361	Innovation in Organizations
Complete 3 credit hours from one or more of the following options:	
EDL 110	The University and the Student
EDL 290	The Nature of Group Leadership
GTU 110	Opening Minds through Art (OMA) Volunteer Experience
GTU 310	Opening Minds through Art (OMA) Leadership Experience
GTU 362	Data & Decision Making in Aging
GTU 440	Gerontology Capstone Internship
Select two of the following:	
GTU/POL 491	Social Network Analysis
MGT 291	Introduction to Management & Leadership
ORG 354	The Social Dynamics of Strategy and Leadership
POL 362	Public Management, Leadership, and Administrative Politics
POL 365	Decision-Making in Public Affairs
POL 468	Public Personnel Administration
SOC 225	Work and Occupational Justice
SOC 454	Formal Organization

Total Credit Hours **18**

¹ Some courses appear in two requirement areas. Students who take such courses may use them to fulfill one requirement only.

Global Health Minor

For information, contact the Department of Anthropology, 120 Upham Hall, 513-529-8399.

This transdisciplinary minor is for students interested in better understanding the complexities of global health and developing the foundational knowledge and skills necessary in addressing global health problems. It is designed to complement a variety of majors and the minor can be completed in two years.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Gateway Course:		
GHS 101	Introduction to Global Health	3
Select one methods course from the following:		3-4
ATH 425	Ethnographic Field Methods	
ECO 311	Examining Economic Data and Models	
MBI 361	Fundamentals of Epidemiology	
PSY 293	Introduction to Psychological Statistics	
SOC 262	Research Methods	
STA 301	Applied Statistics	
Special Topics (to be taken 3 times):		3
GHS 301	Seminar in Global Health ¹	
Off Campus Global Health Experience (submit an application to the Global Health advisor for supervision):		2
GHS 401	Global Health Experience	
Culminating Global Health Experience:		4
ATH 448 & GHS 491	Developing Solutions in Global Health and Global Health Leadership	
GHS 477	Independent Studies ²	
Related hours (to equal 18 total hours) ³		2-3

¹ Students may petition to submit a second related hours course for 1 of these 3 seminars.

² This is a thesis option to conduct original global health research and must be pre-approved and supervised by a faculty member affiliated with the Global Health minor.

³ An up-to-date list of related hours courses is available on the GHS website (<http://miamioh.edu/cas/academics/programs/ghs/>), or any language course TAUGHT IN THE TARGET LANGUAGE at the 200 level or above from the following: American Sign Language, Arabic, Chinese, French, German, Hebrew, Italian, Japanese, Korean, Portuguese, Russian, Spanish.

Global Perspectives on Sustainability Minor

For information, contact the Institute for the Environment and Sustainability, 118 Shideler Hall, 513-529-5811.

This interdisciplinary minor introduces students to the foundations of environmental sustainability and its complexities with an emphasis on the approaches taken by people living under different geographic and economic conditions. Of special importance in this minor is

increasing student understanding of the issues and problems faced by the majority of global citizens who live in lower-income countries or less industrially-developed parts of the world.

Program Requirements

(22 semester hours)

Code	Title	Credit Hours
Background courses		
Select one from each category of the following:		6
Category I: Natural Science		
BIO 121	Environmental Biology	
BIO 131	Plants, Humanity, and Environment	
GEO 271	Human Dimensions of Natural Resource Conservation	
GLG 121	Environmental Geology	
PHY 121	Energy and Environment	
Category II: Social Science		
ATH 175	Global Cultural Diversity	
GEO 101	Global Forces, Local Diversity	
ITS 201	Introduction to International Studies	
POL 270	Current World Problems	
POL 271	World Politics	
Sustainability Foundation		
Select the following:		3
IES 274	Introduction to Environment and Sustainability	
Advanced courses on Environmental and Sustainability Issues		
Select at least six hours of the following:		6
ARC 413	Environmental Systems I	
ATH 448	Developing Solutions in Global Health	
ATH 471	Ecological Anthropology	
BIO 433	Field Ecology	
BIO 451	Conservation Education and Community Engagement	
BIO 467	Conservation Biology	
CRE 325	Identity, Race, Gender, Class	
CPB 405	Industrial Environmental Control	
CPB 441	Pollution Prevention in Environmental Management	
ECO 406	Environmental Economics	
GEO 333	Global Perspectives on Natural Disasters	
GEO/WGS 436	Women, Gender, and the Environment	
GEO 475	Global Periphery's Urbanization	
GEO 476	Global Poverty	
GLG 307	Water and Society	
GLG 311	Geoenvironmental Field Methods	
IES 411	Environmental Protocols	
IES 419	Environment, Society & Justice	
IES/ENG/JRN 429	Environmental Communication	

IES 431	Principles and Applications of Environmental Science	
IES 450	Environmental Law	
IES 474	Sustainability in Practice	
IES/BUS 494	Sustainability Perspectives in Resources and Business	
ITS 302	Issues in the Global South	
PHL 376	Environmental Philosophy	
WGS 302	Geography and Gender	
Advanced Area Focus: (this course should complement the field of study)		
Select at least 3 hours from the following:		3
ATH 304	Native North America: Anthropological Perspectives	
ATH 305	Latin America: Anthropological Perspectives	
ATH 307	The Middle East: Anthropological Perspectives	
ATH 308	South Asia: Anthropological Perspectives	
CRE/GEO 301	Geography of Sub-Saharan Africa	
CRE 362	Family Poverty	
GEO 308	Geography of East Asia	
GEO/WGS 406	Indigenous Peoples and Their Sacred Lands	
GEO 408	Geography of the Silk Road (The Heart of Asia)	
GEO 475	Global Periphery's Urbanization	
HST 354	Modern Chinese History	
ITS 302	Issues in the Global South	
LAS 385	Race, Science, and Disease in the Americas	
POL 334	Politics of Eastern Europe	
POL 336	Politics of the Middle East	
POL 337	Politics of Latin America	
POL/WGS 346	Global Gender Politics	
WGS 406	Indigenous Peoples and Their Sacred Lands	
Field courses or internship		
Students must complete appropriate field courses, or an internship, for a minimum of four hours (e.g. GEO/GLG/IES 412). Work with the minor advisor to get approval.		4
Total Credit Hours		22

History Minor

For information, contact the Department of History, 254 Upham Hall, 513-529-5121.

If you are not majoring in history, this minor is an opportunity for you to satisfy an interest, strengthen your degree, and enhance your preparation for a career or further education.

A minimum 2.00 GPA is required for all courses in the minor. These courses must be taken for a grade (not credit/no-credit).

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Select six semester hours of the following: ¹		6
HST 111 & HST 112	Survey of American History to 1877 and Survey of American History: From 1877 to the Present	
HST 197 & HST 198	World History to 1500 and World History Since 1500	
Select 12 semester hours in HST at 200 level and above		12
Total Credit Hours		18

¹ Includes two introductory survey courses that need not be in sequence.

Horticulture Minor

For information, contact the Department of Biology, 212 Pearson Hall, 513-529-3100.

This minor gives you a general understanding of horticulture and related fields.

Courses used for this minor cannot be used for the minor in Plant Sciences, except for BIO 115, BIO 116, or BIO 191. Only 10 credit hours may count in both the A.B. or B.S. in Botany or Biology. Advanced courses must represent at least 10 hours of the total of 18 hours. College chemistry and BIO 191 are recommended for this minor. A minimum 2.00 GPA is required for all courses in the minor; no courses for the minor may be taken credit/no-credit.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Select at least one of the following:		3-4
BIO 101	Biotechnology: Coming of Age in the 21st Century	
BIO 115	Biological Concepts: Ecology, Evolution, Genetics, and Diversity	
BIO 116	Biological Concepts: Structure, Function, Cellular, and Molecular Biology	
BIO 126	Evolution: Just a theory?	
BIO 131	Plants, Humanity, and Environment	
BIO 155	Field Botany	
BIO 176	Ecology of North America	
BIO 191	Plant Biology	
Take the following:		
BIO 306	Basic Horticulture	3
Select at least one of the following:		3-4
BIO 221	Plant Propagation	
BIO 241	Botanical Principles in Landscape Gardening	

BIO 244	Viticulture and Enology	
Select additional hours from the following:		9
BIO 302	Plant Taxonomy	
or BIO 205	Dendrology	
BIO 314	Plant Diversity	
BIO 340	Internship	
BIO 425	Environmental Plant Physiology	
Total Credit Hours		18-20

Individualized Studies Minor

For information, contact the Western Program, 111 Peabody Hall, 513-529-2233 or Western@MiamiOH.edu.

The minor in Individualized Studies is available to students in all majors and is designed to broaden their educational experience and widen professional opportunities. The pair of required WST courses teach students to integrate knowledge from a range of disciplines and perspectives. These serve as an introduction to student exploration of individually-created themes that have captured their interests through courses offered by other programs and majors. Plan of study for each student must be approved by a Western Program advisor.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
WST 201	Self and Place	3
WST 301	Interdisciplinary Problems and Questions	3
Select 4 additional courses at 200-400 level, with not more than one at 200-level, that explore an individualized theme approved by a Western Program advisor. ¹		12
Total Credit Hours		18

¹ At least 3 of the 4 courses must be taken after approval of the plan of study.

Italian Minor

For information, contact the Department of French, Italian, and Classical Studies, 105 Irvin Hall, 513-529-7508.

This minor offers certified recognition of proficiency in Italian language and successful completion of a program in Italian culture and literature. It increases your understanding of a culture of major influence.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Select at least 18 semester hours of Italian above 100 level, including the following:		18
ITL 231	Italian Food Cultures in Context	

ITL 301	Culture, Society and Politics in Perspective	
ITL 302	Introduction to Italian Literature	
Total Credit Hours		18

A minimum 2.00 GPA is required for all courses in the minor. Courses must be taken for a grade (not credit/no-credit). Your program must be planned with an advisor.

Students are encouraged to attend the Miami University Summer Language Institute in Italy (Reggio Emilia).

Japanese Minor

For information, contact the Department of German, Russian, Asian, and Middle Eastern Languages and Cultures, 172 Irvin Hall, 513-529-2526, gramelac@MiamiOH.edu.

This minor provides exposure to literature and culture along with systematic language training in speaking, listening, reading, and writing.

Japanese language, culture, and relevant courses transferred from other institutions may be used to fulfill requirements. A minimum 2.00 GPA is required for all courses in the minor.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Select four courses from the following: ¹		12
JPN 201	Second Year Japanese	
JPN 202	Second Year Japanese	
JPN 301	Third Year Japanese	
JPN 302	Third Year Japanese	
JPN 401	Fourth Year Japanese	
JPN 402	Fourth Year Japanese	
Select two courses from the following:		6
JPN 231	Japanese Tales of the Supernatural in English Translation	
JPN 255	Drama In China/Japan:Eng Trans	
JPN 260	Topics in Japanese Literature in English Translation	
JPN 266	Survey of Japanese Cinema	
JPN 381	Introduction to Japanese Linguistics	
JPN 401 & JPN 402	Fourth Year Japanese and Fourth Year Japanese ²	
LIN 201	Introduction to Linguistics	

¹ Other courses, including one-time offerings, honors courses, etc., may count; contact the Japanese program advisor.

² If not used for language hours

Journalism Minor

Students learn about the role of journalism in American life by studying the functions of journalism in American democracy and by producing news reporting. They will explore journalism ethics and the

influence of news coverage, as well as learning practical journalism skills such as fact-checking, interviewing, news writing and audio, video and multimedia production.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Required Courses		
JRN 101	Journalism and American Life	3
JRN 102	Precision Language for News Writing	3
JRN 201	Reporting and News Writing I	3
JRN 202	Reporting and News Writing II	3
Select two of the following:		6
JRN 310	Topics in Journalism Studies	
JRN 313	Digital Audio Reporting	
JRN 314	Digital Video Reporting	
JRN 333	International Journalism	
JRN 350	Specialized Journalism	
JRN 415	Capstone in Television Journalism	
JRN 418	Critical Writing in Journalism	
Total Credit Hours		18

Latin American Latino/a & Caribbean Studies Minor

For information, contact the LAS Program, 120 MacMillan Hall, 513-529-5333.

Latin American, Latino/a & Caribbean Studies (LAS) offer an interdisciplinary minor that is open to all students and is a valuable complement to a wide range of majors. Students may enroll in the program by declaring intent with an LAS advisor. All students must complete at least 18 credit hours. In addition to taking an introductory LAS course, students must take 6 additional credits of LAS courses, or their cross-listed equivalents, as part of their core courses, including at least one LAS course at the 300-level or higher. At least 9 credit hours that count toward the LAS minor must come from outside of the student's major.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Introductory courses		
Select one of the following:		3
LAS 208/ ATH 206	Introduction to Latin America	
LAS/HST 217	Modern Latin American History	
LAS 215	Latin America in the United States	
Core courses		
Select 12 hours		12
Related hours		

Select up to three hours	3
Total Credit Hours	18

Core courses

Code	Title	Credit Hours
AMS 302	Immigrant America	3
ART 317	The Arts of Colonial Latin America	3
ATH 305	Latin America: Anthropological Perspectives	3
ATH 313	Latin American Archaeology	3
ATH 415	Field Methods in Archaeology	1-6
FST/LAS/MUS 204	Brazilian Culture Through Music and Film	3
ENG/LAS 254	Caribbean, Latin American and Latinx Literatures	3
GLG/GEO/IES 412	Tropical Ecosystems of Costa Rica	5
HST/LAS/CRE 243	History of the Atlantic Slave Trade, 1400s to 1800s	3
HST 400	Senior Capstone in History	3
LAS 204	Brazilian Culture Through Music and Film	3
LAS 208/ATH 206	Introduction to Latin America	3
LAS 211	Writing with Purpose: Interdisciplinary Inquiry and Communication	3
LAS/HST 217	Modern Latin American History	3
LAS 215	Latin America in the United States	3
LAS 277	Independent Studies	1-5
LAS 300	Special Topics	1-3
LAS 277X	Service-Learning (concurrent registration in MP course)	1
LAS 315	Latin American Diaspora: Communities, Conditions and Issues	3
LAS/HST 319	Revolution in Latin America	3
LAS 325	Identity, Race, Gender, Class	3
LAS/SPN 332	Latin American Popular Culture	3
LAS 377	Independent Studies	1-5
LAS/HST/CRE 385	Race, Science, and Disease in the Americas	3
LAS 390	Special Topics	3
LAS 410	Current Latin American Issues	1-3
LAS 424	Seminar on Modern Architecture in Latin America	3
LAS 477	Independent Studies	3-4
POL 337	Politics of Latin America	3
POR 204	Brazilian Culture Through Music and Film	3
POR 383	Brazilian Women through Literature and Film	3
SPN 315	Intro to Hispanic Literatures	3
SPN 361	Marginalized Voices	3
SPN 362	Spanish American Cultural History II	3
SPN 430	Selected Topics in Literature and Culture: Spanish America	3

SPN 450	Topics in Hispanic Culture and Language	1-4
SPN 461	Spanish American Film, Visual, and Digital Studies	3
SPN 462	Contemporary Spanish American Literature	3
SPN 463	Spanish American Interdisciplinary Studies	3

Related hours

Code	Title	Credit Hours
AMS 207	America: Global and Intercultural Perspectives	3
ATH 175	Global Cultural Diversity	3
ATH 185	Cultural Diversity in the U.S.	3
ATH 312	North American Archaeology	3
EDL 204	Sociocultural Studies in Education	3
FSW 206	Social Welfare Policies & Programs	4
GEO 111	World Regional Geography: Patterns and Issues	3
HST 371	Native American History to 1840	3
HST 386	Race in U.S. Society	3
IDS 159	Strength Through Cultural Diversity	3
ITS 201	Introduction to International Studies	3
MUS 186	Global Popular Music	3
SJS 215	EMPOWER I: Educational and Economic Justice and Service-Learning	3
SOC 153	Sociology in a Global Context	3
SOC 348	Race and Ethnic Relations	3

Study Abroad

The LAS Program highly values study abroad in all Latin American contexts and will extend credit by petition to international study experiences that fulfill program criteria.

Linguistics Minor

For information, contact the Department of English, 356 Bachelor Hall, 513-529-5221.

Linguistics is the study of language. Linguists look at how people use language and try to find the rules that govern that use. Because linguistics touches so many areas of study, a minor in linguistics is useful for students majoring in foreign languages, English, sociology, anthropology, psychology, mathematics, communication, philosophy, or computer science. A minimum 2.00 cumulative GPA is required to earn the minor.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Select the following:		
LIN 201	Introduction to Linguistics	3
Select one of the following capstones:		
		3

ATH 465	Ethnography of Communication	
LIN 460	Capstone in Linguistics	
Select at least twelve semester hours of the following:		12
ATH 265	Introduction to Linguistic Anthropology	
ATH 361	Language and Power	
ATH 364	Language and Culture in Native North America	
FRE 341	Conversation and Current Events in France	
LIN 202	American Dialects, Culture, and Identity	
LIN 210	Special Topics in Language Awareness	
LIN 301	History of the English Language	
LIN 302	Structure of Modern English	
LIN 410	Selected Topics in Linguistics	
MTH 483	Introduction to Mathematical Logic	
PHL 373	Symbolic Logic	
PSY 374	Psychology of Language and Thought	
SPN 481	Spanish Phonology and Syntax	
SPN 482	Language Variation in Spanish	
STC 236	Intercultural Communication	
Total Credit Hours		18

Mathematics Minor

For information, contact the Department of Mathematics, 123 Bachelor Hall, 513-529-5818.

This minor provides students with an increased understanding of, and competence in, mathematics. Building on a base of calculus and linear algebra, already required for many majors, the program leads students through an introductory proof course, a theoretical course, and an applications course.

To complete the minor in Mathematics, you must have at least a 2.00 grade point average (GPA) over the courses in the minor. All courses taken for the minor must be for a grade, not for credit/no-credit. This minor is not available to majors in Mathematics, Mathematics and Statistics, or Integrated Mathematics.

Program Requirements

(19-23 semester hours)

Code	Title	Credit Hours
Select one of the following courses:		4-5
MTH 249	Calculus II	
or MTH 249H		
MTH 251	Calculus II	
The following course is required:		4
MTH 252	Calculus III	
Select one of the following pairs of courses:		5-6
MTH 222 & MTH 331	Introduction to Linear Algebra and Proof: Introduction to Higher Mathematics	

MTH 222T & MTH 331T	and Proof: Introduction to Higher Mathematics (H)	
Select one 400-level course from each list below.		
At least one of these two selected 400-level courses must be taken at Miami.		
1. Select one of the following theoretical courses:		3-4
MTH 411	Foundations of Geometry	
MTH 421	Introduction to Abstract Algebra	
MTH 438	Theory and Applications of Graphs	
MTH 441	Real Analysis	
MTH 491	Introduction to Topology	
2. Select one of the following applied courses:		3-4
MTH 432	Optimization	
MTH 435	Mathematical Modeling Seminar	
MTH 439	Combinatorics	
MTH 447	Topics in Mathematical Finance	
MTH 451	Introduction to Complex Variables	
MTH 453	Numerical Analysis	
MTH 455	Introduction to Partial Differential Equations	
MTH 495	Introduction to Applied Nonlinear Dynamics	
or MME 495 Introduction to Applied Nonlinear Dynamics		
Total Credit Hours		19-23

Medical Humanities Minor

For information, contact the Department of English, 356 Bachelor Hall, 513-529-5221

This minor offers students, including students interested in health careers, an interdisciplinary program of study that will enhance their understanding of the humanistic dimensions of medicine and their ability to communicate effectively. Students will investigate the historical, philosophical, literary and ethical issues of medicine in the past and today and focus on changing concepts and perceptions of disease, health, medical authority and patient experiences. Students will be prepared to respond to a dynamic range of professional and personal issues related to health and illness, life and death. This program stresses critical thinking, reflection and clear and informed communication.

Program Requirements

Code	Title	Credit Hours
Core Course- Choose one:		3
HST 236	Medicine and Disease in Modern Society	
ENG 263	Literature and Medicine	
PHL 205	Science and Culture	
Electives - 15 hours, from at least two different departments. May choose from unused core courses above or:		15
APC 201	Introduction to Health and Risk Communication	
APC 311	Science and Medicine in Public Communication	

ATH 348	Introduction to Medical Anthropology
ATH 368	Key Questions in Psychological Anthropology
ATH 378	Doctors, Clinics, and Epidemics
CLS 336	Ancient Sexualities
HST 385	Race, Science, and Disease in the Americas
HST 392	Sex and Gender in American Culture
PHL 265	Confronting Death
PHL 375	Medical Ethics
Other special topics courses on appropriate topics may be approved by petition.	

Total Credit Hours **18**

Middle East, Jewish, and Islamic Studies Minor

For information, contact the Department of Global and Intercultural Studies, 120 MacMillan Hall, 513-529-5333.

This minor offers students an interdisciplinary grounding in the cultures, religious systems, histories, and politics of the Islamic and Jewish worlds, with an emphasis on the Middle East.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Select from the following: 6		
No more than 6 hours of the 18 hour total to be taken in any one department.		
ATH 307	The Middle East: Anthropological Perspectives	
HST 241	Introduction to Islamic History	
POL 336	Politics of the Middle East	
REL 226	Introduction to Islam	
REL 286	Global Jewish Civilization	
Select 12 or more semester hours of the following: 12		
ARB 201	Intermediate Modern Arabic	
ARB 202	Intermediate Modern Arabic	
ARB 230	Topics in Arabic Literature in Translation	
ARB 301	Advanced Arabic	
ARB 302	Advanced Arabic	
ARB 311	Media Arabic	
ATH 307	The Middle East: Anthropological Perspectives	
GEO 408	Geography of the Silk Road (The Heart of Asia)	
GER 232	The Holocaust in German Literature, History, and Film	
GER 252	The German-Jewish Experience	
HST 241	Introduction to Islamic History	
HST 324	Eurasian Nomads and History	

HST 360	Topics in World History (select appropriate topic)
ITS 402N	Problems of the Middle East
POL 336	Politics of the Middle East
REL 226	Introduction to Islam
REL 275	Introduction to the Critical Study of Biblical Literature
REL 314	Social and Religious History of the Jewish People
REL 355	Religion and Law
REL 376	Global Jihadism
RUS 257	Communism and Catastrophe in Modern Russian Literature

Note: Credits may be transferred from other institutions and experience in accredited international programs may be applicable.

Total Credit Hours **18**

Molecular Biology Minor

For more information, contact the Department of Biology, 513-529-3100.

The molecular biology minor is offered cooperatively by the Departments of Biology, Chemistry and Biochemistry and Microbiology.

This minor enables students to pursue in-depth a multidisciplinary study of biological phenomena at the molecular level. It provides a strong foundation for students planning careers in biotechnology or advanced work at the graduate level. A minimum 2.00 GPA is required for all courses in the minor.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
CHM 332	Outlines of Biochemistry	4
or CHM 432	Fundamentals of Biochemistry	
BIO 203	Introduction to Cell Biology	3-4
or MBI 201	General Microbiology	
MBI 365	Molecular and Cell Biology	3
or BIO 444	Molecular Biology	
Select at least one course from each of the three departments (BIO, CHM and MBI)		6-12
Select one advanced laboratory course of the following:		2-4
BIO 464	Laboratory in Cell and Molecular Biology	
CHM 424		
CHM 438	Biochemistry Laboratory	
MBI 465	Bacteriophage Gene Expression Laboratory	
Or earn at least two credits of directed research in molecular biology		
Additional courses to bring total semester hours to 18:		
BIO 203	Introduction to Cell Biology	

BIO 342	Genetics
BIO 361	Patterns in Development
BIO 444	Molecular Biology
BIO 449	Biology Of Cancer
BIO 464	Laboratory in Cell and Molecular Biology
BIO/CHM/CSE/ MBI 466	Bioinformatics Computing Skills
BIO 471	Molecular Physiology
BIO/MBI 485/ CSE 456	Bioinformatics Principles
CHM 332	Outlines of Biochemistry
CHM 424	
CHM 430	Topics in Biochemistry
CHM 432	Fundamentals of Biochemistry
CHM 438	Biochemistry Laboratory
CHM 471	Biophysical Chemistry I
CHM 472	Biophysical Chemistry II
MBI 201	General Microbiology
MBI 365	Molecular and Cell Biology
MBI 414	Immunology Principles
or MBI 415	Immunology Principles and Practice
MBI 425	Microbial Physiology
MBI 445	Microbial Genetics
MBI 464	Human Viruses
MBI 465	Bacteriophage Gene Expression Laboratory

Total Credit Hours 18-27

Naval Science Minor

For more information, contact the Department of Naval Science, 67 Millett Hall, 513-529-3700.

This minor is an interdisciplinary program open to all majors. It introduces students to the broad field of naval service and provides specific information on the organization and operation of the United States Navy and Marine Corps. The naval science minor includes courses in physical and social sciences, formal reasoning, and computer science.

No courses may be taken credit/no-credit. A minimum 2.00 GPA is required for all courses in the minor.

Program Requirements

(23 semester hours)

Code	Title	Credit Hours
Core sequence:		
NSC 101	Introduction to Naval Science	2
NSC 202	Sea Power and Maritime Affairs Seminar	3
NSC 211	Leadership and Management	3
NSC 402	Leadership and Ethics	3
Select six semester hours of the following:		6

NSC 301	Navigation
NSC 302	Naval Operations and Seamanship
NSC 303	Naval Ship Systems I
NSC 311	Evolution of Warfare
NSC 377	Independent Studies
NSC 403	Naval Ship Systems II
NSC 411	Fundamentals of Maneuver Warfare
Select one course each from two different departments:	6
CSE 151	Computers, Computer Science, and Society
CSE 163	Introduction to Computer Concepts and Programming
CSE 174	Fundamentals of Programming and Problem Solving
HST 112	Survey of American History: From 1877 to the Present
HST 222	U.S. Foreign Relations Since 1898
ISA 235	Information Technology and the Intelligent Enterprise
MGT 291	Introduction to Management & Leadership
MTH 151	Calculus I
MTH 249	Calculus II
or MTH 251	Calculus II
PHY 191	General Physics with Laboratory I
PHY 192	General Physics with Laboratory II
POL 373	American Foreign Policy
POL 376	U.S. National Security Policy
POL 382	International Law
POL 387	International Security Issues
STA 261	Statistics

Total Credit Hours 23

Neuroscience Minor

For information, contact the Department of Biology, 212 Pearson Hall, 513-529-3100 or the Department of Psychology, 100 Psychology Building, 513-529-2400; this minor is offered cooperatively.

This minor enables students to pursue in depth a multidisciplinary study of the nervous system. It provides a basic framework for students planning advanced work at the graduate level.

A minimum 2.00 GPA is required for all courses in the minor.

Program Requirements

(19 semester hours)

Code	Title	Credit Hours
Required courses		
BIO 203	Introduction to Cell Biology	3
or MBI 365	Molecular and Cell Biology	
BIO 305	Human Physiology	4
or BIO 161	Principles of Human Physiology	
PSY 251	Introduction to Biopsychology	3

Select at least three courses of the following: ¹ 9-11

BIO 361	Patterns in Development
BIO 452	Neuromodulation:Cells to Circuits
BIO 454	Endocrinology
BIO 457	Neuroanatomy
BIO 459	Advanced Neuroscience with Lab
BIO 464	Laboratory in Cell and Molecular Biology
BIO 465	Animal Behavior
BIO 466	Bioinformatics Computing Skills
BIO 469	Neurophysiology
BIO 471	Molecular Physiology
PSY 351	Advanced Biopsychology
PSY 356	Psychopharmacology
PSY 451	Cognitive Neuroscience
PSY 452	Structured Research Experience in Behavioral Neuroscience II
PSY 456	Advanced Biological Bases of Behavior
PSY 458	Capstone Seminar in Neuroscience

Other relevant work

Course work in calculus, statistics, chemistry, computer science, and philosophy of science ²

Total Credit Hours 19-21

¹ Select at least one course from each department.

² An independent research project (with PSY 477 or BIO 320) is recommended.

Philosophy and Law Minor

For information, contact the Department of Philosophy, 212 Hall Auditorium, 513-529-2440.

This minor offers students not majoring in philosophy the opportunity to explore key features of legal reasoning and the philosophy of law, and to connect these to broader themes in social and political theory. The minor will provide students with intellectual skills (critical reading, identifying and developing arguments, written and oral communication) necessary for the study of law, and will acquaint students with foundational philosophical concepts operative in the law and legal institutions (such as liberty, equality, rights, and responsibility). Students wishing to sign up for the minor should register their interest with the chief departmental advisor. A minimum 2.00 GPA is required for all courses in the minor, and courses must be taken for a grade, not credit/no credit. Special-topics courses at the 300 and 400-levels may also count toward the minor (subject to approval).

Program requirements

Code	Title	Credit Hours
Required courses:		
PHL 273	Formal Logic	4
PHL 335	Philosophy of Law	4
Select one of the following:		
PHL 103	Society and the Individual	3

PHL 105	Theories of Human Nature
PHL 131	Introduction to Ethics
Select 9 hours from the following:	
PHL 263	Informal Logic
PHL 311	Ethical Theory
PHL 312	Contemporary Moral Problems
PHL 321	Problems of Metaphysics and Knowledge
PHL 331	Political Philosophy
PHL 355	Feminist Theory
PHL 373	Symbolic Logic
PHL 376	Environmental Philosophy
PHL 411	Advanced Ethical Theories
PHL 459	Political Philosophy Seminar

Total Credit Hours 20

Physics Minor

For information, contact the Department of Physics, 217 Kreger Hall, 513-529-5625.

This minor provides a foundation in classical and modern physics together with enhanced skills in electronics or computational physics. It is not available to majors in physics. Courses may not be taken on a credit/no-credit basis.

Program Requirements

(23-27 semester hours)

Code	Title	Credit Hours
PHY 191 & PHY 192	General Physics with Laboratory I and General Physics with Laboratory II	10
PHY 281	Contemporary Physics I: Foundations	3
PHY 293	Contemporary Physics Laboratory	2
Select one of the following:		5-8
MTH 151 & MTH 251	Calculus I and Calculus II	
MTH 249	Calculus II	
Select one of the following:		3-4
PHY 282	Contemporary Physics II: Frontiers	
PHY 292 & PHY 294	Electronic Instrumentation and Laboratory in Electronic Instrumentation	
PHY 286	Introduction to Computational Physics	

Total Credit Hours 23-27

Political Science Minor

For information, contact the Department of Political Science, 218 Harrison Hall, 513-529-2000.

If you are not majoring in political science, this minor offers you an opportunity to satisfy an interest, strengthen your degree, or enhance your preparation for a career or further education.

This minor is not open to students with a major in the Department of Political Science.

Program Requirements

(21 semester hours)

Code	Title	Credit Hours
Take this course first		
POL 241	American Political System	3
Additional courses		
Select at least one of the following: ¹		3
POL 201	Political Thinking	
POL 221	Comparative Politics	
POL 261	Public Administration	
POL 271	World Politics	
Select at least nine semester hours in political science at 300 level or above		9
Select additional hours in political science at 200 level or above		6
Total Credit Hours		21

¹ These courses are prerequisites to corresponding 300-400 level courses.

A minimum 2.00 GPA is required in all POL hours. All courses must be taken for a grade. At least 12 hours applied to the minor must be taken at Miami. Students are encouraged to consult with a faculty advisor when selecting courses.

Rhetoric/Writing Minor

For information, contact the Department of English, 356 Bachelor Hall, 513-529-5221.

This minor provides students an understanding of how language and writing shape actions and attitudes and form persuasive discourse through study of rhetorical theory for writers, research methods in writing, and practice in a wide range of writing that college-educated graduates can be expected to produce in their civic and professional lives.

Courses taken credit/no-credit will not count toward the minor. A minimum 2.00 GPA is required for all courses in the minor. This minor is open to all majors except English: Professional Writing.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Required courses		
ENG/IMS 171	Humanities and Technology	3
ENG 223	Rhetorical Strategies for Writers	3
Select one of the following upper-level courses:		3
ENG/IMS 407	Interactive Business Communication	
ENG/IMS 411	Visual Rhetoric	
ENG 412	Print and Digital Editing	

ENG 413	Grant and Proposal Writing	
ENG 415	Capstone in Professional Writing ¹	
ENG/IMS 416	Writing for Global Audiences	
Elective courses		
Select 9 hours from unused courses above, or from the following list:		9
BUS/ENG 284	Professional Communication for Business	
ENG 216	Style: Strategies for Editing and Writing	
ENG 222	The Rhetoric of Information and Data Visualization	
ENG/IMS 224	Professional Communication & Digital Rhetoric	
ENG 225	Advanced Composition	
ENG 226	Introduction to Creative Writing: Short Fiction and Poetry	
ENG 310	Special Topics in Rhetoric and Persuasion	
ENG 313	Technical Writing	
ENG 315	Business Writing	
ENG 316	Legal Writing and Reasoning	
ENG 323	Intermediate Creative Writing: Creative Nonfiction	
ENG/IMS 407	Interactive Business Communication	
ENG/IMS/JRN 424/ENG 524/IMS 524	Ethics and Digital Media	
ENG/IMS 426	Developing & Publishing Digital Books	
ENG 481	Writing Center Theory and Practice	
LIN 302	Structure of Modern English	
Total Credit Hours		18

¹ ENG 495R may be substituted for ENG 415.

Russian Minor

For information, contact the Department of German, Russian, Asian, Middle Eastern Languages and Cultures, 172 Irvin Hall, 513-529-2526.

You must have a minimum cumulative GPA of 2.50 for courses taken at Miami. Courses for the Russian minor must be taken for a grade (not credit/no-credit). Students may not sign up for both the Russian, East European, and Eurasian Studies major and the Russian minor.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Select 15 hours at the 100 level or above, including:		
RUS 201	Intermediate Russian	3
RUS 202	Intermediate Russian	3
RUS 301	Advanced Russian	3
RUS 302	Advanced Russian	3
RUS 311	Reading in Russian	3

Select remaining 3 hours from the following: 3

REL 133	Imagining Russia
RUS 137	Magic and Power in Russian Folklore
RUS 250	Topics in Russian Literature in English Translation
RUS 254	Introduction to Russian and Eurasian Studies
RUS 255	Love and Death in Nineteenth-Century Russian Literature
RUS 256	Empire and Utopia in Russian Literature
RUS 257	Communism and Catastrophe in Modern Russian Literature
RUS 263	Soviet and Post-Soviet Russian Cinema

Total Credit Hours 18

Social Justice Minor

The Minor in Social Justice (SJS) offers a sociologically-based foundation of knowledge and skills to examine essential connections between social values, structured inequalities, and emancipatory social change.

Program Requirements

(18-19 semester hours)

Code	Title	Credit Hours
Tier 1: Take both of the following:		
SJS/SOC 165	Social Justice Perspectives	3
SJS/SOC 323	Social Justice and Change	3
Tier 2: Take at least one of the following: 3		
SOC/WGS 203	Sociology of Gender	
SOC/FSW/WGS 221	Sexualities	
SOC 272	Introduction to Disability Studies	
SOC/GTY 318	Social Forces and Aging	
SOC/CRE 348	Race and Ethnic Relations	
SOC 372	Social Stratification	
Tier 3: Take at least one of the following: 3-4		
SJS 159	Creating Global Peace	
SJS 215	EMPOWER I: Educational and Economic Justice and Service-Learning	
SJS 216	EMPOWER II: The Intersections of Race, Class, and Education	
SOC 225	Work and Occupational Justice	
SJS 303	Life After Graduation: Careers in Sociology/Social Justice	
SJS 350	Topics in Justice Studies	
SOC 357	Medical Sociology	
SJS 419	Environment, Society & Justice	
SOC 440A	Internship in Applied Sociology ¹	
SJS 470	Social/Political Activism	

Take additional courses from Tier 2 or Tier 3 to complete at least 18 hours. 6

Total Credit Hours 18-19

¹ Maximum of 4 credit hours count for the minor; must be preapproved by CDA for social justice-related content.

Sociology Minor

For information, contact the Department of Sociology and Gerontology, 375 Upham Hall, 513-529-2628.

This pre-professional minor is for non-sociology majors planning careers in law, medicine, dentistry, business, and social science. Depending on your option, the minor consists of three or four required courses and additional hours chosen from a set of electives. Not all courses are offered each semester or year.

You must declare this minor before or during your junior year. You may pursue only one Pre-professional sociology minor. A minimum overall GPA of 2.50 is required. All courses for this minor (excluding fieldwork) must be taken for a grade.

Program Requirements: Pre-professional Minor

(18 semester hours)

Option in Law and Society

Code	Title	Credit Hours
All of these: 10-11		
SOC 151	Social Relations in the U.S.	
or SOC 153	Sociology in a Global Context	
SOC 201	Social Problems	
or SOC 202	Social Deviance	
SOC 412	Sociology of Law	
Select the remaining hours (to total at least 18 hours) from the following:		8
SOC 201	Social Problems	
SOC 202	Social Deviance	
SOC 348	Race and Ethnic Relations	
SOC 352	Criminology	
SOC 372	Social Stratification	
SOC 454	Formal Organization	

Total Credit Hours 18-19

Option in Medical Sociology

Code	Title	Credit Hours
All of these: 9-10		
SOC 151	Social Relations in the U.S.	
or SOC 153	Sociology in a Global Context	
SOC 357	Medical Sociology	
SOC 372	Social Stratification	

Select remaining hours from the following, with at least 3 hours from SOC courses: 9

SOC 201	Social Problems
SOC 202	Social Deviance
SOC 221	Sexualities
SOC 257	Population
SOC 318	Social Forces and Aging
GTY 318	Social Forces and Aging
SOC 358	The Sociology of Mental Disorders
SOC 435	Death Studies
SOC 440	Internship in Sociology or Social Justice Studies
GTY 456	Aging & Health
EDP/SOC 272	Introduction to Disability Studies
DST 278	Women and (Dis)ability: Fictions and Contaminations of Identity
GTY 154	Aging in American Society
GTY 365	Social Policy and Programs in Gerontology
KNH 125	Introduction to Public Health
KNH 321	National and Global Health Policy
KNH 362	Public Health Communication
PHL 375	Medical Ethics
Total Credit Hours	18-19

Option in Business and Society

Code	Title	Credit Hours
All of these:		7-8
SOC 151	Social Relations in the U.S.	
or SOC 153	Sociology in a Global Context	
SOC 201	Social Problems	
Select at least two of the following:		6
SOC 225	Work and Occupational Justice	
SOC 417	Economy and Society	
SOC 454	Formal Organization	
Select from the following to total 18 hours:		5
SOC 203	Sociology of Gender	
SOC 257	Population	
SOC 262	Research Methods	
SOC/CRE 348	Race and Ethnic Relations	
SOC 372	Social Stratification	
SOC 417	Economy and Society	
SOC 454	Formal Organization	
Total Credit Hours		18-19

Option in General Sociology

Code	Title	Credit Hours
All of these:		10-11
SOC 151	Social Relations in the U.S.	
or SOC 153	Sociology in a Global Context	
SOC 262	Research Methods	
SOC 482	Sociological Theory	

Select remaining hours from SOC to equal a total of at least 18 hours.

Total Credit Hours **18-19**

Note: The use of independent study hours or SOC 490 must be preapproved by the CDA in Sociology.

Spanish Minor

For information, contact the Department of Spanish and Portuguese, 268 Irvin Hall, 513-529-4500.

The Spanish minor is designed to offer students whose major is in another field the ability to build upon their language, cultural, and interdisciplinary skills in Spanish. In an increasingly globalized world, a minor in Spanish provides a competitive edge for students in a wide variety of areas of concentration. You must plan your program with your advisor in the department. No courses for the Spanish major or minor may be taken credit/no-credit. This minor consists of Spanish courses above the 202 level.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Select the following:		
SPN 311	Grammar Review and Introductory Composition	3
SPN 312	Introduction to Spanish Language/ Linguistics	3
or SPN 315	Intro to Hispanic Literatures	
Select 6 hours from the following:		6
SPN 351	Historical Perspectives on Current Issues	
SPN 352	Cultural History of Spain II	
SPN 361	Marginalized Voices	
SPN 362	Spanish American Cultural History II	
SPN 381	Language and Society: Past and Present	
SPN 382	Spanish Language and Hispanic Culture II	
Select 6 hours from the following:		6
Any 300 or 400 level SPN course (with the exception of SPN 490)		
Total Credit Hours		18

Statistical Methods Minor

For information, contact the Department of Statistics, 311 Upham Hall, 513-529-7828.

This minor builds on the statistical methods of estimation and hypothesis testing introduced in the introductory statistics course. It includes additional study of the statistical methods involved in regression analysis and experimental design as well as options for study of non-parametric, quality control, data visualization, and/or sampling methods. A Capstone experience in statistics may also be included as part of the minor.

This minor is not available to students majoring in mathematics, data science and statistics, or mathematics and statistics.

To complete the minor in statistical methods, you must earn at least 18 semester hours with at least a 2.00 GPA. A course taken on a credit/no credit basis does not apply toward the minor.

Program Requirements

(18 semester hours minimum)

Code	Title	Credit Hours
Required Courses:		6-7
STA 261 or STA 301	Statistics Applied Statistics	
STA 363	Introduction to Statistical Modeling	
Elective Courses (Select three of the following)		9
STA 333	Nonparametric Statistics	
STA 365	Statistical Monitoring and Design of Experiments	
STA 402	Statistical Programming	
STA 404	Advanced Data Visualization	
STA 432	Survey Sampling in Business	
STA 475	Data Analysis Practicum	
Select one of the following: ¹		3-5
MTH 141	Business Calculus	
MTH 151	Calculus I	
MTH 249	Calculus II	
Total Credit Hours		18-21

¹ Note: A petition to substitute a statistics related course for the calculus requirement (e.g. PSY 294) is welcomed.

Statistics Minor

For information, contact the Department of Statistics, 311 Upham Hall, 513-529-7828.

Statistical methods are increasingly in use in decision-making and data analysis in business and industry. Moreover, basic research in the biological, management, and social sciences, as well as in some areas of humanities, is also increasingly statistical in nature. As a result, demand for persons knowledgeable in the science of statistics is on the rise. The minor in Statistics provides a program in statistics suitable for students with very good mathematical abilities.

This minor is not available to students majoring in either data science and statistics or mathematics and statistics. This minor is available to all other students including those majoring in mathematics.

To complete the minor in Statistics, you must earn at least 18 semester hours with at least a 2.00 GPA. A course taken on a credit/no credit basis does not apply toward the minor.

Program Requirements

(21 semester hours)

Code	Title	Credit Hours
MTH 251 or MTH 249	Calculus II Calculus II	4-5
STA 363	Introduction to Statistical Modeling	3
STA 401	Probability	3
STA 463	Regression Analysis ¹	4
STA 466	Experimental Design Methods	4
Select one of the following:		3
STA 333	Nonparametric Statistics	
STA 365	Statistical Monitoring and Design of Experiments	
STA 402	Statistical Programming	
STA 404	Advanced Data Visualization	
STA 427	Introduction to Bayesian Statistics	
STA 432	Survey Sampling in Business	
STA 462	Inferential Statistics ²	
STA 475	Data Analysis Practicum	
STA 483	Analysis of Forecasting Systems	
Total Credit Hours		21-22

¹ Has MTH 222 as a prerequisite.

² Has MTH 252 as a prerequisite.

Urban and Regional Analysis Minor

For information, contact the Department of Geography, 118B Shideler Hall, 513-529-5010.

Urban and regional planners develop programs and policies to guide future growth and redevelopment of urban, suburban, and rural communities. They assist elected officials in solving the social, economic, and environmental problems of their communities.

This minor is not available to urban and regional planning majors.

Program Requirements

(20 semester hours)

Code	Title	Credit Hours
All of the following:		
GEO 101	Global Forces, Local Diversity	3
GEO 201	Geography of Urban Diversity	3
GEO 451	Urban and Regional Planning	3
GEO 459	Advanced Urban and Regional Planning	3
Select at least 8 hours of the following:		8
GEO 242	Mapping a Changing World	
GEO 352	Geographies of Urban Change	
GEO 441	Geographic Information Systems	
GEO 442	Advanced Geographic Information Systems	
GEO 444	GIScience Techniques in Landscape Ecology	

GEO 448	Techniques and Applications of Remote Sensing
GEO 454	Urban Geography
GEO 455	Race, Urban Change, and Conflict in America
GEO 462	Citizenship and the City
GEO 467	Land Use, Law and the State: Geographic Perspectives
GEO 475	Global Periphery's Urbanization
GEO 476	Global Poverty
GEO 493	Urban Field Experience
STA 261	Statistics
or ISA 125	Introduction to Business Statistics

Total Credit Hours **20**

GEO 460/GEO 560 courses and other courses may be substituted with permission of your primary advisor (prythedl@miamioh.edu). A 2.00 grade point average is required for the courses in the minor. Courses for the minor may not be taken on a credit/no credit basis except by permission of the primary advisor.

Women's, Gender, and Sexuality Studies Minor

For information, contact the Chief Departmental Advisor for the Women's, Gender, and Sexuality Studies Program, 126 MacMillan Hall, 513-529-4616.

The Women's, Gender, and Sexuality Studies Program is a dynamic, interdisciplinary program that investigates how our lives are affected by gender race, class, age, sexuality, religion, (dis)ability, gender identity, and nationality. Women's, Gender, and Sexuality Studies emphasizes the importance of understanding gender as a part of wider social and political structures of power, knowledge, experience, culture, embodiedness, intimacy, and labor. Women's, Gender, and Sexuality Studies courses are organized around contemporary feminist research and theory, and focus intersectionally on women, gender, and sexuality as subjects of inquiry. Our coursework also focuses on how theory and practice come together. Students may choose from courses spanning departments, disciplines, divisions and ideologies. The Women's, Gender, and Sexuality Studies program provides a context in which women's work and women's issues are explored in-depth, celebrating women's creativity, women's lives, and women's work. In Women's, Gender, and Sexuality Studies, students find an active and supportive community, close interaction with faculty, opportunities to take on leadership roles, and an academic program that allows them to cross the traditional disciplinary boundaries.

This minor may be completed by any student. You are urged to choose your courses with an advisor. Women's, Gender, and Sexuality Studies courses may fulfill other departmental, college, or Miami Plan requirements.

A minimum 2.00 GPA is required for all courses in the minor.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Core courses		
Select one of the following:		3
WGS 401	The Role of Women in a Transforming Society	
WGS/CRE/WGS 432	Feminism and the Diaspora: U.S. Women of Color	
Select one of the following:		3
WGS/ENG 356	Women and Gender in Film	
WGS/PHL 355	Feminist Theory	
WGS/ENG 435	Queer Theory	
WGS/CRE 437	Black Feminist Theory	
Feminist theory course approved by the WGS Advisor Committee		
Other courses ¹		
Select 12 hours from WGS courses and courses cross-listed with WGS		12
Total Credit Hours		18

¹ WGS 201 is strongly recommended, particularly as a first course for students considering this minor.

Courses, not cross-listed with the Women's, Gender, and Sexuality Studies Program, may be approved for this minor. Special topics courses offered by the program and selected honors seminars are offered most semesters.

Geographic Information Science (GIS) Certificate

This certificate program focuses on the theory and techniques of geographic information science (GISci). Geographic Information Science (GISci) is a suite of techniques for collecting, analyzing, and communicating information through geographic information systems (GIS), satellite and aerial imaging (Remote Sensing), global positioning systems (GPS), and related technologies. GISci is applied to problems in fields ranging from environmental science to urban planning to business decision-making. This certificate program builds qualifications for employment and/or further study in GISci.

Students interested in this certificate should contact Ms. Robbyn Abbitt (Department of Geography; 109 Shideler Hall; 513-529-5016; abbittrj@miamioh.edu)

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
GEO 441	Geographic Information Systems	3
GEO 442	Advanced Geographic Information Systems	3
GEO 443	Python Programming for Geospatial Applications	3
GEO 448	Techniques and Applications of Remote Sensing	3

Select two of the following: 6

CIT 214 or ISA 245	Database Design and Development Database Systems and Data Warehousing
CSE 174	Fundamentals of Programming and Problem Solving
CSE 252	Web Application Programming
ENT 135	Computer-Aided Drafting
GEO 242	Mapping a Changing World
GEO 340	Internship ¹
GEO 444	GIScience Techniques in Landscape Ecology
GEO 445	Geographic Information Systems for Criminal Justice
GEO 460	Advanced Systematic Geography ^{Topic must be approved by advisor}
IMS 259	Art and Digital Tools I
IMS 461	Virtual Reality
Any GEO course focusing on GIS or remote sensing techniques	
Total Credit Hours	18

¹ With the expectation that the internship involves GIS.

Global Readiness Certificate

This Certificate is designed for degree-seeking students of all majors who wish to position themselves strategically for employment in today's increasingly competitive, diverse, and global workforce. It combines Miami coursework, co-curricular activities, and community involvement focused on global readiness. The courses and experiences in this certificate program will provide students with the knowledge, awareness, and skills necessary for global and intercultural communication and teamwork. Prospective employers actively seek graduates with such competence to complement the technical skills that students attain in their academic programs.

In order to be eligible for this Certificate, students must be pursuing a bachelor's degree at Miami University.

Students interested in this certificate should contact Ms. Alicia Castillo Shrestha (Program Coordinator, Center for American & World Cultures; 111 MacMillan Hall; 513-529-2395; alicia@miamioh.edu)

Program Requirements

(14-17 semester hours)

Code	Title	Credit Hours
PRE-REQUISITES		
APPLICATION		
A reflective, on-line application process requires student applicants to submit a brief autobiography and essay of intent. Students will receive provisional acceptance into the Certificate Program pending full attendance at the Orientation Learning Lab.		
ORIENTATION LEARNING LAB		

Orientation learning lab including an overview of certificate requirements, assessment, major-specific considerations, and workshops with relevant campus departments.

REQUIREMENTS (CATEGORIES A-C)

CATEGORY A: COURSEWORK (14-17 Credits):

Four sub-categories of coursework are required: (A.1, A.2, A.3, AND A.4)

1. Intercultural Consciousness Course of the Miami Plan: 3 Credits

A course in this category may not also be used to meet the Dual Perspectives requirement (below).

2. Dual Perspectives: 3 credits

Three credits selected from the "Approved List: Dual Perspectives" which includes courses that are both Global and Intercultural in their perspectives. Any course that includes both Global and Intercultural Perspectives of the Miami Plan may also be approved.

A course in this category may not also be used to meet the Intercultural Perspectives requirement (above).

3. Intergroup Dialogue: 2 Credits

One course on Intergroup Dialogue (2 credit sprint course minimum).

4. Study Abroad, Study Away, Internship or Equivalency: 6-9 credits. Students may take EITHER (A.3.a or A.3.b):

a. (9 Credits) A course pre-approved for the Global Readiness Certificate as Study Abroad, Study Away, or Internship Program PLUS IDS 154 (Introduction to Study Abroad--take two semesters before embarking on your program) AND IDS 156 (Study Abroad Re-Entry--taken upon return from your program); OR

b. (6 Credits) A course from a preferred list (Preferred List: High Impact Study Abroad) which intentionally integrates pre-departure and re-entry programming designed to foster global learning and intercultural development. (List forthcoming November 2018 and revised annually thereafter.)

CATEGORY B: LECTURES, PROGRAMS, AND OTHER EVENTS (6 Approved Events)

Participate in 2 or more approved events (Approved for Global Readiness Certificate) per semester, spanning at least 3 semesters (for a total of 6 Approved Events), from those listed as Approved on the One Miami: Diversity and Inclusion Calendar.

CATEGORY C: COMMUNITY ENGAGEMENT

Sustained participation (2 semesters minimum) in EITHER of the following (C.1 OR C.2):

1. Service Learning: Intercultural and international or domestic service learning experience from "Approved List: Community Engagement;" OR

2. Volunteerism: Sustained volunteerism to the local Oxford (or student's home town) community through Miami's Division of Community Engagement Services.

Premedical and Pre-Health Studies Certificate

A post-baccalaureate certificate that provides a broad-based premedical/pre-health background and prepares students to pursue advanced degrees in medicine as well as other healthcare-related fields. Integrates comprehensive, regularly scheduled premedical advising with courses that cover fundamental concepts in the biological, physical, and social sciences required for admission to medical school or other health professional schools, and/or in preparation for the Medical College Admission Test (MCAT) or other healthcare professional school admission tests.

Students interested in this certificate should contact the Mallory-Wilson Center; 106 Pearson Hall; 513-529-3737; mallorywilsoncenter@miamioh.edu).

Admission requirements:

Applicants are evaluated based on their previous academic record (3.2 GPA minimum), standardized test scores (SAT, ACT, or GRE), motivation, experience in medicine, and personal qualities.

Two letters of recommendation are required: one should be from a faculty member, and a second from another faculty member, a supervisor, or a healthcare professional.

Certificate requirements:

Completion of 24 credit hours of certificate courses at Miami, with a 3.2 GPA.

Prior Coursework:

If a student has already completed a required course, they do not have to take the course again. Also, if a student has already completed several required courses prior to entering the program such that they have fewer than 24 credit hours of required courses remaining, they may take elective courses to satisfy the required minimum of 24 credit hours.

Students may elect to repeat a course taken prior to entering the program for a variety of reasons. It may be that the student is not satisfied with their grade, or the course was taken several years ago. Those students considering this option should discuss this with their pre-health professions advisor.

Glide year assistance:

During the glide year (the year after finishing the certificate program in which one applies to and interviews for medical school), the Mallory-Wilson Center will continue to provide advising opportunities, including application review and mock interviewing.

Program Requirements

Required courses: 24 hours of the non-elective courses

Code	Title	Credit Hours
Biology		
BIO 116	Biological Concepts: Structure, Function, Cellular, and Molecular Biology	4

BIO 201	Human Anatomy	4
BIO 203	Introduction to Cell Biology	3
BIO 305	Human Physiology	4

Chemistry

General Chemistry: 10

CHM 141 & CHM 144 College Chemistry and College Chemistry Laboratory

CHM 142 & CHM 145 College Chemistry and College Chemistry Laboratory

Organic Chemistry: 10

CHM 241 & CHM 244 Organic Chemistry and Organic Chemistry Laboratory

CHM 242 & CHM 245 Organic Chemistry and Organic Chemistry Laboratory

Biochemistry: 4

CHM 432 Fundamentals of Biochemistry¹
or CHM 332 Outlines of Biochemistry

Physics 8-10

PHY 161 Physics for the Life Sciences with Laboratory I

or PHY 191 General Physics with Laboratory I

PHY 162 Physics for the Life Sciences with Laboratory II

or PHY 192 General Physics with Laboratory II

Statistics

Select one of the following: 3-4

STA 261 Statistics

STA 301 Applied Statistics

Professional Development

PMD 301 Navigating Healthcare Professional School Admissions 1

¹ CHM 432 is the preferred course for Biochemistry

Elective courses: as needed (see Prior Coursework)

Code	Title	Credit Hours
Biological Sciences		
BIO 342	Genetics	3
BIO 361	Patterns in Development	4
BIO 449	Biology Of Cancer	3
BIO 454	Endocrinology	3
BIO 457	Neuroanatomy	3
BIO 469	Neurophysiology	3
MBI 201	General Microbiology	4
MBI 361	Fundamentals of Epidemiology	3
MBI 365	Molecular and Cell Biology	3
MBI 405	Medical Bacteriology	4
MBI 415	Immunology Principles and Practice	4 or 3
or MBI 414	Immunology Principles	
MBI 464	Human Viruses	3
Social Sciences		

PSY 111 & PSY 112	Introduction to Psychology and Foundational Experiences in Psychology	4
SOC 153	Sociology in a Global Context	3

In consultation with the advisor, students will develop the best program of study for their needs. Students may also take additional elective coursework with the advisor's approval.

Opportunities for shadowing, volunteering, and research can be explored with the Mallory-Wilson Center and program faculty.

College of Creative Arts

Office of the Dean
104 Center for Performing Arts
Phone: 513-529-6010
www.MiamiOH.edu/cca

Degrees and Majors Offered

Bachelor of Arts in Architecture

- Architecture

Bachelor of Arts in Art and Architecture History

- Art and Architecture History

Bachelor of Arts in Arts Management and Arts Entrepreneurship

- Arts Management and Arts Entrepreneurship

Bachelor of Arts in Emerging Technology in Business and Design

- Emerging Technology in Business and Design

Bachelor of Arts in Music

- Music

Bachelor of Arts in Studio Art

- Studio Art

Bachelor of Arts in Theatre

- Theatre

Bachelor of Fine Arts

- Communication Design
- Interior Design
- Studio Art

Bachelor of Music

- Music Composition
- Music Education
- Music Performance

Bachelor of Science

- Games + Simulation

Bachelor of Science in Art

- Art Education

Co-Majors

- Arts Management
- Art Therapy
- Fashion

Minors

- Architecture and Interior Design Studies
- Art and Architecture History

- Arts Management
- Art Therapy
- Communication Design
- Dance
- Digital Innovation
- Digital Marketing
- Emerging Technology in Business and Design
- Fashion
- Games + Simulation
- Museums and Society
- Music Composition
- Music in Culture
- Music Performance
- Music Theatre
- Photography
- Studio Art
- Theatre Arts
- Urban Design

Certificates

- Esports Management Undergraduate Certificate

General Information

The College of Creative Arts offers students the opportunity to develop artistic competence, to prepare for a variety of careers in the arts, and to gain a broad cultural and academic background. Programs in the College lead to the following bachelor's degrees: Bachelor of Arts in Architecture; Bachelor of Arts in Art and Architecture History; Bachelor of Arts in Arts Management & Arts Entrepreneurship; Bachelor of Arts in Emerging Technology in Business & Design; Bachelor of Arts in Music; Bachelor of Arts in Theatre; Bachelor of Fine Arts in Communication Design, Interior Design, and Studio Art; Bachelor of Music in Music Education and Music Performance (including Composition); Bachelor of Science in Art; and Bachelor of Science in Games + Simulation. Graduate degrees offered by the College are described in the section for the Graduate School.

Accreditation

The Department of Architecture + Interior Design is accredited by the National Architectural Accrediting Board and the Council for Interior Design Accreditation. The Department of Art is accredited by the National Association of Schools of Art and Design and the Ohio Department of Education. The Department of Music is an accredited institutional member of the National Association of Schools of Music and the Ohio Department of Education, and both departments of Art and Music are accredited by the National Council of Accreditation for Teacher Education. The Department of Theatre is accredited by the National Association of Schools of Theatre.

The Department of Architecture + Interior Design holds membership in the Association of Collegiate Schools of Architecture and the Interior Design Educators Council. The Department of Art holds membership in the College Art Association. The Department of Theatre holds membership in the Association for Theatre in Higher Education, Black Theatre Network, and the United States Institute for Theatre Technology.

Special Admission Requirements

In addition to the requirements for admission to the University, there are additional requirements that must be fulfilled in order to declare most majors in the College of Creative Arts. Specific requirements are described in the sections on architecture and interior design, art, emerging technology and games, music, and theatre. They do not apply to students in other divisions who wish to register for individual courses.

Admission into a specific program within the College of Creative Arts is considered at the departmental level and is based on one or more of the following:

1. scholastic achievement;
2. creative ability and/or achievement as determined by audition or portfolio review;
3. motivation to study in a specific arts area expressed in a written statement or interview;
4. recommendation from high school music/theatre teacher or studio instructor;
5. space availability.

All degree programs in the College of Creative Arts with the exception of the majors in Art and Architecture History, Arts Management & Arts Entrepreneurship, and Emerging Technology require a separate application, often including either a portfolio review or audition, at the time of application to the university. Transfer into most Creative Arts majors also requires a separate application including either a portfolio review or audition; please contact the appropriate department for specific guidelines.

Students in other divisions who wish to participate in ensembles, productions, and certain activities are also subject to review and/or audition. Time and format of these proceedings are determined by the sponsoring department and are not part of the general admission process.

Course Load

Students in the College of Creative Arts may not register for more than 20 hours in a semester without approval of the assistant dean.

Miami Plan

It is important that you consult with your academic advisor to be sure that you select courses that also meet requirements for your major.

Requirements for Graduation

Candidates for degrees must comply with all university academic regulations and must complete one of the curricula outlined. A minimum of 124 semester hours is required for graduation by all departments in the College of Creative Arts. Miami Plan courses are included in this total.

Please note: students transferring into creative arts majors may need longer than four years to complete the professional requirements for the bachelor's degree.

Creative Arts Undeclared Option

If you were not directly admitted into the creative arts major of your choice or if you are undecided about making a commitment to one of these fields, you may choose the Creative Arts Undeclared major.

This allows a student to strengthen their application to a selected degree program and/or to explore various options for majors in the arts. **Note that this may extend the time required to complete the degree.**

The following first-year course recommendations allow you to choose a broad range of electives and sample creative arts courses on a space-available basis. Please see a divisional advisor to plan a course of study.

Architecture or Interior Design: CCA Undeclared option (suggested first-year courses)

Code	Title	Credit Hours
ARC 105	Introduction to Architecture	3
ARC 107 or ARC 188	Global Design Ideas in Architecture	3
ARC 212	Principles of Environmental Systems (offered fall semester only)	3
ARC 222	History of Architecture II (offered spring semester only)	3

Studio art courses to build work for portfolio (take fall semester). Select from:

ART 111 or ART 121	Visual Fundamentals: Design and Composition Observational Drawing	
ART 125	Beginning Printmaking	
ART 140	Beginning Glass	
ART 147	Beginning Art Photography	
ART 149	Beginning Digital Photography	
ART 155	Beginning Drawing	
ART 160	Beginning Ceramics	
ART 165	Beginning Metals	
ART 175	Beginning Sculpture	
ENG 111	Composition and Rhetoric	3
Miami Plan Perspectives courses - PA-2A, PA-2B, or PA-4B		

Art, Art Education, or Communication Design: CCA Undeclared option (suggested first-year courses)

Code	Title	Credit Hours
ART 111	Visual Fundamentals: Design and Composition	3
ART 121	Observational Drawing	3
ART 122	Drawing II: Drawing Projects	3
ART 151	Becoming a People-Driven Designer (for those students interested in communication design; offered spring semester only)	1
ART 171	Visual Fundamentals: Narrative & Sequence	3
ART 195	Introduction to Art Education (for those students interested in art education)	3
ART 281	Contemporary Art Forum	1

ART 187	Art and Society: Prehistoric to Medieval (for those interested in studio art or art education)	3
or ART 162 or ART 286	Arts of Africa, Oceania and Native America History of Asian Art, China, Korea, and Japan	
ART 188	Art and Society: Renaissance to Modern	3
ART 252	Image (for those interested in communication design)	3
ENG 111	Composition and Rhetoric	3
Miami Plan Perspectives courses - PA-4C, PA-2B, or PA-4B		

Music: CCA Undeclared option (suggested first-year courses)

Code	Title	Credit Hours
MUS 185 or MUS 186	Multicultural Perspectives in Music Global Popular Music	3
MUS 100	Ensemble	1
ENG 111	Composition and Rhetoric	3
Miami Plan Perspectives courses - PA-4C, PA-2B, or PA-4B		

Theatre: CCA Undeclared option (suggested first-year courses)

Code	Title	Credit Hours
THE 101	Introduction to Theatre: Drama and Analysis	3
THE 200	Production and Performance Practicum	1
ENG 111	Composition and Rhetoric	3
Miami Plan Perspectives courses (except PA-3A)		

- Department of Architecture + Interior Design
- Department of Art
- Department of Emerging Technology in Business + Design
- Department of Music
- Department of Theatre

Arts Management and Arts Entrepreneurship - Bachelor of Arts in Arts Management and Arts Entrepreneurship

For more information, please contact Todd Stuart, Director of Arts Management & Entrepreneurship: stuartt@miamioh.edu, 513-529-2371, 129 Center for Performing Arts.

The Arts Management & Arts Entrepreneurship major allows students to apply arts and business thinking to real-world arts business challenges in an increasingly competitive arts environment. Students will develop knowledge and skills to lead not-for-profit or for-profit enterprises in the creative economy. They will also gain an understanding of all the possible career opportunities in the arts and creative economy. The major is designed to maximize students' transferable skills so that they are able to navigate an uncertain future. Graduates are also well equipped to pursue various graduate programs in the arts, business, entrepreneurship,

and creative enterprise. Students seeking the Arts Management & Arts Entrepreneurship major may not also earn the Arts Management co-major, the Arts Management minor, or the Arts Entrepreneurship minor.

Program Requirements

(59 or 60 credit hours) No more than 9 credit hours may be counted toward both the completion of the Arts Management & Arts Entrepreneurship major and the completion of a minor, co-major, or second major.

Code	Title	Credit Hours
Arts Management & Entrepreneurship Core		
Introduction to Arts Management & Entrepreneurship		
CCA 101	The Entrepreneurial Artist	2-3
CCA 111	Innovation, Creativity and Design Thinking	3
CCA 201	Introduction to Arts Management	3
Arts Management & Entrepreneurship Studio		
CCA 220	Arts Management & Arts Entrepreneurship Studio 1	2
CCA 320	Arts Management & Arts Entrepreneurship Studio 2	2
CCA 420	Arts Management & Arts Entrepreneurship Studio 3	2
Topics in Arts Management & Entrepreneurship. Select nine credit hours:		
CCA 202	Introduction to Music Business	
CCA 302	Arts Marketing & Engagement	
CCA 304	Financial Management & Development in the Arts	
CCA 306	Arts Entrepreneurship	
CCA 308	Policy & Advocacy in the Arts	
Experiential Learning. Complete three practicums or one internship:		
CCA 200	Arts Management Practicum	
CCA 340	Internship	
Culminating Experience. Select one:		
CCA 401	Strategic Innovation in the Arts	
CCA 410	Advanced Topics in the Creative Arts	
Arts Expertise		15
Students will choose, in consultation with their advisor, 15 credits in the College of Creative Arts. This requirement can also be met with a major, minor, or certificate from the College of Creative Arts with a minimum of 15 credits. The Arts Management co-major, the Arts Management minor, or the Arts Entrepreneurship minor may not be used.		
Business Expertise		15

Students will choose, in consultation with their advisor, 15 credits in the Farmer School of Business. This requirement can also be met with a major, minor, or certificate from the Farmer School of Business with a minimum of 15 credits. The Arts Management co-major, the Arts Management minor, or the Arts Entrepreneurship minor may not be used.

Total Credit Hours **59-60**

Arts Management Co-Major

Given the challenges for artists, arts, and cultural organizations to survive in an increasingly competitive business environment, the need for educated arts managers is increasing. The practice of arts management is a synthesis of art, creativity, innovation, management, and entrepreneurship. The co-major will prepare students to balance aesthetic understanding with specialized skills in generating income, managing boards, stimulating public access, and sustaining the mission and vision of organizations whose primary purpose is the delivery, presentation, and preservation of arts and culture. These skills are applicable to arts councils, museums, community art centers, galleries, orchestras, theatres, and other creative enterprises.

A minimum overall 2.00 GPA is required for the co-major. All courses except the internship must be taken for a grade (not credit/no-credit). A high school diploma is required for admission to the co-major. Students may not pursue both the major in Arts Management & Arts Entrepreneurship and the co-major in Arts Management.

For information, contact Todd Stuart, Director of Arts Management, 129 Center for Performing Arts, 513-529-2371.

Program Requirements

(30-31 semester hours)

Code	Title	Credit Hours
Core courses:		
CCA 111	Innovation, Creativity and Design Thinking	3
CCA 201	Introduction to Arts Management	3
CCA 302	Arts Marketing & Engagement	1.5
CCA 303		1.5
CCA 304	Financial Management & Development in the Arts	1.5
CCA 305		1.5
CCA 306	Arts Entrepreneurship	1.5
CCA 307		1.5
CCA 256		3
or CCA 340	Internship	
CCA 401	Strategic Innovation in the Arts	3
Select a track		9-10

TRACK 1 - GENERAL BUSINESS

Select 9 hours of the following:

ACC 211 Accounting for the Non-Business Major

ECO 201 Principles of Microeconomics

ESP 101 Entrepreneurship Foundations

ESP 201 Introduction to Entrepreneurship and Business Models ((ESP 101 is pre-/co-requisite))

MGT 111 Introduction to Business

MGT 211 Introduction to Management for Non-business Majors

or MGT 291 Introduction to Management & Leadership

MKT 211 Business Concepts in Customer Engagement

or MKT 291 Principles of Marketing

TRACK 2 - BUSINESS INTENSIVE - MIAMI PRIME

Select the following:

BUS 301 Basics of Business I

BUS 302 Basics of Business II

BUS 303 Business Process Integration

TRACK 3 - ENTREPRENEURSHIP

Students must declare the Entrepreneurship thematic sequence to have access to this option.

Select the following:

ESP 101 Entrepreneurship Foundations

ESP 201 Introduction to Entrepreneurship and Business Models

ESP 251 Entrepreneurial Value Creation and Capture

ESP 252 Entrepreneurial Mindset: Creativity and Organization

TRACK 4 - CREATIVE ARTS

Farmer School of Business majors must take this track.

Not open to College of Creative Arts majors.

Select nine hours from ARC, ART, MUS, THE, or CCA222 or CCA232. Students may apply FAS or IMS courses with prior approval of the Director of Arts Management & Entrepreneurship.¹

Total Credit Hours **30-31**

¹ No more than two of the same music ensemble (MUS100A-MUS100Z) may count toward the co-major.

Department of Architecture and Interior Design

Architecture + Interior Design

Architecture: Bachelor of Arts in Architecture

This pre-professional degree program prepares graduates to enter a professional graduate program to become a registered/licensed architect or to enter an architectural field at a pre-professional level. Miami offers a graduate program that leads to the professional degree Master of Architecture.

First- and second-year courses introduce the basics of architecture and the range of opportunities available in the field. Third- and fourth-year courses focus on advanced architectural design, landscape,

and urban design. Throughout the program, you are exposed to the interdisciplinary nature of architecture.

For information, please contact the Department of Architecture + Interior Design, 101 Alumni Hall, 513-529-7210.

Interior Design: Bachelor of Fine Arts

This professional degree program prepares graduates to enter the interior design field or a graduate program in interior design, architecture, or a related discipline.

The curriculum promotes competency in fundamental design, design process, and visual communication, and an understanding of interior materials and systems, history and theory, and professional procedures. Graduates integrate the various aesthetic, social, technical, and graphic requirements of interior design problems.

The program balances liberal learning with a comprehensive professional education. It emphasizes interdisciplinary learning (reflective of the discipline and of trends in practice) by requiring several courses outside the major and by emphasizing interdisciplinary courses and projects. The program promotes independent, self-directed course work and research, with the intention of developing in the student a specialized knowledge as a complement to a broad-based, generalized understanding of the discipline.

For information, please contact the Department of Architecture + Interior Design, 101 Alumni Hall, 513-529-7210.

Architecture + Interior Design: Special Admission Requirements

Admission is possible **only in the fall semester**. The applicant must meet all curricular requirements mandated by the university for entering students. Courses in studio art or other creative areas (music, drama, creative writing) are strongly encouraged because they help the student develop creative potential as well as critical judgment.

Evidence of creative aptitude must be submitted in the form of a portfolio, due by the same deadline date as other admission materials. A departmental visit is highly recommended. The departmental admissions committee will evaluate your scholastic achievements and general academic profile in addition to the evidence of creativity revealed in the portfolio submission. Please contact the Department of Architecture + Interior Design for further information, or review portfolio submission guidelines online.

To transfer into the architecture or interior design program, you must meet the above criteria (including portfolio submission) and should have a minimum 3.00 cumulative GPA. Advanced standing for accepted transfer students is dependent on the strength of the student's academic profile, the portfolio, and available space. Transfers after the second year are generally restricted to students coming from other undergraduate professional or pre-professional architecture and interior design programs.

National Architectural Accrediting Board (NAAB) Statement

The following statement is required by the NAAB.

In the United States, most state registration boards require a degree from an accredited professional degree program as a prerequisite for

licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit U.S. professional degree programs in architecture, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted a 6-year, 3-year, or 2-year term of accreditation, depending on the extent of its conformance with established educational standards.

Doctor of Architecture and Master of Architecture degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree that, when earned sequentially, constitute an accredited professional education. However, the pre-professional degree is not, by itself, recognized as an accredited degree.

The Department of Architecture + Interior Design at Miami University offers the following NAAB-accredited degree programs:

- Master of Architecture II (pre-professional degree + 60 graduate credits)
- Master of Architecture III (non-pre-professional degree + 105 graduate credits)
- Next accreditation visit for all programs: 2023

Special Curriculum Requirements

Change of Major Within Department

During the spring semester of the first year in the program, majors in architecture or interior design may apply to the alternate major. Internal applicants will be given first priority as available spots are filled.

Advancing to Upper-class Standing

Your work is reviewed at the close of your first, second, and third years. Regardless of grades in individual courses, the faculty may deny a student further registration as a major in the department if they conclude this is in the student's best interest. In this event, it may be possible for a student to apply to change to another program in the College of Creative Arts or another academic division and, subject to regulations of that division, continue to register for certain courses in architecture on an elective basis.

Departmental Honors

You are eligible to graduate with departmental honors if you meet the following conditions.

1. Cumulative GPA of 3.50 or better.
2. Significant contribution to one or more of the following:
 - Enhancement of departmental life. This may include assisting in lower-division courses as an undergraduate associate, serving as an officer in a student organization such as AIAS, IIDA, APX, or SAC, or working on student-initiated departmental activities.
 - Advanced research effort. This may include helping faculty with research projects or undertaking an independent research project (e.g., Undergraduate Summer Scholar program).
 - Socially responsive volunteering. This may include assisting organizations such as Habitat for Humanity or Over-the-Rhine Community Housing, preferably in an architectural capacity, or collaborating with faculty in similar efforts beyond minimum classroom requirements.

Admission to Graduate Program

If you intend to continue into a Master of Architecture program, three of your four junior and senior design studios must focus on building design, and it is advisable to take support courses that will be required as prerequisites at the graduate level. Prerequisites for Miami's Master of Architecture program include ARC 410/ARC 510, ARC 417/ARC 517, and ARC 418/ARC 518. See the Courses of Instruction section in this Bulletin for the Master of Architecture degree and consult with your advisor.

- Architecture - Bachelor of Arts in Architecture
- Art and Architecture History - Bachelor of Arts in Art and Architecture History
- Interior Design - Bachelor of Fine Arts
- Architecture and Interior Design Studies Minor
- Art and Architecture History Minor
- Urban Design Minor

Architecture - Bachelor of Arts in Architecture

For information, please contact the Department of Architecture + Interior Design, 101 Alumni Hall, 513-529-7210.

This pre-professional degree program prepares graduates to enter a professional graduate program to become a registered/licensed architect or to enter an architectural field at a pre-professional level. Miami offers a graduate program that leads to the professional degree Master of Architecture.

First- and second-year courses introduce the basics of architecture and the range of opportunities available in the field. Third- and fourth-year courses focus on advanced architectural design, landscape, and urban design. Throughout the program, you are exposed to the interdisciplinary nature of architecture.

Program Requirements

(88 semester hours minimum)

Code	Title	Credit Hours
Required Architecture courses:		
ARC 101	Beginning Design Studio	5
ARC 102	Beginning Design Studio	5
ARC 103	Shop Methods and Materials	1
ARC 113	Methods of Presentation, Representation and Re-Presentation	2
ARC 114	Methods of Presentation, Representation and Re-Presentation	2
ARC 201	Architecture Studio	5
ARC 202	Architecture Studio	5
ARC 211	Introduction to Landscape and Urban Design	3
ARC 212	Principles of Environmental Systems	3
ARC 213	Graphic Media III	2
ARC 214	Graphic Media IV	2
ARC 221	History of Architecture I	3
ARC 222	History of Architecture II	3

ARC 301	Architecture Studio	6
ARC 302	Architecture Studio	6
ARC 401	Architecture Studio	6
ARC 402	Architecture Studio	6

History/Theory courses: 9

ARC 321	History of Interiors	
ARC 405	Seminars	
ARC 424	Seminar on Modern Architecture in Latin America	
ARC 426	Architecture and Society	
ARC 427	The American City Since 1940	
ARC 435	Theory and History of Landscape Architecture	
ARC 451	Contemporary Architectural Theory and Practice	
ART 311	Chinese Painting History	
ART 314	The Renaissance in Italy	
ART 382	Greek and Roman Sculpture	
ART 383	Greek and Roman Painting	
ART 455	A History of Design	
ART 480	Seminar in Art History	
ART 487	Art of the Early 20th Century	
ART 488	Art in the Age of Revolution: 1789-1848	
ART 489	Postwar to Postmodern, 1945-1980	

Communication Process courses: 2

ARC 404	Seminars	
ARC 405	Seminars	
IMS 319	Foundations in Digital 3-D Modeling and Animation	
IMS 440	Emerging Technology Practicum	

Environmental Systems and Practice courses: 12

ARC 406	Seminars	
ARC 410	Statics & Strengths of Materials	
ARC 411	Structural Design	
ARC 412	Structural Design	
ARC 413	Environmental Systems I	
ARC 414	Environmental Systems II	
ARC 417	Architectural Materials	
ARC 418	Construction Methods	
ARC 419	Materials of Interior Design	
ARC 441	Professional Practice	

Total Credit Hours 88

Art and Architecture History - Bachelor of Arts in Art and Architecture History

This major focuses on the different roles that art, architecture, and visual culture have played in human development. Emphasis is placed on how art reflects not only its specific history, but the aesthetic, social, philosophical, and religious values of the culture that produced it.

Students develop research and writing skills to better understand and critically evaluate the manifestations of the visual arts throughout the world. Additionally, they gain experience through internships and international study opportunities. The program prepares students for careers in communications and publishing, at museums, galleries, and historical societies, as well as in corporations, education, and all areas of the visual arts, including arts administration.

The art and architecture history major is an interdisciplinary major that includes the Departments of Art and Architecture + Interior Design, the program in Classical Studies, and the Richard and Carole Cocks Art Museum. For more information, contact the Department of Art, 124 Art Building, 513-529-2900, art@MiamiOH.edu, or the Department of Architecture + Interior Design, 101 Alumni Hall, 513 529-7210.

A complete description of the major curriculum is found under the Department of Art section of the Bulletin.

Interior Design - Bachelor of Fine Arts

For information, please contact the Department of Architecture + Interior Design, 101 Alumni Hall, 513-529-7210.

This professional degree program prepares graduates to enter the interior design field or a graduate program in interior design, architecture, or a related discipline.

The curriculum promotes competency in fundamental design, design process, and visual communication, and an understanding of interior materials and systems, history and theory, and professional procedures. Graduates integrate the various aesthetic, social, technical, and graphic requirements of interior design problems.

The program balances liberal learning with a comprehensive professional education. It emphasizes interdisciplinary learning (reflective of the discipline and of trends in practice) by requiring several courses outside the major and by emphasizing interdisciplinary courses and projects. The program promotes independent, self-directed course work and research, with the intention of developing in the student a specialized knowledge as a complement to a broad-based, generalized understanding of the discipline.

Program Requirements

(86 semester hours minimum)

Code	Title	Credit Hours
Design Studio courses:		
ARC 101	Beginning Design Studio	5
ARC 102	Beginning Design Studio	5
ARC 103	Shop Methods and Materials	1
ARC 203	Interior Design Studio	5
ARC 204	Interior Design Studio	5
ARC 304	Interior Design Studio	6
ARC 403	Interior Design Studio	6
ARC 408	Interior Design Studio	6
Design Studio elective (select one):		3-6

ARC 301	Architecture Studio
ARC 302	Architecture Studio
ARC 303	Interior Design Studio
ARC 401	Architecture Studio
ART 221	Intermediate Drawing 1
ART 222	Intermediate Drawing 2
ART 231	Painting I
ART 241	Printmaking I
ART 251	Typography
ART 252	Image
ART 257	Photography
ART 261	Ceramics I
ART 264	Jewelry Design and Metals I
ART 271	Sculpture I
ART 331	Painting II
ART 332	Painting III
THE 251	Visual Communication for the Theatre
THE 253	Costume Fundamentals
THE 257	Stagecraft and Theatre Technologies
THE 258	Scene Painting Fundamentals
THE 352	Scenic Design
THE 353	Costume Design
THE 354	Lighting Design

Interior Design Support courses:

ARC 113	Methods of Presentation, Representation and Re-Presentation	2
ARC 114	Methods of Presentation, Representation and Re-Presentation	2
ARC 212	Principles of Environmental Systems	3
ARC 213	Graphic Media III	2
ARC 214	Graphic Media IV	2
ARC 221	History of Architecture I	3
ARC 222	History of Architecture II	3
ARC 225	Design: Behavior, Perception, Aesthetics	3
ARC 309	Furniture Design and Construction	3
ARC 321	History of Interiors	3
ARC 414	Environmental Systems II	3
ARC 417	Architectural Materials	3
ARC 419	Materials of Interior Design	3
ARC 444	Professional Practice in Interior Design	3

Business elective (select one):

CCA 201	Introduction to Arts Management	3
Select from ACC, BUS, ECO, ESP, FIN, MGT, MKT		
Independent Study course (select one):		3
ARC 436	Independent Research & Programming	
ARC 490	Independent Studies	

Total Credit Hours 86-89

Department of Art

The Department of Art offers these degrees: Bachelor of Arts in Art and Architecture History; Bachelor of Arts in Studio Art; Bachelor

of Fine Arts in Studio Art; Bachelor of Fine Arts in Communication Design; and Bachelor of Science in Art with Multi-Age Visual Arts Licensure Program (prekindergarten through grade 12; ages 3-21) for those preparing to teach in public schools. You can receive a B.F.A. and a B.S. degree at the same time; this may take additional time beyond the 124 semester hours required for a degree.

These art programs prepare producing and exhibiting artists, designers, art and architectural historians, professionals in related fields, and art teachers for careers in art, design, and related art fields. Course offerings include basic studio areas, art education, history of art and architecture, communication design, and advanced studio disciplines.

The Department of Art also offers minors in Art and Architecture History, Art Therapy, Communication Design, Fashion, Museums and Society, and studio art disciplines.

The department also offers a graduate program leading to a Master of Fine Arts degree in various concentrations. More information on this program is available in the Graduate Fields of Study section or from the Graduate School.

Admission Requirements: B.F.A. in Communication Design, B.F.A. in Studio Art, B.A. in Studio Art, and B.S. in Art Education

The admission process for the B.F.A. (studio art, communication design), B.A. (studio), and B.S. (art education) programs within the Department of Art includes submission of a portfolio of digital images of recent work for review by the art faculty. The purpose of the review is to assess artistic potential, to approve admission to the department, and to award departmental scholarships. Please understand that an impressive portfolio is a goal to be achieved during study, **not** a prerequisite for entrance. Your portfolio should consist of 12 to 15 digital images of recent work. For additional information about the communication design first-year portfolio review, please see the program description in this Bulletin. Please see the Department of Art website or contact the Department of Art for the detailed requirements and format of a portfolio review.

Transfer Admission Requirements Bachelor of Fine Arts

Students from other majors who are enrolled at the Hamilton, Middletown, or Oxford campuses who wish to be admitted to the department must undergo a portfolio review. Portfolios should include 15 examples of your university artwork and a current transcript. Portfolios may be submitted only after you have successfully completed a minimum of six credit hours of art studio courses. If only the minimum of six credit hours is completed, you must also enroll in at least six additional hours of art studio at the time your portfolio is submitted. The department designates a time during each semester to review portfolios and make admission decisions. **Students planning on transferring into the Department of Art may not take 300-400 level studio art classes until they have successfully passed the portfolio review.**

Students from other universities and colleges who wish to transfer to the department must be admitted to Miami University and submit a portfolio to the Department of Art at the time of their application

to the university. Communication/graphic design students from other institutions are encouraged to contact Miami's communication design faculty. Transfer credit (comparable art studio courses taken at other universities and colleges) may fulfill part or all of the required prerequisites of art studio courses needed for admission consideration; however, a portfolio of artwork is still required for admission consideration.

Students who are denied admission in their initial attempt may apply a second time. Students who are denied in their second attempt are ineligible for further admission consideration.

Bachelor of Arts in Studio Art

The Miami University Department of Art offers open admission into the Bachelor of Arts in Studio Art. There is no required portfolio review for admission into this program.

Bachelor of Science in Art with Multi-Age Visual Arts Licensure

Students who were not initially admitted from a portfolio review to the Department of Art or as art education majors may seek admission after successfully completing ART 195 Introduction to Art Education. In addition, a student must have completed at least six hours of studio work and be enrolled in at least six additional hours of studio classes. An art education review, which involves a portfolio of artwork, a statement of intent and commitment to the profession, a resume emphasizing work experience related to children/adolescents, and a minimum GPA of 2.50, is required. Art education reviews occur every semester, usually at the end of the fourth week. The Art Education Retention Policy, as outlined in departmental literature, requires majors to demonstrate success in progressing toward the degree and licensure, including professional dispositions. Due to enrollment constraints, a limited number of transfer students are accepted each year.

- Art and Architecture History - Bachelor of Arts in Art and Architecture History
- Art Education - Bachelor of Science in Art with Multi-Age Visual Arts Licensure
- Communication Design - Bachelor of Fine Arts
- Studio Art - Bachelor of Arts in Studio Art
- Studio Art - Ceramics, Metals, Painting, Photography, Printmaking, and Sculpture- Bachelor of Fine Arts
- Art and Architecture History Minor
- Arts Management Minor
- Art Therapy Minor
- Communication Design Minor
- Fashion Minor
- Museums and Society Minor
- Photography Minor
- Studio Art Minor

Art and Architecture History - Bachelor of Arts in Art and Architecture History

This major focuses on the different roles that art, architecture, and visual culture have played in human development across time and cultures. Emphasis is placed on how art reflects not only its specific history, but the aesthetic, social, philosophical, and religious values of the culture that produced it.

Students develop research and writing skills to better understand and critically evaluate the manifestations of the visual arts throughout the world. This program prepares students for careers in communications and publishing, at museums, galleries, and historical societies, as well as in corporations, education, and all areas of the visual arts, including arts administration.

Art and architecture history is an interdisciplinary major that includes the Departments of Art and Architecture + Interior Design, the program in Classical Studies, and the Richard and Carole Cocks Art Museum. For more information, contact the Department of Art, 124 Art Building, 513-529-2900, or the Department of Architecture + Interior Design, 101 Alumni Hall, 513-529-7210.

Program Requirements

(42 credit hours)

Code	Title	Credit Hours
Foundation Courses		
Architectural History - select one of the following:		3
ARC 221	History of Architecture I	
ARC 222	History of Architecture II	
Euro-American Art History - select one of the following:		3
ART 187	Art and Society: Prehistoric to Medieval	
ART 188	Art and Society: Renaissance to Modern	
Global Art Histories - select one of the following:		3
ART 162	Arts of Africa, Oceania and Native America	
ART 286	History of Asian Art, China, Korea, and Japan	
Advanced Writing		
ART 285	Writing and the Visual Arts	3
Studio Classes - any ARC or ART studio class		3
Suggested courses:		
ARC 101	Beginning Design Studio	
ARC 102	Beginning Design Studio	
ART 111	Visual Fundamentals: Design and Composition	
ART 121	Observational Drawing	
ART 231	Painting I	
ART 241	Printmaking I	
ART 257	Photography	
ART 261	Ceramics I	

ART 264	Jewelry Design and Metals I
ART 271	Sculpture I
Subject Area Courses	
24	
Select eight of the following - at least one course from each group: ^{1,2}	
1) Arts of Africa	
ART 276	Introduction to the Art of the Black Diaspora
ART 309	The Arts of African Peoples
ART 335	Arts of West Africa
2) Arts of Asia	
ART 311	Chinese Painting History
ART 326	Modern & Contemporary East Asian Art
3) Ancient, Medieval and Early Modern	
ART 311	Chinese Painting History
ART 314	The Renaissance in Italy
ART 315	Art in the Age of Michelangelo
ART 316	Baroque Art in Europe
ART 317	The Arts of Colonial Latin America
ART 382	Greek and Roman Sculpture
ART 384	Greek and Roman Decorative Arts
ART 488	Art in the Age of Revolution: 1789-1848
CLS 323	Discoveries of Archaeology
CLS 332	Classical Mythology and the Arts
CLS 361	Antiquity Through a Lens
4) Modern and Contemporary	
ARC 321	History of Interiors
ARC 424	Seminar on Modern Architecture in Latin America
ARC 426	Architecture and Society
ARC 427	The American City Since 1940
ARC 451	Contemporary Architectural Theory and Practice
ART 283	Modern America
ART 326	Modern & Contemporary East Asian Art
ART 389	The History of Photography
ART 406	Art Since 1980
ART 407	Moving Image Art
ART 487	Art of the Early 20th Century
ART 489	Postwar to Postmodern, 1945-1980
5) Interdisciplinary Inquiries	
ARC 405	Seminars
ART 230	Special Lecture Topics in Art History ²
ART 276	Introduction to the Art of the Black Diaspora
ART 317	The Arts of Colonial Latin America
ART 407	Moving Image Art
ART 480	Seminar in Art History
Senior Capstone Seminar	

ART 498	History and Methods in Art and Architectural History ³	3
Total Credit Hours		42

¹ A single course may not be used in more than one area.

² Certain ART 230 courses can count for any of the subject area categories in addition to Interdisciplinary Inquiries, depending on the topic. See advisor and/or course instructor.

³ Required during fall semester of senior year.

Note: All courses for the major must be taken for a grade, not credit/no credit. Students must also complete all Miami Plan requirements.

Pathways

Students hoping to pursue certain academic and/or career goals directly related to art history are encouraged to add the following curricular experiences. None are required, but are designed for certain students with certain academic and professional goals to augment the requirements for the Art and Architecture History major.

Academic Pathway (for students interested in graduate school):

- Foreign Language up to 202 level (German and French are commonly required for graduate study in art history, but not exclusively; consult your advisor)
- ART 480 seminar in Art History
- Honors Thesis (see Departmental Honors, below)

Museum/Curatorial Pathway (for students interested in working in a museum or gallery):

- Minor in Museums and Society
- ART 391 field study internship (see below)
- At least six (6) credits of studio (or Studio Art minor)

Business Pathway (for students interested in professional and administrative positions in arts institutions)

- Major or co-major in Arts Management & Arts Entrepreneurship
- ART 230D: Art and Its Markets

Field Study for Miami Global Plan Experiential Learning

Students have the option of completing a "Field Study" in Art and Architecture History by completing an internship at a museum, gallery, cultural institution, or other appropriate venue (including the Miami University Art Museum). Students who choose to do so can then use that field study to fulfill the Miami Plan Experiential Learning requirement by being concurrently enrolled in ART 391. For more information contact your advisor.

Departmental Honors

To graduate with Departmental Honors, students must maintain a 3.5 grade point average in the major and complete an honors thesis. Thesis proposals are submitted during the junior year. Successful applicants earn six upper division hours* for research and writing

(ART 477C), after which the thesis is submitted for approval to the Departmental Honors committee.

*These credit hours are in addition to the total credits required for the major.

Guidelines for the Research and Writing of the Honors Thesis

- Students should choose their topic and advisor based upon their area of special interest and qualifications. Applicants should adhere to the proposed schedule of completing research during the fall and completing the writing of the honors thesis during the spring of their senior year unless their advisor agrees upon a different schedule. Students applying to graduate school may want to complete as much of the writing as possible during the fall so that they will have a writing sample to send in with their applications.
- Applicants should conduct original research on a topic that will demonstrate their knowledge of art history and reflect their personal interests.
- The honors thesis should investigate a subject in depth and result in an original conclusion. It will normally consist of about thirty pages and include illustrations.

Departmental Honors

To graduate with departmental honors in art and architecture history, students must maintain a 3.50 GPA in the major and complete an honors thesis. Thesis proposals are submitted during the junior year. Successful applicants earn six upper division hours¹ for research and writing (ARC 477C), after which the thesis is submitted for approval to the Departmental Honors Committee.

¹ These credit hours are in addition to the upper-division credits required for the major.

Art Education- Bachelor of Science in Art with Multi-Age Visual Arts Licensure

This program prepares the student for licensure as an art teacher in Ohio Public Schools. It leads to the Bachelor of Science in Art with Multi-Age Visual Arts License (Prekindergarten through grade 12, ages 3-21). Accredited by the National Association of Schools of Art and Design (NASAD), Council for the Accreditation of Educator Preparation (CAEP), and the State of Ohio Department of Education Teacher Licensure Standards, it is in compliance with current guidelines from Ohio's Academic Content Standards (Visual Arts) and the National Art Education Association (NAEA).

A student must plan a program with an art education advisor in the Department of Art and demonstrate progress toward candidacy for licensure by successfully completing key assessments and indicators and achieving benchmarks to pass programmatic reviews.

For information, contact an advisor in the Department of Art, 124 Art Building, 513-529-2900.

Program Requirements

(91 semester hours)

Code	Title	Credit Hours
Foundation courses:		
ART 111	Visual Fundamentals: Design and Composition	3
ART 121	Observational Drawing	3
ART 122	Drawing II: Drawing Projects	3
ART 171	Visual Fundamentals: Narrative & Sequence	3
ART 281	Contemporary Art Forum	1
Art History surveys (ART 188 is required):		
ART 162	Arts of Africa, Oceania and Native America	3
or ART 187	Art and Society: Prehistoric to Medieval	
or ART 286	History of Asian Art, China, Korea, and Japan	
ART 188	Art and Society: Renaissance to Modern	3
200-level studio courses:		
ART 231	Painting I	3
ART 241	Printmaking I	3
ART 255	Introduction to Digital Photography ¹	3
or ART 257	Photography	
ART 261	Ceramics I	3
ART 264	Jewelry Design and Metals I	3
ART 271	Sculpture I	3
Art Education courses:		
ART 195	Introduction to Art Education	3
ART 295	Elementary Art Methods	3
ART 296	Secondary Art Methods	3
ART 395	Art Across the Curriculum	3
ART 493	Professional Dispositions in Art Education	3
ART 495	Art Education Practicum	3
Student Teaching		
ART 419	Supervised Student Teaching in Art	15
Required Education courses:		
EDP 201	Human Development and Learning in Social and Educational Contexts	3
EDP 256	Psychology of the Exceptional Learner	3
TCE 446A	Integrating Literacy Across the Content Areas	3
or MUS 226	Improving Reading through the Music Content Area	
Technology course:		
ART 255	Introduction to Digital Photography ¹	3
ART 259	Art and Digital Tools I	
or IMS 259	Art and Digital Tools I	
EDP 279	Technology + Media Literacy and Learning	
Upper-level non-Western art history course (select one):		

ART 276	Introduction to the Art of the Black Diaspora	
ART 309	The Arts of African Peoples	
ART 311	Chinese Painting History	
ART 326	Modern & Contemporary East Asian Art	
ART 335	Arts of West Africa	
Upper-level studio focus courses (select two):		6
ART 320	Thematic Studio	
ART 331	Painting II	
ART 332	Painting III	
ART 341	Printmaking II	
ART 342	Printmaking III	
ART 357	Photography II	
ART 358	Photography III	
ART 361	Ceramics II	
ART 362	Ceramics III	
ART 364	Jewelry Design and Metals II	
ART 365	Jewelry Design and Metals III	
ART 371	Sculpture II	
ART 372	Sculpture III	
ART 450	Letterpress Printing	
Total Credit Hours		91

¹ ART 255 may serve as either a 200-level studio course or a technology course, but not both.

Students must also complete all Miami Plan requirements.

Art Therapy Co-Major

For information, please contact the Department of Art, 124 Art Building, 513-529-2900.

The primary goal of the co-major is to prepare students interested in pursuing a career in art therapy to apply to art therapy graduate programs. Art therapists can work in any setting that employs helping professions, for example: hospitals, schools, correctional facilities, domestic violence shelters, geriatric facilities, psychiatric facilities, residential facilities, day programs for developmental disabilities and chronic mental illness, etc. Art therapy uses the art process and the therapeutic relationship between the client and art therapist to process trauma, enhance self-esteem, improve relational abilities, decrease anxiety/depression, and increase an overall enhanced sense of well-being. Students who pursue and complete a master's degree in art therapy will be eligible for mental health licensure in their state, which grants the ability then to have four broad career opportunities (Art Therapist, Art Educator*, Counselor, and Artist).

The art therapy co-major builds upon the minor and the foundation of three lateral, human-centered perspectives significant to the field of art therapy: art studio, art education, and psychology. Students will explore connections between art production, methods of facilitating art experiences with people across the lifespan, and an understanding of human behaviors. Introduction to Art Therapy will tie the courses together through presenting exploratory art-making activities, foundational readings, and possible pathways to a career in the profession. The co-major curriculum provides students with an

interest in art therapy additional skills and competencies from more in-depth coursework. Advanced coursework in both a 2D studio area and a 3D studio area is required.

The term co-major indicates that students must be currently enrolled in and complete another major at Miami University; the co-major complements the primary major. There is no specific degree designation for the co-major; students receive the designation of their primary major. Students may earn either the Art Therapy minor or Art Therapy co-major. A minimum overall 2.0 GPA is required for the minor and co-major. All courses must be taken for a letter grade (not credit/no credit).

*Check state licensure requirements for public school contexts

Program Requirements

Code	Title	Credit Hours
ART 111	Visual Fundamentals: Design and Composition	3
ART 121	Observational Drawing	3
ART 194	Introduction to Art Therapy	3
ART 195	Introduction to Art Education	3
PSY 111 & PSY 112	Introduction to Psychology and Foundational Experiences in Psychology ¹	3-4
or PSY 112M	Foundational Experiences for Majors	
PSY 231	Developmental Psychology	3
PSY 242	Abnormal Psychology	3
Choose one psychology elective from the following:		3
PSY 210	Psychology Across Cultures	
PSY 241	Personality	
PSY 251	Introduction to Biopsychology	
PSY 271	Survey of Perception, Action, and Cognition	
Choose one 2D medium to take at 200 level and 300 level:		6
ART 231 & ART 331	Painting I and Painting II	
ART 241 & ART 341	Printmaking I and Printmaking II	
ART 257 & ART 357	Photography and Photography II	
Choose one 3D medium to take at 200 level and 300 level:		6
ART 261 & ART 361	Ceramics I and Ceramics II	
ART 264 & ART 364	Jewelry Design and Metals I and Jewelry Design and Metals II	
ART 271 & ART 371	Sculpture I and Sculpture II	
Total Credit Hours		36-37

¹ PSY 112 waived for non-psychology majors with AP or transfer credit for PSY111.

Communication Design- Bachelor of Fine Arts

The mission of the Communication Design major is to enable learners to gain the design thinking, knowledge, and skills required of practicing designers in areas like communication design, user experience design, and branding. Learners grow these competencies through exercises, projects, and learning experiences designed to develop practical, analytical, creative, emotional, and social intelligence. Graduates are prepared to enter a wide range of design practices as adaptable problem solvers who consider context and stakeholder needs as drivers for design.

Portfolio Review

In addition to the entrance portfolio review required by the Department of Art, students desiring to pursue the Communication Design major must undergo an additional portfolio review. This review occurs in the spring semester before registration for the fall semester. This portfolio and interview process determines advancement into the degree program. A limited number of students are admitted each year. In order to submit a portfolio for admission into the Communication Design major, students must be enrolled in or have completed ART 151 Becoming a People-Driven Designer.

Transfer Admission

Students who wish to transfer from another institution and enter this program must satisfy the admission requirements of the Communication Design program in addition to those of the Department of Art and the university.

For more information, please contact an advisor in the Department of Art, 124 Art Building, 513-529-2900.

Program Requirements

(78 semester hours minimum)

Code	Title	Credit Hours
Art History Requirements		
Survey course:		
ART 188	Art and Society: Renaissance to Modern	3
Non-Western art history course (select one): ¹		
ART 162	Arts of Africa, Oceania and Native America	3
ART 286	History of Asian Art, China, Korea, and Japan	
ART 309	The Arts of African Peoples	
ART 311	Chinese Painting History	
ART 326	Modern & Contemporary East Asian Art	
ART 335	Arts of West Africa	
Upper-Level Art History (select one): ¹		
ART 309	The Arts of African Peoples	3
ART 311	Chinese Painting History	
ART 314	The Renaissance in Italy	
ART 315	Art in the Age of Michelangelo	

ART 316	Baroque Art in Europe	
ART 317	The Arts of Colonial Latin America	
ART 326	Modern & Contemporary East Asian Art	
ART 335	Arts of West Africa	
ART 382	Greek and Roman Sculpture	
ART 383	Greek and Roman Painting	
ART 384	Greek and Roman Decorative Arts	
ART 386	Art of the Weimar Republic	
ART 406	Art Since 1980	
ART 487	Art of the Early 20th Century	
ART 488	Art in the Age of Revolution: 1789-1848	
ART 489	Postwar to Postmodern, 1945-1980	
Design history course:		
ART 455	A History of Design	3
Studio Requirements		
Foundation courses:		
ART 111	Visual Fundamentals: Design and Composition	3
ART 121	Observational Drawing	3
ART 171	Visual Fundamentals: Narrative & Sequence	3
ART 281	Contemporary Art Forum	1
Advanced studio courses:		
ART 221	Intermediate Drawing 1	3
Research methods:		
ART 227	Design Research Methods Basics	3
Studio elective (choose one):		
ART/IMS 215	3D Digital Sculpting	
ART/IMS 218	3D Shading and Texturing	
ART 222	Intermediate Drawing 2	
ART 231	Painting I	
ART 241	Printmaking I	
ART 255	Introduction to Digital Photography	
ART 257	Photography	
ART 261	Ceramics I	
ART 264	Jewelry Design and Metals I	
ART 271	Sculpture I	
ART 320	Thematic Studio	
BFA Requirements		
100-level course:		
ART 151	Becoming a People-Driven Designer	1
200-level courses:		
ART 251	Typography	3
ART 252	Image	3
ART 253	Design Systems	3
ART 254	Communication Design Studio 1	3
300-level courses:		
ART 352	Communication Design Studio 2	3
ART 354	Design for Use	3
400-level courses:		
ART 449	Design Career Readiness	3

ART 451	The Professional Portfolio	3
ART 452	Communication Design Studio 3: Degree Project	3
ART 453	Highwire Brand Studio	4
ART 460	Special Topics Design Studio	3

Electives Requirement 12

12 credit hours of electives selected in consultation with an advisor.

Total Credit Hours 78

¹ Note: A single course cannot count toward both the Non-Western Art History requirement and the Upper-Level Art History requirement.

Fashion Co-Major

For information, please contact Prof. Della Reams, 226 Boyd Hall or dreams@miamioh.edu, or Prof. Leslie Stoel, 3042 FSB/224 Boyd Hall or stoelld@miamioh.edu.

The co-major in Fashion emphasizes creativity and experimentation and offers students the opportunity to develop basic skills in product-making, fashion business decision-making, historical contexts, materials, design foundations, and the opportunity to build skill depth in one of three option areas: fashion corporate business, fashion design, or fashion entrepreneurship.

Admission to the co-major is by online application only on the Fashion Programs web page. After review, all applications will be accepted into the program, and DARs will reflect the acceptance before registration for the next semester.

Program Requirements

37-41 semester hours

Code	Title	Credit Hours
Core Requirements ¹		
Basics		3
FAS 101	Introduction to the Fashion Industry	
Making - select 3 credit hours from the following:		3
ART 165	Beginning Metals	
ART 264	Jewelry Design and Metals I	
FAS 150	Fashion Sprint Special Topics (repeatable)	
FAS 201	Apparel Construction Techniques	
FAS 211	Draping for Fashion Design	
FAS 212	Flat Pattern Drafting for Fashion Design	
Fashion Business - select from the following:		3
FAS 450	Advanced Special Topics in Fashion	
FAS 451	Fashion Retail Planning and Buying	
FAS 463	Fashion Trend Forecasting	
MKT 291	Principles of Marketing	
MKT 461	Principles of Retailing	
History - select from the following:		3
ART 189	History of Western Dress	

ART 233	Global Perspectives on Dress	
FAS 281	Contemporary Fashion History of 20th-21st Century	
Materials		3
FAS 221	Textiles for the Fashion Industry	
Design Foundations		3
FAS 241	The Elements and Principles of Fashion Design, including Color Theory	
Electives - select 3 credit hours from the following:		3
ART 104		
ART 106		
ART 121	Observational Drawing	
ART/IMS 259	Art and Digital Tools I	
ART 335	Arts of West Africa	
FAS 332	Fashion Illustration	
FAS 340	Internship	
FAS 360	Fashion and Digital Tools	
FAS 450	Advanced Special Topics in Fashion	
IMS 319	Foundations in Digital 3-D Modeling and Animation	
STC 259	Foundations of Campaign Design	
Or any class in the co-major core not yet taken		
Select one track ¹		16-20
FASHION CORPORATE BUSINESS TRACK		
Select one option		
Option 1: Business Prime (9CH; not open to FSB majors)		
BUS 301	Basics of Business I	
BUS 302	Basics of Business II	
BUS 303	Business Process Integration	
Option 2: General Business (9CH)		
Select three from the following:		
ACC 211	Accounting for the Non-Business Major	
ACC 221	Introduction to Financial Accounting	
ECO 201	Principles of Microeconomics	
FIN 211	Financial Capital	
ISA 211	Information Technology and Data Driven Decision Making in Business	
MGT 111	Introduction to Business	
MGT 211	Introduction to Management for Non-business Majors	
MGT 291	Introduction to Management & Leadership	
Fashion Business Electives		
Select 9 credit hours of courses listed in Fashion Co-Major core (Fashion Business section) not used in core to complete Fashion Corporate Business track. A course cannot be used in both the core and in a track.		
FASHION DESIGN TRACK		
Making (6CH)		
FAS 211	Draping for Fashion Design	
FAS 212	Flat Pattern Drafting for Fashion Design	

Studio (8CH)

FAS 341	Junior Fashion Studio
FAS 441	Senior Fashion Studio
FAS 442	Fashion Portfolio
Design Techniques (6CH)	
FAS 332	Fashion Illustration
FAS 360	Fashion and Digital Tools
FASHION ENTREPRENEURSHIP TRACK (not open to Entrepreneurship majors or minors)	
Fashion Entrepreneurship Core (10CH)	
ESP 101	Entrepreneurship Foundations
ESP 201	Introduction to Entrepreneurship and Business Models
ESP 251	Entrepreneurial Value Creation and Capture
ESP 252	Entrepreneurial Mindset: Creativity and Organization
Fashion Entrepreneurship Elective (3CH)	
Select from the following:	
ESP 321	Startup Entrepreneurship
ESP 331	Social Entrepreneurship
ESP 351	Creativity in Entrepreneurship
Arts Management Elective (3CH)	
Select at least 3 credit hours from the following:	
CCA 306	Arts Entrepreneurship
CCA 340	Internship
CCA 401	Strategic Innovation in the Arts

Total Credit Hours**37-41**

¹ **Please note: A course used in the co-major core cannot also be used to meet a track requirement.**

Studio Art - Bachelor of Arts in Studio Art

The Bachelor of Arts degree in Studio Art prepares students to become fluent in the practice of visual arts. Students will gain critical and analytical thinking skills, as well as conceptual rigor, technical expertise and methods as a means to explore intellectual and human experience through visual arts modes. By taking a core group of foundational studio courses and Art History courses, students explore a studio area or areas of interest, including ceramics, metals and jewelry design, painting, photography, printmaking, and sculpture, allowing students to create a hybrid experience as they apply their artistic interests – and aspects of their broader liberal arts education – to a contemporary studio art practice. A Capstone course, The Professional Portfolio and Exhibition Experience, typically taken in the final semester of their senior year, offers a practical professional experience based on current professional practices which culminates with an exhibition of the student's artwork in the Hiestand Galleries.

Students cannot earn both the BA in Studio Art and the BFA in Studio Art.

Program requirements

(50 semester hours)

Code	Title	Credit Hours
Foundations		
ART 111	Visual Fundamentals: Design and Composition	3
ART 121	Observational Drawing	3
ART 281	Contemporary Art Forum (take twice)	1,1
Beginning Studio		15
Take five of the following:		
ART 231	Painting I	
ART 241	Printmaking I	
ART 257	Photography	
ART 261	Ceramics I	
ART 264	Jewelry Design and Metals I	
ART 271	Sculpture I	
Intermediate Drawing		
ART 221	Intermediate Drawing 1	3
Intermediate Studio		12
Take four of the following:		
ART 305	3D Character Design	
ART 320	Thematic Studio	
ART 331	Painting II	
ART 332	Painting III	
ART 341	Printmaking II	
ART 342	Printmaking III	
ART 357	Photography II	
ART 358	Photography III	
ART 361	Ceramics II	
ART 362	Ceramics III	
ART 364	Jewelry Design and Metals II	
ART 365	Jewelry Design and Metals III	
ART 371	Sculpture II	
ART 372	Sculpture III	
Advanced Studio		3
Take one of the following:		
ART 431	Painting IV	
ART 432	Painting V	
ART 441	Printmaking IV	
ART 442	Printmaking V	
ART 457	Photography IV	
ART 458	Photography V	
ART 461	Ceramics IV	
ART 462	Ceramics V	
ART 464	Jewelry Design and Metals IV	
ART 465	Jewelry Design & Metals V	
ART 471	Sculpture IV	
ART 472	Sculpture V	
Exhibition Experience		
ART 492	Professional Artist's Portfolio and Exhibition Experience	3

Art History

Select one introductory survey course:		3
ART 162	Arts of Africa, Oceania and Native America	
ART 187	Art and Society: Prehistoric to Medieval	
ART 188	Art and Society: Renaissance to Modern	
ART 286	History of Asian Art, China, Korea, and Japan	
Select one upper-level art history course:		3
ART 406	Art Since 1980	
ART 480	Seminar in Art History	
ART 487	Art of the Early 20th Century	
ART 488	Art in the Age of Revolution: 1789-1848	
ART 489	Postwar to Postmodern, 1945-1980	
ART 498	History and Methods in Art and Architectural History	

Total Credit Hours **50**

Studio Art - Ceramics, Metals, Painting, Photography, Printmaking, and Sculpture-Bachelor of Fine Arts

The Bachelor of Fine Arts in Studio Art has six different concentration choices: ceramics, metals and jewelry design, painting, photography, printmaking, and sculpture.

This degree program emphasizes the development of visual language through in-depth study of one or more of these studio areas. Over the span of the program, students are exposed to traditional areas of artistic craftsmanship as well as innovative trends and technologies such as courses in animation and digital imaging. Majors develop professional portfolios to gain entry-level positions in art-related fields or to pursue post-graduate study.

Degree candidates exhibit their work in professional settings on campus through the senior capstone experience and off-campus both regionally and nationally. Our studio faculty are practicing, internationally exhibiting artists and our program is an engaged and supportive community where instructors offer personalized attention and professional mentoring.

If you intend to continue into graduate studies in studio art, you should take a 300- and 400-level course sequence in your concentration area and additional studies in the history of art.

Program Requirements

(84 semester hours)

Code	Title	Credit Hours
Art History Requirements		
Survey Courses		

ART 188	Art and Society: Renaissance to Modern	3	ART 271	Sculpture I	
Complete one of the following:			Intro 2D or 3D studio elective (select one):		
ART 162	Arts of Africa, Oceania and Native America	3	ART 241	Printmaking I	3
ART 187	Art and Society: Prehistoric to Medieval		ART 257	Photography	
ART 286	History of Asian Art, China, Korea, and Japan		ART 261	Ceramics I	
Complete one of the following:			ART 264	Jewelry Design and Metals I	
ART 406	Art Since 1980	3	ART 271	Sculpture I	
ART 489	Postwar to Postmodern, 1945-1980		Advanced drawing (take ART320 twice)		
Upper-level art history (select one):			ART 320	Thematic Studio	3,3
ART 276	Introduction to the Art of the Black Diaspora	3	Art electives		
ART 309	The Arts of African Peoples		ART 492	Professional Artist's Portfolio and Exhibition Experience	3
ART 311	Chinese Painting History		Select 3 credit hours with advisor approval		
ART 314	The Renaissance in Italy		Studio Concentration		
ART 315	Art in the Age of Michelangelo		An area of studio concentration must be selected:		
ART 316	Baroque Art in Europe		24		
ART 317	The Arts of Colonial Latin America		Ceramics		
ART 326	Modern & Contemporary East Asian Art		300-level studio (6 credit hours)		
ART 335	Arts of West Africa		ART 361	Ceramics II	
ART 382	Greek and Roman Sculpture		ART 362	Ceramics III	
ART 383	Greek and Roman Painting		400-level studio (6 credit hours)		
ART 384	Greek and Roman Decorative Arts		ART 461	Ceramics IV	
ART 386	Art of the Weimar Republic		ART 462	Ceramics V	
ART 389	The History of Photography		Metals		
ART 455	A History of Design		300-level studio (6 credit hours)		
ART 480	Seminar in Art History		ART 364	Jewelry Design and Metals II	
ART 487	Art of the Early 20th Century		ART 365	Jewelry Design and Metals III	
ART 488	Art in the Age of Revolution: 1789-1848		400-level studio (6 credit hours)		
Theory seminar			ART 464	Jewelry Design and Metals IV	
ART 496	Seminar on Theory for Visual Artists	3	ART 465	Jewelry Design & Metals V	
Studio Requirements			Painting		
Beginning Studio			300-level studio (6 credit hours)		
ART 111	Visual Fundamentals: Design and Composition	3	ART 331	Painting II	
ART 121	Observational Drawing	3	ART 332	Painting III	
ART 122	Drawing II: Drawing Projects	3	400-level studio (6 credit hours)		
ART 171	Visual Fundamentals: Narrative & Sequence	3	ART 431	Painting IV	
ART 221	Intermediate Drawing 1	3	ART 432	Painting V	
ART 222	Intermediate Drawing 2	3	Photography		
ART 231	Painting I	3	300-level studio (6 credit hours)		
ART 281	Contemporary Art Forum	1,1,1	ART 357	Photography II	
Two-dimensional studio (select one):			ART 358	Photography III	
ART 241	Printmaking I	3	400-level studio (6 credit hours)		
ART 257	Photography	3	ART 457	Photography IV	
Three-dimensional studio (select one):			ART 458	Photography V	
ART 261	Ceramics I	3	Printmaking		
ART 264	Jewelry Design and Metals I	3	300-level studio (6 credit hours)		
			ART 341	Printmaking II	
			ART 342	Printmaking III	
			400-level studio (6 credit hours)		
			ART 441	Printmaking IV	
			ART 442	Printmaking V	
			Sculpture		
			300-level studio (6 credit hours)		

ART 371	Sculpture II
ART 372	Sculpture III
400-level studio (6 credit hours)	
ART 471	Sculpture IV
ART 472	Sculpture V
Junior and Senior studio electives (12 credit hours)	
At least 6 credit hours should be at the 300 level or above.	
ART 241	Printmaking I
ART 255	Introduction to Digital Photography
ART 257	Photography
ART/IMS 259	Art and Digital Tools I
ART 261	Ceramics I
ART 264	Jewelry Design and Metals I
ART 331	Painting II
ART 332	Painting III
ART 341	Printmaking II
ART 342	Printmaking III
ART 357	Photography II
ART 358	Photography III
ART 361	Ceramics II
ART 362	Ceramics III
ART 364	Jewelry Design and Metals II
ART 365	Jewelry Design and Metals III
ART 431	Painting IV
ART 432	Painting V
ART 441	Printmaking IV
ART 442	Printmaking V
ART 457	Photography IV
ART 458	Photography V
ART 461	Ceramics IV
ART 462	Ceramics V
ART 464	Jewelry Design and Metals IV
ART 465	Jewelry Design & Metals V

Total Credit Hours **84**

Students must also complete all Miami Plan requirements.

Department of Emerging Technology in Business + Design

The Department of Emerging Technology in Business + Design (ETBD) is a transdisciplinary department that works with students and faculty from across Miami University, offering undergraduate and graduate majors, minors, and certificates. ETBD is committed to preparing students through hands-on, interactive, and project-based courses and experiences, where students are encouraged to experiment, innovate and collaborate.

ETBD emphasizes cross-functional knowledge and places a heavy emphasis on making. Students in ETBD develop depth in areas as diverse as web and app design/development, interaction design, user experience design, social media, digital marketing, design thinking, visualization, game design and development, games and

learning, digital and algorithmic art, robotics, mechatronics, mobile development, and digital entrepreneurship.

- Emerging Technology in Business and Design - Bachelor of Arts in Emerging Technology in Business and Design
- Games + Simulation - Bachelor of Science
- Digital Innovation Minor
- Digital Marketing Minor
- Emerging Technology in Business and Design Minor
- Games + Simulation Minor
- Sports Management Undergraduate Certificate

Emerging Technology in Business and Design - Bachelor of Arts in Emerging Technology in Business and Design

The BA in Emerging Technology in Business and Design (ET) is an interdisciplinary degree designed to provide depth in theory and practice of interactive & digital design, development, business, innovation, and digital disruption.

Grounded in Miami University's tradition of liberal education, the BA in ET represents the liberal arts of the 21st Century, providing a foundation in information and digital literacy supporting the study of digital startups, multimedia authorship/critical theory, digital & social media marketing, web & app development, virtual/augmented reality, game design/development, user-experience design, and more.

This foundation is then complemented with a set of electives providing depth in a selected area of interest, as well as a series of courses designed around working with external partners and building a portfolio. Admittance into the ET major is competitive. Admission details can be found at <http://miamioh.edu/ccca/aims/admission>.

The BA in ET has four foundational pillars:

- Design
- Business
- Technology
- Collaboration & Making

These foundations provide the context for a set of four or more electives chosen to develop expertise and depth in one or more areas of ET, all of which is tied together in the capstone client-based consulting agency within ET as well as the ET Thesis class.

Program Requirements

Digital Concentration (63 credit hours)

Code	Title	Credit Hours
Introduction		
IMS 101	Introduction to Emerging Technology in Business and Design	1
IMS 105	Digital Literacy	1
IMS 109	Digital Ethics	1

Foundation: Design

IMS 254	Design Thinking & Design Principles Applied	3
IMS 259	Art and Digital Tools I	3
IMS 354	Intermed Interaction Design	3
Foundation: Business		
IMS 224	Professional Communication & Digital Rhetoric	3
IMS 414	Web and Social Media Analytics	3
IMS 413	User Experience Research	3
IMS 418	Social Media Marketing and Online Community Management	3
or IMS 419	Digital Branding	
or IMS 407	Interactive Business Communication	
Foundation: Technology		
IMS 211	Introduction to Game Studies	3
or IMS 212	Introduction to Game Design	
IMS 222	Introduction to Interaction Design and Development	3
IMS 322	Intermediate Interaction Design and Development	3
Advanced Web Course (Pick One)		
IMS 351	Introduction to Mobile Application Development	3
IMS 422	Advanced Interaction Design and Development	
CSE 251	Introduction to Game Programming	
Foundation: Collaboration		
IMS 228	Collaborative Laboratory	3,3
IMS 340	Internship <small>Typically taken in Summer</small>	0
IMS 355	Principles and Practices of Managing Interactive Projects	3
or IMS 421	Digital Product Management	
Integration		
Digital Concentration Focus Courses (12 credits) ¹		
Focus 1		3
Focus 2		3
Focus 3		3
Focus 4		3
IMS 452	Senior Degree Project	3
IMS 440	Emerging Technology Practicum	3
Total Credit Hours		63

¹ Digital concentration focus electives are any ETBD class not counted for another requirement or could be any class in the table below. They are ideally determined in collaboration with an advisor and may not be applied to any other ETBD degree requirement.

Applied Concentration (63 credit hours minimum)

Code	Title	Credit Hours
Introduction		
IMS 101	Introduction to Emerging Technology in Business and Design	1
IMS 105	Digital Literacy	1
IMS 109	Digital Ethics	1
Foundation: Design		
IMS 254	Design Thinking & Design Principles Applied	3
IMS 259	Art and Digital Tools I	3
IMS 354	Intermed Interaction Design	3
Foundation: Business		
IMS 224	Professional Communication & Digital Rhetoric <small>Strongly Recommended</small>	3
or IMS 407	Interactive Business Communication	
IMS 413	User Experience Research	3
IMS 414	Web and Social Media Analytics	3
IMS 418	Social Media Marketing and Online Community Management	3
or IMS 419	Digital Branding	
Foundation: Technology		
IMS 222	Introduction to Interaction Design and Development	3
IMS 322	Intermediate Interaction Design and Development	3
Advanced Web Course (Pick One)		
IMS 422	Advanced Interaction Design and Development	3
CSE 251	Introduction to Game Programming	
IMS 351	Introduction to Mobile Application Development	
Foundation: Collaboration		
IMS 228	Collaborative Laboratory	3
IMS 340	Internship <small>Typically taken in Summer</small>	0
IMS 355	Principles and Practices of Managing Interactive Projects	3
or IMS 421	Digital Product Management	
Applied Expertise (21 Credit hours in another major) ²		21
Integration		
IMS 452	Senior Degree Project	3
or IMS 440	Emerging Technology Practicum	
Total Credit Hours		63

² Applied expertise courses can be any set of courses, totaling a minimum of 21 hours, that are from a different major, but the completion of that major is not required. Courses used for this requirement may not be applied to any other ET degree requirement.

Digital Concentration Focus Courses

ET majors who choose the Digital Concentration must complete four "Digital Concentration Focus Courses." **These can be any IMS-prefix courses not used for other ET requirements. We encourage students to take classes that help develop specific deep expertise.** If you want to complement that expertise with additional domain expertise offered by another department, the list of acceptable classes is provided below. Some of these courses are cross-listed with IMS. Please note that ET students are not guaranteed to get into any of these courses offered by other departments. These courses may have prerequisites or enrollment restrictions. Students interested in taking any of these courses should first determine their enrollment eligibility and if needed, contact the department offering the course about their force-add process.

Code	Title	Credit Hours
Select from any IMS-prefix course not used above, courses below, or additional courses in consultation with advisor.		
ARC 404Y		3
ART 111	Visual Fundamentals: Design and Composition	3
ART 251	Typography	3
ART 256	Design, Perception & Audience	3
ART 449	Design Career Readiness	3
ART 453	Highwire Brand Studio	4
ART 496	Seminar on Theory for Visual Artists	3
CCA 111	Innovation, Creativity and Design Thinking	3
CSE 174	Fundamentals of Programming and Problem Solving	3
CSE 201	Introduction to Software Engineering	3
CSE 302	Software Construction	3
CSE 212	Software Engineering for User Interface and User Experience Design	3
CSE 251	Introduction to Game Programming	3
CSE 252	Web Application Programming	3
CSE 271	Object-Oriented Programming	3
CSE 273	Optimization Modeling	3
CSE 274	Data Abstraction and Data Structures	3
CSE 278	Systems I: Introduction to Systems Programming	3
CSE 202	Software Requirements	3
EDL 204	Sociocultural Studies in Education	3
EDL 232	Introduction to Community-Based Leadership	3
EDP 272	Introduction to Disability Studies	3
EDP 279	Technology + Media Literacy and Learning	3
EDP 324	Research and Applied Writing Across the Disciplines	3
ENG 171	Humanities and Technology	3
ENG 213	Writing for Film and TV	3
ENG 407	Interactive Business Communication	3
ENG 411	Visual Rhetoric	3

ENG 412	Print and Digital Editing	3
ENG 416	Writing for Global Audiences	3
ENG 424	Ethics and Digital Media	3
ENG 426	Developing & Publishing Digital Books	3
ESP 201	Introduction to Entrepreneurship and Business Models	3
ESP 251	Entrepreneurial Value Creation and Capture	3
ESP 252	Entrepreneurial Mindset: Creativity and Organization	3
ESP 321	Startup Entrepreneurship	3
ESP 331	Social Entrepreneurship	3
ESP 341	Corporate Entrepreneurship	3
ESP 351	Creativity in Entrepreneurship	3
ESP 401	Entrepreneurship: New Ventures	3
ESP 461	Entrepreneurial Consulting	3
FSW 295	Research and Evaluation Methods	3
ISA 245	Database Systems and Data Warehousing	3
ISA 281	Concepts in Business Programming	3
ISA 301	Business Data Communications and Security	3
ISA 305	Information Technology Governance, Risk Management, Security and Audit	3
ISA 401	Business Intelligence and Data Visualization	3
ISA 403	Building Web and Mobile Business Applications	3
ISA 405	Information Security	3
ISA 414	Managing Big Data	3
ISA 481	Topics in Information Systems	3-4
ISA 491	Introduction to Data Mining in Business	3
MAC 202	The Smartphone and Society	3
MAC 211	Intermediate Video Production	4
MAC 325	Social Media Cultures	3
MKT 335	Analytical Research and Reasoning for Marketers	3
MKT 345	Building and Managing Strong Brands	3
MKT 395	Strategic Thinking and Decision-Making in Marketing	3
MKT 419	Digital Branding	3
MKT 442	Highwire Brand Studio	4-8
MME 375	Human Robot Interaction	3
MUS 221	Music Technologies	3
MUS 304	Electronic Music	3
MUS 306	Electroacoustic Music	3
STA 261	Statistics	4
STA 301	Applied Statistics	3
STA 333	Nonparametric Statistics	3
STA 363	Introduction to Statistical Modeling	3
STA 402	Statistical Programming	3
STA 404	Advanced Data Visualization	3

STA 432	Survey Sampling in Business	3
STA 475	Data Analysis Practicum	3

Games + Simulation - Bachelor of Science

The Bachelor of Science in Games + Simulation provides students with an interdisciplinary plan of study covering all aspects of creating and interpreting games. Games are the liberal arts of the 21st century: the fusion of coding and design, writing and mechanics, usability and creativity. With a focus on making and praxis, the BS in Games + Simulation prepares students for a career or graduate study in game design, development, 3D modeling, creative development, writing or designing, esports, and games in other industries, all while encouraging students to take creative risks, to build things, and to think critically about audiences, narratives, and aesthetics.

Program Requirements

Code	Title	Credit Hours
Core: Foundation		
IMS 111	Introduction to Game Careers	1
IMS 211	Introduction to Game Studies	3
IMS 212	Introduction to Game Design	3
IMS 213	Introduction to Game Development	3
IMS 222	Introduction to Interaction Design and Development	3
IMS 254	Design Thinking & Design Principles Applied	3
IMS 322	Intermediate Interaction Design and Development	3
Core: Intermediate		
CSE 251	Introduction to Game Programming	3
IMS 314	Game Usability & Human Factors	3
IMS 317	Writing for Games	3
IMS 319	Foundations in Digital 3-D Modeling and Animation	3
IMS 453	Indie Game Development I	3
IMS 454	Indie Game Development II	3
IMS 445	Advanced Game Design	3
IMS 465	Game Engine Scripting	3
Core: Capstone		
IMS 487	Game Prototyping, Pipeline and Production	3
IMS 488	Game Preproduction	3
IMS 489	Game Production	6
Concentration (Choose One)		21
Game Art Concentration		
ART 102		
ART 106		
ART 121	Observational Drawing	
ART 215	3D Digital Sculpting	
ART 218	3D Shading and Texturing	
ART 231	Painting I	
ART 305	3D Character Design	

IMS 391	3D Character Animation	
Game Development Concentration		
CSE 174	Fundamentals of Programming and Problem Solving	
CSE 201	Introduction to Software Engineering	
CSE 271	Object-Oriented Programming	
CSE 274	Data Abstraction and Data Structures	
CSE 386	Foundations of Computer Graphics and Games	
CSE 389	Game Design and Implementation	
CSE 489	Advanced Graphics and Game Engine Design	
Game Studies Concentration		
IMS 225	Games and Learning	
IMS 384	Rhetoric of Games	
IMS 443	Research Methods in Games	
WST 201	Self and Place	
WST 301	Interdisciplinary Problems and Questions	
Elective Course(s) Approved By Advisor		
Total Credit Hours		76

Optional Games electives for all concentrations

Code	Title	Credit Hours
IMS 102	Digital Experience Bootcamp	1
IMS 238	Narrative and Digital Technology	3
IMS 253	Building and Designing Interactive Devices	3
IMS 285	Inside the Game Developers Conference	2
IMS 381	Music for Games	3
IMS 382	The Business of Games	3
IMS 461	Virtual Reality	3

Optional electives for Game Development concentration

Code	Title	Credit Hours
CSE 212	Software Engineering for User Interface and User Experience Design	3
CSE 302	Software Construction	3
CSE 464	Algorithms	3
CSE 486	Introduction to Artificial Intelligence	3

Department of Music

The Department of Music offers the Bachelor of Music in music education, music performance, and music composition and the Bachelor of Arts in Music. The graduate degree, Master of Music, is offered in music performance and is described in the Graduate section of the Bulletin.

The bachelor's degree programs offer preparation for careers in public school teaching, composition, performance, and for future study at the graduate level. It is also the objective of the department to provide courses in music theory and literature, applied music,

and ensembles for non-music majors. Applied music and ensembles require audition.

The department's mission and goals are available on the department Web site: www.MiamiOH.edu/music/.

Special Admission Requirements: Music Majors

All music majors require an audition or application for admission to the department. Each applied area (voice, piano, flute, etc.) has its own requirements for admission. For more information, please contact the Department of Music, 109 Presser Hall, 513-529-3014.

Special Curriculum Requirements Applied Music

Music majors and performance minors who discontinue applied music study at Miami University for one semester (or more) are required to re-audition in order to be eligible to resume applied music study. This policy does not apply to anyone involved in student teaching or a Miami-sponsored study abroad program. After two semesters at a given level, Bachelor of Music majors and performance minors are required to take a jury to advance to the next level. Students who fail to advance to the next level of applied music after two attempts are not allowed to continue as either a music major or performance minor.

Functional Piano

All music majors must complete the Functional Piano Requirement: completing through MUS 261 for music education, performance, and composition and MUS 161 for the Bachelor of Arts in Music, or take a piano proficiency exam (offered one time in each of the fall and spring semesters). The proficiency exam is designed for students who have advanced piano skills (six to eight years of piano study). The exam may only be attempted during a student's first year as a music major. **Interested students must see the functional piano coordinator during the first two weeks of Fall semester to receive the exam requirements.**

Students with transfer credit in functional piano must demonstrate performance competency for the functional piano coordinator in order to receive credit toward the music degree.

Recital Attendance and Chamber Music Experience

All Bachelor of Music majors must complete seven semesters of MUS 140 and one semester of MUS 139. Bachelor of Arts in Music majors must complete four semesters of MUS140 and one semester of MUS139.

Departmental Honors

Music students may apply for departmental honors at the end of the junior year. Requirements for the program include a 3.50 cumulative GPA, sponsorship by a member of the music faculty, and approval of the department chair.

The program includes independent study taken during the senior year and also requires a thesis, other scholarly document, or lecture/recital. The student is responsible for identifying two faculty members, in addition to the faculty sponsor, who will serve as readers

of the thesis or jury members for the lecture recital. Successful students graduate with departmental honors.

- Music- Bachelor of Arts in Music
- Music Composition - Bachelor of Music
- Music Education- Bachelor of Music
- Music Performance- Bachelor of Music
- Music Composition Minor
- Music in Culture Minor
- Music Performance Minor
- Music Theatre Minor

Music- Bachelor of Arts in Music

The B.A. in Music degree is designed for qualified undergraduate students interested in a broad liberal arts experience, complementing a focus in the music discipline. The degree prepares students for careers that utilize the arts, writing, creativity, expression, and imagination across job sectors nationally and globally. It is also compatible with interests in multiple majors and minors. Students choose from one of three possible tracks: Performance, Music in Culture, or Music Technology.

For information, please contact the Department of Music, 109 Presser Hall, 513-529-3014.

Program Requirements

Complete the Miami Plan for Liberal Education or consult the Honors program requirements in the Bulletin according to your catalog year.

Complete Department of Music requirements.

PERFORMANCE TRACK

(48 semester hours minimum)

Code	Title	Credit Hours
Required Core Courses		
MUS 101 & MUS 102	Theory of Music I and Theory of Music II	6
MUS 142	Applied Music ¹	2,2,2,2
MUS 185 or MUS 186	Multicultural Perspectives in Music Global Popular Music	3
MUS 151 & MUS 152	Theory of Music: Aural Skills I and Theory of Music: Aural Skills II	2
MUS 201 & MUS 202	Theory of Music III and Theory of Music IV	6
MUS 211 & MUS 212	History of Western Music and History of Western Music	6
Select two of the following:		
MUS 204	Brazilian Culture Through Music and Film	6
MUS 206	Tracking Sounds: A History of Film Music	
MUS 221	Music Technologies	
MUS 225	And the Beat Goes On. . . The History of Rock and Roll	

MUS 285	Introduction to African American Music	
MUS 287	Enter the Diva: Women in Music	
MUS 301	Counterpoint	
MUS 304	Electronic Music	
MUS 306	Electroacoustic Music	
MUS 313	Writing About Small Screen Sounds	
MUS 370	Orchestration	
MUS 385	The Roots of Black Music: Blues, Gospel and Soul	
MUS 386	The History and Development of Hip Hop Culture in America	
MUS 404	Wind Band Ensemble Literature	
MUS 406	Advanced Analysis	
MUS 415	You Say You Want a Revolution: Rock and Roll and the Cultural Revolution of the 1960s	
MUS 490	Special Topics in Music	
Select a minimum of six hours of electives in the Department of Music. Elective hours may not include applied music.		6
Large Ensemble Requirement		
Select one of the following large ensembles for four semesters in the primary performance medium: ²		1,1,1,1
MUS 100A	Collegiate Chorale	
MUS 100C	Symphony Orchestra	
MUS 100E	Marching Band	
MUS 100F	Symphony Band	
MUS 100Q	Chamber Singers	
MUS 100D	Choraliers	
MUS 100B	Men's Glee Club	
MUS 100G	Wind Ensemble	
Foreign Language Requirement		
Two years are required ³		
Functional Piano Requirement		
MUS 161	Functional Piano II (or proficiency exam)	1
Recital Attendance (four semesters)		
MUS 140	Recital Requirement	0
Chamber Music Experience (one semester)		
MUS 139	Chamber Music Experience	0
Total Credit Hours		48

¹ Four semesters of applied music in the primary performance medium are required. Study at the 200 level requires Sophomore standing.

² Entrance to each group is by audition. Piano majors may fulfill the large ensemble requirement through enrollment in a large vocal ensemble, a large instrumental ensemble, accompanying (MUS 110/MUS 120), or chamber music as a pianist. Guitar majors may fulfill the large ensemble requirement through enrollment in a large vocal ensemble, a large instrumental ensemble, or chamber music as a guitarist.

³ Completion of 202 in any foreign language offered at Miami University. Requirement may be met by a university proficiency exam.

MUSIC IN CULTURE TRACK

(47 semester hours minimum)

Code	Title	Credit Hours
Required Core Courses		
MUS 101 & MUS 102	Theory of Music I and Theory of Music II	6
MUS 185 or MUS 186	Multicultural Perspectives in Music or Global Popular Music	3
MUS 151 & MUS 152	Theory of Music: Aural Skills I and Theory of Music: Aural Skills II	2
MUS 201 & MUS 202	Theory of Music III and Theory of Music IV	6
MUS 211 & MUS 212	History of Western Music and History of Western Music	6
Select three of the following:		9
MUS 204	Brazilian Culture Through Music and Film	
MUS 206	Tracking Sounds: A History of Film Music	
MUS 225	And the Beat Goes On... The History of Rock and Roll	
MUS 285	Introduction to African American Music	
MUS 287	Enter the Diva: Women in Music	
MUS 301	Counterpoint	
MUS 313	Writing About Small Screen Sounds	
MUS 385	The Roots of Black Music: Blues, Gospel and Soul	
MUS 386	The History and Development of Hip Hop Culture in America	
MUS 406	Advanced Analysis	
MUS 415	You Say You Want a Revolution: Rock and Roll and the Cultural Revolution of the 1960s	
MUS 490	Special Topics in Music	
Select a minimum of six hours of electives outside the Department of Music. Courses must be at the 200 level or above. Select from the following programs: ATH, ART, CLS, GIC, HST, MAC, REL, SOC, THE.		6
Music Electives		
Select six hours of electives in the Department of Music. Elective hours may not include applied music.		6
Ensemble Requirement		
Two semesters of any ensemble are required ¹		1,1
MUS 100A	Collegiate Chorale	
MUS 100C	Symphony Orchestra	
MUS 100E	Marching Band	
MUS 100F	Symphony Band	
MUS 100K	Jazz Ensemble	

MUS 100Q	Chamber Singers
MUS 100D	Choraliers
MUS 100B	Men's Glee Club
MUS 100G	Wind Ensemble
MUS 100N	Steel Band
MUS 100Z	Laptop Ensemble

Foreign Language RequirementTwo years are required ²**Functional Piano Requirement**

MUS 161	Functional Piano II (or proficiency exam)	1
---------	---	---

Recital Attendance (four semesters)

MUS 140	Recital Requirement	0
---------	---------------------	---

Chamber Music Experience (one semester)

MUS 139	Chamber Music Experience	0
---------	--------------------------	---

Total Credit Hours 47¹ Entrance to each group is by audition.² Completion of 202 in any foreign language offered at Miami University. Requirement may be met by a university proficiency exam.**MUSIC TECHNOLOGY TRACK**

(47 semester hours minimum)

Code	Title	Credit Hours
Required Core Courses		
MUS 101 & MUS 102	Theory of Music I and Theory of Music II	6
MUS 185 or MUS 186	Multicultural Perspectives in Music Global Popular Music	3
MUS 151 & MUS 152	Theory of Music: Aural Skills I and Theory of Music: Aural Skills II	2
MUS 201 & MUS 202	Theory of Music III and Theory of Music IV	6
MUS 211 & MUS 212	History of Western Music and History of Western Music	6
Music Technology Courses		
Take these four courses:		12
MUS 221	Music Technologies	
MUS 304	Electronic Music	
MUS 308	Audio Recording Techniques	
MUS 381	Music for Games	
Also take three hours of any other IMS course at the 200 level or above.		3
Music Electives		
Select a minimum of six hours of electives in the Department of Music. Elective hours may not include applied music.		6
Ensemble Requirement		
Two semesters of Laptop Ensemble are required.		1,1
MUS 100Z	Laptop Ensemble	
Foreign Language Requirement		

Two years are required ¹**Functional Piano Requirement**

MUS 161	Functional Piano II (or proficiency exam)	1
---------	---	---

Recital Attendance (four semesters)

MUS 140	Recital Requirement	0
---------	---------------------	---

Chamber Music Experience (one semester)

MUS 139	Chamber Music Experience	0
---------	--------------------------	---

Total Credit Hours 47¹ Completion of 202 in any foreign language offered at Miami University. Requirement may be met by a university proficiency exam.

It is the responsibility of the student to check to see that all university requirements have been fulfilled.

Music Composition - Bachelor of Music

The Music Composition degree offers instruction in the craft and art of composing music. It is designed to prepare students for freelance work as composers, arrangers, and copyists, or for graduate work. As an academic degree within the department of music, there is a strong emphasis on musical analysis and critical thought. The study of digital and analog technology for the creation of music is an important component of the degree as well.

Program Requirements

(85 semester hours minimum)

The Music Composition degree offers instruction in the craft and art of composing music. It is designed to prepare students for freelance work as composers, arrangers, and copyists, or for graduate work. As an academic degree within the department of music, there is a strong emphasis on musical analysis and critical thought. The study of digital and analog technology for the creation of music is an important component of the degree as well.

Code	Title	Credit Hours
Required Core Courses		
MUS 101 & MUS 102	Theory of Music I and Theory of Music II	6
MUS 151 & MUS 152	Theory of Music: Aural Skills I and Theory of Music: Aural Skills II	2
Select one of the following:		
MUS 185	The Diverse Worlds of Music	3
MUS 186	Global Popular Music	
Select the following:		
MUS 201 & MUS 202	Theory of Music III and Theory of Music IV	6
MUS 211 & MUS 212	History of Western Music and History of Western Music	6
MUS 221	Music Technologies	3
MUS 251 & MUS 252	Theory of Music: Aural Skills III and Theory of Music: Aural Skills IV	2

MUS 301	Counterpoint	3
MUS 306	Electroacoustic Music	3
MUS 352	Conducting I	2
MUS 370	Orchestration	3
MUS 406	Advanced Analysis	3
MUS 451 & MUS 452	Advanced Aural Skills I and Advanced Aural Skills II	2
MUS 494	Senior Recital	0

Applied Music Requirement

Eight semesters of applied composition, plus four semesters of applied study in the student's primary performance medium (includes two semesters at 142 level and two semesters at 242 level).¹

MUS 171	Composition Seminar	3,3
MUS 244Z	Applied Music-Composition	3,3
MUS 344Z	Applied Music-Composition	3,3
MUS 444Z	Applied Music-Composition	3,3
MUS 142	Applied Music	2,2
MUS 242	Applied Music	2,2

Ensemble Requirement

Complete three (3) semesters in a large ensemble in the primary performance medium; two (2) semesters in MUS 100Z Laptop Ensemble; and three (3) semesters in any non-chamber departmental ensemble of the student's choice.²

MUS 100A	Collegiate Chorale	
MUS 100B	Men's Glee Club	
MUS 100C	Symphony Orchestra	
MUS 100D	Choraliers	
MUS 100E	Marching Band	
MUS 100F	Symphony Band	
MUS 100G	Wind Ensemble	
MUS 100K	Jazz Ensemble	
MUS 100M	Miami University Percussion Ensemble	
MUS 100N	Steel Band	
MUS 100Q	Chamber Singers	
MUS 100Z	Laptop Ensemble	

Recital Attendance (seven semesters)

MUS 140	Recital Requirement	0
---------	---------------------	---

Functional Piano Requirement

MUS 261	Functional Piano IV (or proficiency examination needed)	1
---------	---	---

Performance Requirement

	Full recital in the senior year featuring the student's original compositions (register for MUS 494)	0
--	--	---

Total Credit Hours **85**

¹ **Applied Music requirement:** Eight semesters of applied composition, plus four semesters of applied study in the student's primary performance medium (includes two semesters at 142 level and two semesters at 242 level). Students must achieve sophomore standing in the applied area of their primary performance medium; typically this occurs at the end of the second semester of study.

² **Music Ensemble requirement:** Students must complete:

1. Three semesters in a large ensemble in the primary performance medium. The large ensembles include: MUS 100B Men's Glee Club, MUS 100C Symphony Orchestra, MUS 100D Choraliers, MUS 100E Marching Band, MUS 100F Symphony Band, MUS 100G Wind Ensemble, and MUS 100Q Chamber Singers. Entrance to each group is by audition. Pianists may fulfill the ensemble requirement through participation in a large instrumental ensemble, a large vocal ensemble, accompanying (MUS 110/120), or chamber music as a pianist. (MUS 110/120 fulfills either accompanying requirement or large ensemble requirement in a single semester, but not both). Guitarists may fulfill the ensemble requirement through enrollment in a vocal ensemble, an instrumental ensemble, or chamber music as a guitarist.]; AND,
2. Two semesters in MUS 100Z Laptop Ensemble; AND,
3. Three semesters in any non-chamber departmental ensemble of the student's choice. This includes any of the Large Ensembles above as well as MUS 100K Jazz Ensemble, MUS 100M Percussion Ensemble, MUS 100N Steel Band, and MUS 100Z Laptop Ensemble.

Students must also complete all Miami Plan requirements. It is the responsibility of the student to see that all university requirements are fulfilled.

Music Education- Bachelor of Music

Two programs, both with licensure for age three through grade 12, are offered: choral/general program and instrumental music program. Both programs include 100 hours of field experiences in urban, suburban, and rural schools prior to student teaching. With successful completion of all degree requirements, a candidate applies for a State of Ohio Resident Educator License for Teaching Music, Pre-K through Grade 12. The State of Ohio has reciprocal agreements with many other states, whereby a person holding licensure in Ohio, under certain conditions, may receive licensure in other states that are part of the agreement.

Majors are assigned full-time supervised teaching during fall or spring semester of the senior year. During this semester, a student teacher cannot participate in any ensembles or carry any other academic work except with special permission of the faculty.

For more information, please contact the Department of Music, 109 Presser Hall, 513-529-3014.

Program Requirements: Choral/General Program

(97 semester hours minimum)

Complete the Miami Plan for Liberal Education or consult the Honors program requirements in the Bulletin according to your catalog year.

Complete department requirements.

Code	Title	Credit Hours
Required Courses		
MUS 101 & MUS 102	Theory of Music I and Theory of Music II	6
MUS 112	Lab Choir (take three times)	0
MUS 113	Choral Practicum	1,1
MUS 151 & MUS 152	Theory of Music: Aural Skills I and Theory of Music: Aural Skills II	2
MUS 175	Introduction to Music Education	3
Select one of the following two:		3
MUS 185	Multicultural Perspectives in Music	
MUS 186	Global Popular Music	
Select the following:		
MUS 201 & MUS 202	Theory of Music III and Theory of Music IV	6
MUS 211 & MUS 212	History of Western Music and History of Western Music	6
MUS 218	Beginning Guitar	1
MUS 221	Music Technologies	3
MUS 226	Improving Reading through the Music Content Area	3
MUS 235	Lyric Diction I	2
MUS 251 & MUS 252	Theory of Music: Aural Skills III and Theory of Music: Aural Skills IV	2
MUS 352	Conducting I	2
MUS 354	Conducting II	2
MUS 355	General Music Teaching Techniques: Early Childhood and Elementary	3
MUS 356	Secondary General Music Techniques	2
MUS 361	Choral Literature	1
MUS 419	Supervised Teaching in Music	12
MUS 456	Vocal Pedagogy	2
MUS 475	Senior Practicum in Music Education	3
EDP 201	Human Development and Learning in Social and Educational Contexts	3
EDL 204	Sociocultural Studies in Education	3
EDP 256	Psychology of the Exceptional Learner	3
Applied Music Requirement		
Seven semesters of applied study in the student's primary instrument.		
MUS 142	Applied Music	2,2
MUS 242	Applied Music	2,2
MUS 342A-MUS 342T		2,2
MUS 442	Applied Music	2
Functional Piano Requirement		
MUS 261	Functional Piano IV (or proficiency examination required)	1
Minor Applied Requirement		
An applied major in piano, guitar or band/orchestral instrument is required to take four hours of class or private voice in addition to major applied study.		
MUS 142A	Applied Music Voice- FR (take twice)	
Recital Attendance (seven semesters)		

MUS 140	Recital Requirement	0
Chamber Music Experience (one semester)		
MUS 139	Chamber Music Experience	0
Large Ensemble Requirement		
Select one of the following large choral ensembles each semester except semester of student teaching: ¹		7
MUS 100A	Collegiate Chorale	
MUS 100B	Men's Glee Club	
MUS 100D	Choraliers	
MUS 100Q	Chamber Singers	
Performance Requirement		
Half recital in senior year		0
Total Credit Hours		97

¹ When meeting this requirement, students must complete at least two semesters in a mixed (SATB) ensemble (i.e., Collegiate Chorale (MUS 100A) or Chamber Singers (MUS 100Q). Piano or guitar majors must enroll as a singer in choral ensembles at least three semesters.

Background Check and Fingerprint are required once a year for all music education majors.

Admission to sophomore courses in music education contingent upon fulfillment of the following requirements: minimum overall GPA of 2.25 and minimum GPA of 2.8 in all music courses (including a maximum of one ensemble per semester).

Admission to junior courses in music education contingent upon fulfillment of the following requirements: minimum overall GPA of 2.25 and minimum GPA of 2.8 in all music courses (including a maximum of one ensemble per semester).

Admission to student teaching contingent upon fulfillment of the following requirements: minimum overall GPA of 2.25, minimum GPA of 2.80 in all music courses (including a maximum of one ensemble per semester), an ACT composite score of 21 or better or total SAT score of 930 or better; completion of the functional piano requirement; and completion of MUS 113, MUS 352, MUS 354, MUS 355 and MUS 356.

Teacher licensure in Ohio and most other states requires completion of a baccalaureate teacher licensure program, passing a licensure examination, and recommendation by the accrediting institution. It is suggested students complete licensure exams (Professional Knowledge: Multi-Age/004 and OAE Music/032) prior to graduation. To be recommended for licensure, teacher candidates must also successfully complete the Educational Teacher Performance Assessment (edTPA) during their student teaching. Once completed, teacher candidates should apply for licensure. Details are available in 202 McGuffey Hall. All costs associated with licensure are the responsibility of the applicant.

It is the responsibility of the student to see that all university requirements are fulfilled.

Program Requirements: Instrumental Music Program

(98 semester hours minimum)

Complete the Miami Plan for Liberal Education or consult the Honors program requirements in the Bulletin according to your catalog year.

Complete department requirements; your fourth year semesters are interchangeable.

Code	Title	Credit Hours
Required Courses		
MUS 101 & MUS 102	Theory of Music I and Theory of Music II	6
MUS 111	Lab Band (take twice)	0
MUS 151 & MUS 152	Theory of Music: Aural Skills I and Theory of Music: Aural Skills II	2
MUS 175	Introduction to Music Education	3
Select one of the following two:		3
MUS 185	Multicultural Perspectives in Music	
MUS 186	Global Popular Music	
Select the following:		
MUS 201 & MUS 202	Theory of Music III and Theory of Music IV	6
MUS 211 & MUS 212	History of Western Music and History of Western Music	6
MUS 221	Music Technologies	3
MUS 226	Improving Reading through the Music Content Area	3
MUS 231	Class Instruments (Brass)	1
MUS 232		1
MUS 233	Class Instruments (Percussion) ¹	1
MUS 234		1
MUS 237	Class Voice for Instrumental Music Education Majors	1
MUS 251 & MUS 252	Theory of Music: Aural Skills III and Theory of Music: Aural Skills IV	2
MUS 345	Elementary General Music for Instrumental Music Education Majors	1
or MUS 355	General Music Teaching Techniques: Early Childhood and Elementary	
MUS 352	Conducting I	2
MUS 354	Conducting II	2
MUS 357	Beginning Instrumental Methods	3
MUS 358	Marching Band Techniques ²	2
MUS 359	Secondary Instrumental Methods	3
MUS 419	Supervised Teaching in Music	12
MUS 475	Senior Practicum in Music Education	3
EDL 204	Sociocultural Studies in Education	3
EDP 201	Human Development and Learning in Social and Educational Contexts	3
EDP 256	Psychology of the Exceptional Learner	3
Applied Music Requirement		
Seven semesters of applied study in the student's primary instrument.		
MUS 142	Applied Music	2,2
MUS 242	Applied Music	2,2
MUS 342A-MUS 342T		2,2

MUS 442	Applied Music	2
Recital Attendance (seven semesters)		
MUS 140	Recital Requirement	0
Chamber Music Experience (one semester)		
MUS 139	Chamber Music Experience	0
Functional Piano Requirement		
MUS 261	Functional Piano IV (or proficiency examination required)	1
Minor Applied Requirement		
An applied major in piano or guitar is required to take four hours of class or private lessons in band or orchestral instrument in addition to major applied study.		
Large Ensemble Requirement		
Select one of the following large instrumental ensemble, in one's primary performance medium, each semester except semester of student teaching: ³		7
MUS 100C	Symphony Orchestra	
MUS 100E	Marching Band	
MUS 100F	Symphony Band	
MUS 100G	Wind Ensemble	
Performance Requirement		
Half recital in senior year while registered for 400-level applied music		0
Marching Band Requirement		
Wind and percussion majors must participate two semesters		
Total Credit Hours		98

¹ Percussion majors substitute one-hour music elective course for MUS 233.

² String instrument majors substitute MUS 433 for MUS 358.

³ Entrance to each group is by audition. Piano majors may fulfill the ensemble requirement through enrollment in a vocal ensemble, an instrumental ensemble, accompanying (MUS 110/MUS 120), or chamber music as a pianist. Guitar majors may fulfill the ensemble requirement through enrollment in a vocal ensemble, an instrumental ensemble, or chamber music as a guitarist.

Background Check and Fingerprint are required once a year for all music education majors.

Admission to sophomore courses in music education contingent upon fulfillment of the following requirements: minimum overall GPA of 2.25 and minimum GPA of 2.8 in all music courses (including a maximum of one ensemble per semester).

Admission to junior courses in music education contingent upon fulfillment of the following requirements: minimum overall GPA of 2.25 and minimum GPA of 2.8 in all music courses (including a maximum of one ensemble per semester).

Admission to student teaching contingent upon fulfillment of the following requirements: minimum overall GPA of 2.25, minimum GPA of 2.80 in all music courses (including a maximum of one ensemble per semester), an ACT composite score of 21 or better or total SAT score of 930 or better; completion of the functional piano requirement; and completion of MUS 352, MUS 354, MUS 358 (except for stringed instrument and guitar majors), and MUS 359.

Teacher licensure in Ohio and most other states requires completion of a baccalaureate teacher licensure program, passing a licensure examination, and recommendation by the accrediting institution. It is suggested students complete licensure exams (Professional Knowledge: Multi-Age/004 and OAE Music/032) prior to graduation. To be recommended for licensure, teacher candidates must also successfully complete the Educational Teacher Performance Assessment (edTPA) during their student teaching. Once completed, teacher candidates should apply for licensure. Details are available in 202 McGuffey Hall. All costs associated with licensure are the responsibility of the applicant.

It is the responsibility of the student to see that all university requirements are fulfilled.

Music Performance- Bachelor of Music

The Bachelor of Music in Performance degree program provides the broad, pre-professional training required for advanced study in music and, ultimately, for entry into the profession. Two programs are offered: voice, and instrumental. For information, please contact the Department of Music, 109 Presser Hall, 513-529-3014.

Program Requirements: Voice

(81 semester hours minimum)

Code	Title	Credit Hours
Required Core Courses		
MUS 101 & MUS 102	Theory of Music I and Theory of Music II	6
MUS 151 & MUS 152	Theory of Music: Aural Skills I and Theory of Music: Aural Skills II	2
Select one of the following:		3
MUS 185	Multicultural Perspectives in Music	
MUS 186	Global Popular Music	
Select the following:		
MUS 201 & MUS 202	Theory of Music III and Theory of Music IV	6
MUS 211 & MUS 212	History of Western Music and History of Western Music	6
MUS 221	Music Technologies	3
MUS 235 & MUS 236	Lyric Diction I and Lyric Diction II	4
MUS 251 & MUS 252	Theory of Music: Aural Skills III and Theory of Music: Aural Skills IV	2
MUS 301	Counterpoint	3
MUS 352	Conducting I	2
MUS 420	Vocal Coaching (Take twice)	1,1
MUS 451 & MUS 452	Advanced Aural Skills I and Advanced Aural Skills II	2
MUS 406	Advanced Analysis	3
MUS 456	Vocal Pedagogy	2
MUS 494	Senior Recital	0

Applied Music Requirement

Eight semesters of applied study in voice.

MUS 144A	Applied Music Voice- FR	3,3
MUS 244A	Applied Music Voice- SO	3,3
MUS 344A	Applied Music Voice- JR	3,3
MUS 444A	Applied Music Voice- SR	3,3

Large Ensemble Requirement

Select one of the following large choral ensembles each semester: ¹		8
MUS 100A	Collegiate Chorale	
MUS 100D	Choraliers	
MUS 100Q	Chamber Singers	
MUS 100B	Men's Glee Club	

Opera Production Requirement

MUS 426/526	Opera Production	1
Select one of the following: ¹		1
MUS 425/525	Great American Songbook Project	
MUS 426/526	Opera Production (additional registration)	

Recital Attendance (seven semesters)

MUS 140	Recital Requirement	0
---------	---------------------	---

Chamber Music Experience (one semester)

MUS 139	Chamber Music Experience	0
---------	--------------------------	---

Functional Piano Requirement

MUS 261	Functional Piano IV (or proficiency examination needed)	1
---------	---	---

Language Requirement

One year in French, German, or Italian, in addition to Lyric Diction; may be met by university proficiency exam. Two years of the language in high school usually fulfills the requirement.

Performance Requirement

Half recital, junior year	0
Full recital, senior year (register for MUS 494)	0

Total Credit Hours **81**

¹ Entrance to each group is by audition.

Students must also complete all Miami Plan requirements. It is the responsibility of the student to see that all university requirements are fulfilled.

Program Requirements: Instrumental

(71-81 semester hours minimum)

Code	Title	Credit Hours
Required Core Courses		
MUS 101 & MUS 102	Theory of Music I and Theory of Music II	6
MUS 151 & MUS 152	Theory of Music: Aural Skills I and Theory of Music: Aural Skills II	2
Select one of the following:		3
MUS 185	Multicultural Perspectives in Music	
MUS 186	Global Popular Music	

Select the following:

MUS 201 & MUS 202	Theory of Music III and Theory of Music IV	6
MUS 211 & MUS 212	History of Western Music and History of Western Music	6
MUS 221	Music Technologies	3
MUS 251 & MUS 252	Theory of Music: Aural Skills III and Theory of Music: Aural Skills IV	2
MUS 301	Counterpoint	3
MUS 352	Conducting I	2
MUS 406	Advanced Analysis	3
MUS 451 & MUS 452	Advanced Aural Skills I and Advanced Aural Skills II	2
MUS 494	Senior Recital	0

Applied Music Requirement

Eight semesters of applied study in the student's primary instrument.

MUS 144	Applied Music	3,3
MUS 244	Applied Music	3,3
MUS 344	Applied Music	3,3
MUS 444	Applied Music	3,3

Large Ensemble Requirement

Select one of the following large instrumental ensemble, in one's primary performance medium, each semester: ¹

MUS 100E	Marching Band	8
MUS 100F	Symphony Band	
MUS 100C	Symphony Orchestra	
MUS 100G	Wind Ensemble	

Recital Attendance (seven semesters)

MUS 140	Recital Requirement	0
---------	---------------------	---

Chamber Music Experience (one semester)

MUS 139	Chamber Music Experience	0
---------	--------------------------	---

Functional Piano Requirement

MUS 261	Functional Piano IV (or proficiency examination needed)	1
---------	---	---

Performance Requirement

Half recital, junior year	0
Full recital, senior year (register for MUS 494)	0

Major Instrument Requirements

Complete requirements for Piano, Strings, Percussion, or Guitar	2-10
---	------

Total Credit Hours **73-81**

¹ Entrance to each group is by audition. Piano majors may fulfill the ensemble requirement through enrollment in a large instrumental ensemble, a large vocal ensemble, accompanying (MUS 110/MUS 120), or chamber music as a pianist. Guitar majors may fulfill the ensemble requirement through enrollment in a large vocal ensemble, a large instrumental ensemble, or chamber music as a guitarist.

Major Instrument Requirements

Piano

Code	Title	Credit Hours
Select two of the following: 2		
MUS 110	Vocal Accompanying ¹	
MUS 120	Instrumental Accompanying ¹	
MUS 100I & MUS 100J	Chamber Music Strings and Chamber Music - Piano	
MUS 430	Piano Pedagogy ²	2
MUS 457 & MUS 458	Piano Literature and Piano Literature ³	6
Total Credit Hours		10

¹ Fulfills either accompanying requirement or large ensemble requirement in a single semester, but not both.

² MUS 430 offered even-numbered spring semesters

³ MUS 457 offered even-numbered fall semesters; MUS 458 offered odd-numbered spring semesters

Strings

Code	Title	Credit Hours
MUS 433	String Instrument Pedagogy ¹	1
MUS 100I	Chamber Music Strings (take twice)	1,1
Total Credit Hours		3

¹ MUS 433 offered odd-numbered fall semesters

Percussion

Code	Title	Credit Hours
MUS 100M	Miami University Percussion Ensemble (take twice)	1,1
Total Credit Hours		2

Students must also complete all Miami Plan requirements. It is the responsibility of the student to see that all university requirements are fulfilled.

Department of Theatre

- Theatre - Bachelor of Arts in Theatre
- Dance Minor
- Music Theatre Minor
- Theatre Arts Minor

Theatre - Bachelor of Arts in Theatre

For information, please contact the Department of Theatre, 119 Center for Performing Arts, 513-529-3053. The department offers a Bachelor of Arts in Theatre.

The Bachelor of Arts in Theatre is intended for students who wish to pursue the study of theatre situated within a liberal arts tradition. The undergraduate program is committed to developing creative thinkers with artistic vision through a program that emphasizes the interplay

between critical thinking and artistic practice. All courses must be taken for a grade.

Special Admission Requirements: Theatre Majors

In addition to the general university application, you should complete a separate departmental information form and arrange an audition/interview with the department. Special admission on the basis of outstanding talent is available. You can submit a department application and schedule an on-campus interview at www.MiamiOH.edu/theatre, or call the department office at 513-529-3053. Interview materials can also be submitted through the mail or electronically.

At the interview you must present two different examples of creative work you have done, whether in theatre or other related disciplines. These may include: stories, plays, creative writing, a monologue or song, pictures of three-dimensional art (ceramics, sculpture, mixed media), two-dimensional art you've created (drawing, painting, photography), biographies of characters you've played on the stage, character journals or process journals you've kept, photos of set pieces, props, or costumes you've built, set sketches, models, renderings, drafting, or mechanical drawing (hand or CAD), costume sketches, renderings, light plots and/or images of lighting you've designed, choreography notations, parts of prompt book, sound recordings of original compositions or effect manipulation, essays or research papers on theatre or drama, or any class project relating to theatre, digital movies you've made, web pages you've built. At the interview, you will discuss your interest in theatre with the department chair.

Program Requirements

(45 semester hours)

Please note that courses listed in more than one category may only be used to fulfill ONE requirement.

Code	Title	Credit Hours
Core Courses		
THE 101	Introduction to Theatre: Drama and Analysis	3
THE 107	The Theatre Major: an Introduction to Theatre Resources and Skills	1
THE 131	Principles of Acting	3
THE 142	Theatre Organization and Communication	1
THE 251	Visual Communication for the Theatre	3
THE 291	World Stages	3
THE 292	World Stages	3
THE 301	Professional Practice in Theatre	1
THE 421	Fundamentals of Directing	3
THE 422	Politics and Ethics of Theatre and Performance: Representation, Race, Gender, Class and Sexuality	3
Theatre Technology		
Select one theatre technology course:		3
THE 253	Costume Fundamentals	
THE 257	Stagecraft and Theatre Technologies	

THE 258	Scene Painting Fundamentals
---------	-----------------------------

Theatre Skills

Select nine semester hours of the following:		9
THE 151	Stage Makeup	
THE 209	Physical Wellness for Artists	
THE 210	The Theatrical Toolbox (maximum 4)	
THE 226	Acting Studio:Foundations	
THE 227	Acting Studio: Integrating Text	
THE 238	Playwriting Through Improvisation	
THE 253	Costume Fundamentals	
THE 257	Stagecraft and Theatre Technologies	
THE 258	Scene Painting Fundamentals	
THE 316	Dramaturgy	
THE 340	Internship	
THE 342	Stage Management	
THE 352	Scenic Design	
THE 353	Costume Design	
THE 354	Lighting Design	
THE 418	Playwriting	
THE 437	Auditions	
THE 439/539	Special Techniques for the Actor (maximum 6)	

Theatre Studies

Select three semester hours of the following:		3
THE 393	Topics in Intercultural Perspectives and Global Theatre and Performance	
THE 394	Topics in Dramatic Literature and Cultural Performance	
THE 395	The Musical in American Culture	
THE 398	London Theatre	
THE 424	Topics in Applied Theatre, Practice, and Pedagogy	

Production Practicum

Select six experiences of production practicum of the following; limit of three in any one area to count toward degree:		6
THE 200	Production and Performance Practicum (maximum 8)	
THE 400	Advanced Production and Performance Practicum (maximum 4)	

Total Credit Hours	45
---------------------------	-----------

Creative Arts Minors

A minor is a specific program to be taken along with a major to complement your skills and increase your career opportunities. Taking a minor is optional.

A minimum overall 2.00 GPA is required for a minor and all courses must be taken for a letter grade. Additional requirements and qualifications for minors are included in the Other Requirements section. Students who complete a minor receive a notation on their final transcript.

Please contact the appropriate department to be assigned an advisor and to obtain a list of the most recent requirements.

- Architecture and Interior Design Studies
- Art and Architecture History
- Arts Management
- Art Therapy
- Communication Design
- Dance
- Digital Innovation
- Digital Marketing
- Emerging Technology in Business and Design
- Fashion
- Games + Simulation
- Museums and Society
- Music Composition
- Music in Culture
- Music Performance
- Music Theatre
- Photography
- Studio Art
- Theatre Arts
- Urban Design

Architecture and Interior Design Studies Minor

The minor in Architecture and Interior Design Studies emphasizes design theory, practice, and technology related to the built environment, offering the opportunity to develop basic skills in design thinking and making, understand architectural and/or interior design history, investigate contemporary architectural theory, explore media in design processes, and learn about building technologies and their applications in diverse environmental contexts. A minimum 2.50 GPA is required for admission to the minor. Minimally, the program of study will include 18 semester hours completed with a 2.50 GPA. Courses must be taken for a grade (not credit/no-credit). Not open to Architecture or Interior Design majors.

Program Requirements

A minimum of 18 credit hours is required for the minor.

Code	Title	Credit Hours
Level One: Introductory Courses ¹		6-9
Select 6-9 CH from the following courselists at the 100 or 200 level.		
Level Two: Upper-Level Courses ¹		9-12
Option 1: Select 9-12 CH from the following courselists at the 300 or 400 level.		
Option 2: Over-the-Rhine Residency Program (fall semester only)		
Total Credit Hours		18

¹ Note that at least one course (either introductory or upper-level) is required in each of the following three content areas.

Content Areas

History & Theory

Code	Title	Credit Hours
ARC 107	Global Design	3
ARC 188	Ideas in Architecture	3
ARC 221	History of Architecture I	3
ARC 222	History of Architecture II	3
ARC 225	Design: Behavior, Perception, Aesthetics	3
ARC 321	History of Interiors	3
ARC 405	Seminars (see course list for special topics offerings)	3
ARC 405V		3
ARC 424	Seminar on Modern Architecture in Latin America	3
ARC 426	Architecture and Society	3
ARC 435	Theory and History of Landscape Architecture	3

Design & Media

Code	Title	Credit Hours
ARC 105	Introduction to Architecture	3
ARC 309	Furniture Design and Construction	3
ARC 404	Seminars (see course list for special topics offerings)	3
ARC 405V		3

Technology

Code	Title	Credit Hours
ARC 212	Principles of Environmental Systems	3
ARC 406	Seminars (see course list for special topics offerings)	3
ARC 410	Statics & Strengths of Materials	3
ARC 413	Environmental Systems I	3
ARC 414	Environmental Systems II	3
ARC 417	Architectural Materials	3
ARC 418	Construction Methods	3
ARC 419	Materials of Interior Design (pre-req ARC 417 or permission of instructor)	3
ARC 444	Professional Practice in Interior Design (4th year standing or permission of instructor)	3

Note: Study-abroad/study-away workshops (ARC399/499, typically 6 CH) may count in any of the above content areas with advisor approval.

Over-the-Rhine Residency Option (Fall semester only)

The Over-the-Rhine Residency Program provides the opportunity to participate in a semester-long residential immersion program in the Over-the-Rhine or Price Hill communities. Junior and senior students interested in serving the community through an alternative classroom experience are encouraged to apply.

Code	Title	Credit Hours
ARC 405	Seminars (see course list for special topics offerings)	1-3
ARC 427	The American City Since 1940	3
EDL 377	Independent Studies	3
Design/Build Studio		6
ARC 301	Architecture Studio	
ARC 302	Architecture Studio	
ARC 401	Architecture Studio	
ARC 402C	Senior Studio Capstone Experience	

Art and Architecture History Minor

A minor in art and architecture history establishes a foundation for further study in these areas and provides a better understanding of architecture, art, and visual culture in historical contexts and the contemporary world. Knowledge in these areas is a valuable complement to any major. But it is also the critical thinking skills that get developed as a result of the study of the history of art and architecture that are crucial to a student's academic and career goals.

To sign up for the minor, please contact Dr. Andrew Casper at casperar@MiamiOH.edu.

For more information, please contact the Department of Art, 124 Art Building, 513-529-2900, or the Department of Architecture + Interior Design, 101 Alumni Hall, 513-529-7210.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Select two of the following Introductory Courses:		6
ARC 107	Global Design	
ARC 221	History of Architecture I	
ARC 222	History of Architecture II	
ART 162	Arts of Africa, Oceania and Native America	
ART 187	Art and Society: Prehistoric to Medieval	
ART 188	Art and Society: Renaissance to Modern	
ART 286	History of Asian Art, China, Korea, and Japan	
Select three of the following upper-division courses:		9
ARC 221	History of Architecture I	
ARC 222	History of Architecture II	
ARC 321	History of Interiors	
ARC 405	Seminars	
ARC 426	Architecture and Society	
ARC 427	The American City Since 1940	
ARC 451	Contemporary Architectural Theory and Practice	
ART 230	Special Lecture Topics in Art History	

ART 276	Introduction to the Art of the Black Diaspora	
ART 309	The Arts of African Peoples	
ART 311	Chinese Painting History	
ART 314	The Renaissance in Italy	
ART 315	Art in the Age of Michelangelo	
ART 316	Baroque Art in Europe	
ART 317	The Arts of Colonial Latin America	
ART 326	Modern & Contemporary East Asian Art	
ART 335	Arts of West Africa	
ART 382	Greek and Roman Sculpture	
ART 383	Greek and Roman Painting	
ART 384	Greek and Roman Decorative Arts	
ART 386	Art of the Weimar Republic	
ART 389	The History of Photography	
ART 391	Field Study in Art and Architecture History	
ART 406	Art Since 1980	
ART 487	Art of the Early 20th Century	
ART 488	Art in the Age of Revolution: 1789-1848	
ART 489	Postwar to Postmodern, 1945-1980	
CLS 216	Greek and Roman Cities	
CLS 332	Classical Mythology and the Arts	
CLS 361	Antiquity Through a Lens	
Select one of the following seminar courses:		3
ART 480	Seminar in Art History	
ART 498	History and Methods in Art and Architectural History (Capstone Seminar)	

Total Credit Hours 18

Arts Management Minor

Given the challenges for artists and arts and cultural organizations to survive in an increasingly competitive business environment, the need for educated managers is increasing. The practice of Arts Management is a synthesis of art, creativity, innovation, management, and entrepreneurship. The minor will prepare students to balance aesthetic understanding with specialized skills in generating income, managing boards, stimulating public access, and sustaining the mission and vision of organizations whose primary purpose is the delivery, presentation, and preservation of arts and culture. These skills are applicable to arts councils, museums, community art centers, galleries, orchestras, theatres, and creative enterprises.

A minimum overall 2.00 GPA is required for successful completion of the minor. All courses, except the internship, must be taken for a grade (not credit/no-credit).

Program Requirements

(18 or 19 semester hours)

Code	Title	Credit Hours
Core Courses - 9 semester hours		
Select the following:		
CCA 201	Introduction to Arts Management	3
CCA 401	Strategic Innovation in the Arts	3
Select three hours of the following:		3
CCA 200	Arts Management Practicum	
CCA 202	Introduction to Music Business	
CCA 302	Arts Marketing & Engagement	
CCA 304	Financial Management & Development in the Arts	
CCA 306	Arts Entrepreneurship	
CCA 308	Policy & Advocacy in the Arts	
CCA 340	Internship	
Track - 9 or 10 semester hours		9-10
Choose one of four tracks. FSB Majors choose Track 4.		
Track 1 - General Business		
Select at least nine hours of the following:		
ACC 211	Accounting for the Non-Business Major	
ECO 201	Principles of Microeconomics	
ESP 101	Entrepreneurship Foundations	
ESP 201	Introduction to Entrepreneurship and Business Models (ESP 101 is pre-/co-requisite)	
MGT 111	Introduction to Business	
MGT 211	Introduction to Management for Non-business Majors	
or MGT 291	Introduction to Management & Leadership	
MKT 211	Business Concepts in Customer Engagement	
or MKT 291	Principles of Marketing	
Track 2 - Miami Prime Business Intensive		
Select all three of the following:		
BUS 301	Basics of Business I	
BUS 302	Basics of Business II	
BUS 303	Business Process Integration	
Track 3 - Entrepreneurship		
Select all four of the following:		
ESP 101	Entrepreneurship Foundations	
ESP 201	Introduction to Entrepreneurship and Business Models	
ESP 251	Entrepreneurial Value Creation and Capture	
ESP 252	Entrepreneurial Mindset: Creativity and Organization	
Track 4 - Creative Arts		
FSB majors must take this track. This track is not open to CCA majors.		

Select nine hours from ARC, ART, MUS, THE, or CCA111, CCA222, or CCA232. Students may apply FAS or IMS courses with prior approval of the Director of Arts Management & Entrepreneurship.¹

Total Credit Hours **18-19**

¹ No more than two of the same music ensemble (MUS100A-MUS100Z) may count toward the minor.

Art Therapy Minor

This minor is for students interested in learning more about the field of art therapy; in some cases the minor may prepare students to apply to art therapy graduate programs. Art therapists can work in any setting that employs helping professions, for example: hospitals, schools, correctional facilities, domestic violence shelters, geriatric facilities, psychiatric facilities, residential facilities, day programs for developmental disabilities and chronic mental illness, etc. Art therapy uses the art process and the therapeutic relationship between the client and art therapist to process trauma, enhance self-esteem, improve relational abilities, decrease anxiety/depression, and increase an overall enhanced sense of well-being. Once obtaining a master's degree in art therapy, students will be eligible for mental health licensure in their state, which grants them the ability then to have four broad career opportunities (Art Therapist, Art Educator¹, Counselor, and Artist).

The art therapy minor builds on the foundation of three lateral human-centered perspectives significant to the field of art therapy: art studio, art education, and psychology. Students will explore connections between art production, methods of facilitating art experiences with people across the lifespan, and an understanding of human behaviors. Introduction to Art Therapy will tie the courses together through presenting exploratory art-making activities, foundational readings, and possible pathways to a career in the profession. The minor encourages breadth of exploration and offers separate tracks for Art majors, Psychology majors, and majors other than Art or Psychology.

¹ Check state licensure requirements for public school contexts.

For information, please contact Stephanie Danker, dankers@miamiOH.edu, 202 Art Building, 513-529-7422.

Program Requirements

Code	Title	Credit Hours
Required courses		
ART 194	Introduction to Art Therapy	3
ART 195	Introduction to Art Education	3
PSY 111	Introduction to Psychology	3
PSY 112	Foundational Experiences in Psychology ¹	1
Complete minor requirements based on major.		9
ART Majors		9
Psychology		
Required courses:		
PSY 231	Developmental Psychology	

PSY 242	Abnormal Psychology
Select one of the following:	
PSY 210	Psychology Across Cultures
PSY 241	Personality
PSY 251	Introduction to Biopsychology
PSY 271	Survey of Perception, Action, and Cognition

Psychology Majors 9

Art Studio

Select one of the following:

ART 111	Visual Fundamentals: Design and Composition
ART 121	Observational Drawing

2D Studio (200-level) - select one of the following:

ART 231	Painting I
ART 241	Printmaking I
ART 255	Introduction to Digital Photography
ART 257	Photography

3D Studio (200-level) - select one of the following:

ART 261	Ceramics I
ART 264	Jewelry Design and Metals I
ART 271	Sculpture I

Majors outside of Art or Psychology 9

Electives

Select one of the following:

PSY 210	Psychology Across Cultures
PSY 231	Developmental Psychology
PSY 241	Personality
PSY 242	Abnormal Psychology
PSY 251	Introduction to Biopsychology
PSY 271	Survey of Perception, Action, and Cognition

Select one of the following:

ART 111	Visual Fundamentals: Design and Composition
ART 121	Observational Drawing

Art Studio

Select one of the following:

ART 231	Painting I
ART 241	Printmaking I
ART 255	Introduction to Digital Photography
ART 257	Photography
ART 261	Ceramics I
ART 264	Jewelry Design and Metals I
ART 271	Sculpture I

Total Credit Hours 19

¹ Note: If PSY 111 is taken at Miami University, PSY 112 is a co-requisite. PSY 112 is required for PSY majors.

Communication Design Minor

The mission of the Communication Design Minor is to enable learners to gain the communication design thinking, knowledge, and skills

that will enhance their core area of study. Learners grow these competencies through exercises, projects, and learning experiences designed to develop practical, analytical, creative, emotional, and social intelligences. Those who complete the program are prepared to use their skills to develop and produce visual outcomes that communicate clearly, activating conceptual messaging and detailed aesthetic.

A minimum overall 2.00 GPA is required for successful completion of the minor. All courses must be taken for a grade (not credit/no-credit).

(19 semester hours)

Code	Title	Credit Hours
Required Courses		16
ART 111	Visual Fundamentals: Design and Composition	
ART 151	Becoming a People-Driven Designer	
ART 227	Design Research Methods Basics	
ART 252	Image	
ART 251	Typography	
ART 455	A History of Design	
Electives		3
Select one of the following:		
ART 436	Applied Experience Design: Walt Disney World	
ART 449	Design Career Readiness	
ART 460	Special Topics Design Studio	
Total Credit Hours		19

Dance Minor

For information, please contact Ashley Goos at goosae@MiamiOH.edu or the Department of Theatre, 119 Center for the Performing Arts, 513-529-3053.

The dance minor is offered through the Department of Theatre. The minor offers students the opportunity to pursue the specialized skills necessary to engage in the dance field. Students will complete courses in dance technique, dance as culture, and functional anatomy and integrate this learning through involvement with dance concerts and/or musical theatre productions. The minor is intended to provide curriculum and instruction in the area of dance as well as enhance current musical theatre and theatre curricula and programming.

Program Requirements

(18-19 credit hours)

Code	Title	Credit Hours
Required courses		
Complete all of the following courses:		13
THE 110B	Beginning Jazz Dance ¹	
or THE 263	Intermediate Jazz Dance	
SLM/THE 110A	Beginning Ballet ¹	
or THE 261	Intermediate Ballet	
SLM/THE 110G	Beginning Modern Dance ¹	
or THE 262	Intermediate Modern Dance	

KNH 244	Functional Anatomy
KNH 244L	Functional Anatomy Laboratory
THE 351	Dance as Culture

Complete at least one of the 200-level courses in dance technique:

THE 261	Intermediate Ballet
THE 262	Intermediate Modern Dance
THE 263	Intermediate Jazz Dance

Electives

Select 5-6 hours of the following: 5-6

THE 209	Physical Wellness for Artists
THE 239	Alexander Technique ¹
THE 250	Topics in Dance (maximum 4 hours)
THE 271	Dance Practicum (maximum 1 hour)
THE 361	Choreography
CCA 201	Introduction to Arts Management

Total Credit Hours 18-19

¹ Courses offered credit/no-credit only.

Digital Innovation Minor

The Digital Innovation Minor introduces the digital innovation ecosystem in various cities and provides students with opportunities to develop and expand their own professional interests and skills in relevant fields such as web/app development, marketing, and design. It provides students with a foundation in essential topics that are in demand by digital startups, including introductions to entrepreneurship and digital marketing.

Code	Title	Credit Hours
On Campus		
IMS 278	Digital Innovation Workshop Preparation	1
Plus two of the following, or one plus one elective as approved by advisor		6
IMS/ENG 407	Interactive Business Communication	
IMS 418	Social Media Marketing and Online Community Management	
IMS/MKT 419	Digital Branding	
IMS 421	Digital Product Management	
IMS 355	Principles and Practices of Managing Interactive Projects	
ESP 201	Introduction to Entrepreneurship and Business Models	
CSE 383	Web Application Programming	
On-site component (3 courses)		
IMS 340	Internship	4
IMS 440	Emerging Technology Practicum	4
or IMS 240	Collaborative Client-based Project	
IMS 396	Inside Startups	3
or IMS 397	Inside the Startup Environment (SF)	
Total Credit Hours		18

Digital Marketing Minor

This minor encompasses all the digital marketing courses offered by Emerging Technology in Business + Design. It builds from theoretical foundations through advanced tactics that are requisite for any practicing digital marketer.

Program Requirements

Code	Title	Credit Hours
IMS 392	Content Marketing	3
IMS 413	User Experience Research	3
IMS 414	Web and Social Media Analytics	3
IMS 418	Social Media Marketing and Online Community Management	3
IMS/MKT 419	Digital Branding	3
IMS 486	Advanced Digital Marketing	3
Total Credit Hours		18

Emerging Technology in Business and Design Minor

For information, please contact the Department of Emerging Technology in Business + Design, 209 Laws Hall, 513-529-1637, or visit <http://aims.miamioh.edu>.

The ETBD minor is centered on a foundation of courses in Business, Technology, and Design. Students develop an awareness and appreciation of all three of these areas and then choose a specialization within ETBD for two elective courses. The ETBD minor is designed to help provide digital literacy for students who are curious about how emerging media and technology impact their major. Admission into the ETBD minor is competitive. Admission details can be found at <http://miamioh.edu/cca/aims/admission>.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Foundation		
IMS 222	Introduction to Interaction Design and Development	3
IMS 259	Art and Digital Tools I	3
IMS 322	Intermediate Interaction Design and Development	3
IMS 413	User Experience Research	3
ETBD Electives		6
Choose any two IMS courses.		
Total Credit Hours		18

Fashion Minor

For information, contact Della Reams, dreams@miamioh.edu, 226 Boyd Hall, 513-529-3490 (Fashion Design) or Leslie Stoel, stoelld@miamioh.edu, 3042 FSB, 513-529-3985 (Fashion Business).

The minor in Fashion emphasizes creativity and experimentation and offers students the opportunity to develop basic skills in product making, fashion business decision-making, historical contexts, materials, and design foundations.

Admission to the Fashion minor by application only. The application is open only for one month at the beginning of each semester, accessible from the Miami Fashion Programs web page. After review at the end of the month, all applications will be accepted into the program, and DARs will reflect the acceptance before registration for the next semester.

Program Requirements

(21 credit hours)

Code	Title	Credit Hours
Basics		
FAS 101	Introduction to the Fashion Industry	3
Making		3
ART 165	Beginning Metals	
ART 264	Jewelry Design and Metals I	
FAS 150	Fashion Sprint Special Topics	
FAS 201	Apparel Construction Techniques	
FAS 211	Draping for Fashion Design	
FAS 212	Flat Pattern Drafting for Fashion Design	
THE 253	Costume Fundamentals	
Fashion Business		3
FAS 450	Advanced Special Topics in Fashion	
FAS 451	Fashion Retail Planning and Buying	
FAS 463	Fashion Trend Forecasting	
MKT 291	Principles of Marketing	
MKT 461	Principles of Retailing	
History		3
ART 189	History of Western Dress	
ART 233	Global Perspectives on Dress	
FAS 281	Contemporary Fashion History of 20th-21st Century	
Materials		
FAS 221	Textiles for the Fashion Industry	3
Design Foundations		
FAS 241	The Elements and Principles of Fashion Design, including Color Theory	3
Fashion Electives		3
ART 104		
ART 106		
ART 121	Observational Drawing	
ART/IMS 259	Art and Digital Tools I	
ART 335	Arts of West Africa	
FAS 332	Fashion Illustration	
FAS 340	Internship	
FAS 360	Fashion and Digital Tools	
FAS 450	Advanced Special Topics in Fashion	

IMS 319	Foundations in Digital 3-D Modeling and Animation
JRN 101	Journalism and American Life
STC 259	Foundations of Campaign Design
Or any class in the minor not yet taken.	

Total Credit Hours **21**

Games + Simulation Minor

For information, please contact the Department of Emerging Technology in Business + Design, 209 Laws Hall, 513-529-1637, or visit <http://aims.miamioh.edu>.

The Games + Simulation Minor includes a collaborative series of courses between the Department of Emerging Technology in Business + Design and the Art and Computer Science departments. The minor introduces the foundations of game design and implementation, beginning with required coursework in the three developmental areas: game art, game design, and game development. Electives within the minor allow students to explore their particular game interest in greater depth.

Program Requirements

(19 semester hours)

Code	Title	Credit Hours
Foundation		7
IMS 111	Introduction to Game Careers	
IMS 211	Introduction to Game Studies	
IMS 212	Introduction to Game Design	
Focus (choose four of the following courses)		12
IMS 213	Introduction to Game Development	
IMS/ART 215	3D Digital Sculpting	
IMS 225	Games and Learning	
IMS 317	Writing for Games	
IMS 319	Foundations in Digital 3-D Modeling and Animation	
IMS 453	Indie Game Development I	
IMS 454	Indie Game Development II	
CSE 251	Introduction to Game Programming (not open to CSE majors)	
Total Credit Hours		19

Museums and Society Minor

For information, please contact the Department of Art, 124 Art Building, 513-529-2900.

Open to all majors, this minor provides a critical understanding of museums as collections-based institutions. It is especially appropriate for students planning a professional career in education, history, libraries, anthropology, art and architecture history, and associated fields.

A minimum 2.00 GPA is required for this minor. Courses must be taken for a grade (not credit/no-credit). Students planning to take this minor should consult with the minor advisor.

Program Requirements

(18 credit hours)

Code	Title	Credit Hours
Core Courses		
CCA 222		3
CCA 232		3
IMS 203	Applied Digital Humanities	3
Select six additional hours in one of ten tracks/options:		6
Material Culture		
Visual Culture		
Art History		
Heritage Management		
Natural History		
Technology and Design		
Communications		
Non-profit Management		
Museum Education		
Conservation		
Select three hours of approved practicum, internship, capstone, or other experiential learning opportunity. ¹		3
Total Credit Hours		18

¹ Examples include: AMS 435, ART 391, ART 498.

Music Composition Minor

This minor is for those who want to complement their education with creative study in music composition. Open to music majors and non-majors.

Students interested in pursuing the minor in music composition must submit a portfolio to the Composition faculty. Portfolios should contain two to four recent examples of one's best creative work. The preferred format for audio files is mp3, though AIFF and WAV will be accepted. Printed scores are welcome as well (accepted formats: pdf, Sibelius, or Finale files), though not required.

For more information, please contact the Department of Music, 109 Presser Hall, 513-529-3014, to be connected with the Composition faculty.

Program Requirements

(20 semester hours)

Code	Title	Credit Hours
Select the following:		
MUS 101 & MUS 102	Theory of Music I and Theory of Music II	6
MUS 151 & MUS 152	Theory of Music: Aural Skills I and Theory of Music: Aural Skills II	2
MUS 171	Composition Seminar (take twice)	3,3
MUS 221	Music Technologies	3

MUS 306	Electroacoustic Music	3
Total Credit Hours		20

Music in Culture Minor

The minor in Music in Culture is designed for students seeking to engage in the humanistic study of music via coursework that explores its performance and historical identity within broad social, political, and cultural contexts. Open to all majors. For Music majors, no more than nine (9) credit hours may count toward both the major and the minor.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Select two from the following		6
MUS 101	Theory of Music I	
MUS 102	Theory of Music II	
MUS/AMS 135	Understanding Jazz, Its History and Context	
MUS 184	Opera: Passport to the Liberal Arts	
MUS 185	Multicultural Perspectives in Music	
MUS 186	Global Popular Music	
MUS 189	Captivating Sounds: The Beauty of Western Music (Select one of the following)	
Select four additional music history and culture courses at the 200 level or higher		12
MUS/FST/POR 204	Brazilian Culture Through Music and Film	
MUS 206	Tracking Sounds: A History of Film Music	
MUS 211	History of Western Music	
MUS 212	History of Western Music	
MUS 225	And the Beat Goes On. . . The History of Rock and Roll	
MUS/AMS 285	Introduction to African American Music	
MUS/WGS 287	Enter the Diva: Women in Music	
MUS 313	Writing About Small Screen Sounds	
MUS 385	The Roots of Black Music: Blues, Gospel and Soul	
MUS/AMS 386	The History and Development of Hip Hop Culture in America	
MUS 415	You Say You Want a Revolution: Rock and Roll and the Cultural Revolution of the 1960s	
MUS 490	Special Topics in Music	
Total Credit Hours		18

Music Performance Minor

The Music Performance Minor is not available to B.M. Music Performance majors, B.M. Music Education majors, or B.A. in Music,

Performance Track majors. Students interested in pursuing the minor should contact the Department of Music, 109 Presser Hall, 513-529-3014, for information and availability. Audition required.

Program Requirements

(25 semester hours)

Code	Title	Credit Hours
MUS 101 & MUS 102	Theory of Music I and Theory of Music II	6
MUS 151 & MUS 152	Theory of Music: Aural Skills I and Theory of Music: Aural Skills II	2
MUS 189	Captivating Sounds: The Beauty of Western Music	3
Applied music requirement:		
Select 10 semester hours, including one semester at 342 level ¹		10
Ensemble requirement:		
Four semesters in a large ensemble, in primary performance medium (Chamber Singers, Choraliers, Collegiate Chorale, Marching Band, Men's Glee Club, Symphony Band, University Symphony Orchestra, and Wind Ensemble.) ²		4
Total Credit Hours		25

¹ Students must perform a half-recital in this semester.

² Entrance to each group is by audition. Piano performance minor may fulfill the ensemble requirement through participation in a large vocal ensemble, large instrumental ensemble, accompanying (MUS 110/MUS 120), or chamber music as a pianist.

Music Theatre Minor

For information, please contact the Department of Music, 109 Presser Hall, 513-529-3014, or the Department of Theatre, 119 Center for Performing Arts, 513-529-3053.

This minor offers students the opportunity to pursue the specialized skills necessary for performance in music theatre: acting, singing, and dancing. Students will complete courses in these three distinct disciplines as well as integrate them in an upper-level acting course and through participation in productions. The minor is designed to enhance the current music and theatre major curricula. Admission to the minor is open to all majors by audition only. All courses in the minor must be taken for a grade (except for introductory-level dance classes which are offered credit/no credit only); a minimum GPA of 2.00 is required in the minor.

Program Requirements

20 semester credit hours

Code	Title	Credit Hours
Core requirements		
THE 151	Stage Makeup	1
THE 395	The Musical in American Culture	3
CCA 331	Acting for the Musical Stage	3
Acting		3

Theatre majors complete THE131; all other majors complete THE123 (or THE131 with permission of instructor).

THE 123 Acting for the Non-Major: Text and Performance
or THE 131 Principles of Acting

Dance 4

Choose two techniques at the 100 level or choose 100/200 level in one technique

SLM/THE 110A Beginning Ballet¹

SLM/THE 110G Beginning Modern Dance¹

THE 110B Beginning Jazz Dance¹

THE 261 Intermediate Ballet

THE 262 Intermediate Modern Dance

THE 263 Intermediate Jazz Dance

Music Theory 2

Music majors complete MUS101; all other majors complete MUS119

MUS 119 Introduction to Music Theory

or MUS 101 Theory of Music I

Applied Voice 4

Voice majors take MUS142A or MUS144A twice; all other majors take MUS215 and MUS216

MUS 215 Class Voice for Music Theatre

MUS 216 Applied Voice for Music Theatre (take twice)

OR (voice majors take twice):

MUS 142A Applied Music Voice- FR

or MUS 144A Applied Music Voice- FR

Total Credit Hours 20

¹ Offered credit/no-credit only

Photography Minor

The minor in Photography allows students to have an in-depth, comprehensive education in traditional black-and-white and digital image-making processes. In this sequence of studio courses, students will learn about the technical, aesthetic, historical, and conceptual aspects of creative photography through practice, discussion, and critiques.

For information or to add the minor, please contact Jon Yamashiro, yamashjm@miamioh.edu, 513-529-5627.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
ART 255	Introduction to Digital Photography	3
ART 257	Photography	3
ART 357	Photography II	3
ART 358	Photography III	3
ART 457	Photography IV	3

ART 458	Photography V	3
Total Credit Hours		18

Studio Art Minor

For information, please contact the Department of Art, 124 Art Building, 513-529-2900.

Students pursuing an Art Minor in Studio Art explore and develop concepts, techniques, materials, methods, and critical aesthetic thinking as applied to any of the traditional fine arts disciplines including Ceramics, Jewelry Design, Painting, Photography, Printmaking, and/or Sculpture. The minor is designed to allow students to choose a single focused medium (discipline-specific focus) or explore a varied range of media (media-survey focus). The discipline-specific focus encourages a depth of exploration; a deeper development of skill, processes, and techniques; and a deeper understanding of the conceptual, cultural, and historical considerations relevant to a particular media. The media-survey focus allows the student to explore a broader range of traditional fine arts media, while still encouraging some depth within one particular artistic medium.

At least 18 semester credit hours of course work is required of the minor in the Studio Art courses, with at least six (6) semester credit hours at the 300 level or higher. Students with a discipline-specific focus should meet with an advisor in the discipline after completing nine (9) hours of the minor to plan course work at the 300 level or higher.

Three (3) semester credit hours of Foundation Art course work is required of all minors. Some 200-level courses have prerequisite requirements in drawing.

A minimum 2.50 GPA is required for admittance to the minor. Minimally, the program of study will include 18 semester hours completed with a 2.50 GPA.

Program Requirements

A minimum of 18 credit hours is required for the minor, with at least six (6) credit hours at the 300 level or higher.

Code	Title	Credit Hours
Take 3 credit hours of the following Foundation Art offerings:		3
ART 102		
ART 103		
ART 104		
ART 105		
ART 111	Visual Fundamentals: Design and Composition	
ART 121	Observational Drawing	
Choose 6 to 9 credit hours from the following:		6-9
ART 106		
ART 215	3D Digital Sculpting	
ART 218	3D Shading and Texturing	
ART 221	Intermediate Drawing 1	
ART 222	Intermediate Drawing 2	
ART 231	Painting I	

ART 241	Printmaking I	
ART 255	Introduction to Digital Photography	
ART 257	Photography	
ART 261	Ceramics I	
ART 264	Jewelry Design and Metals I	
ART 271	Sculpture I	
Choose 6 to 9 credit from the following:		6-9
ART 305	3D Character Design	
ART 320	Thematic Studio	
ART 331	Painting II	
ART 332	Painting III	
ART 341	Printmaking II	
ART 342	Printmaking III	
ART 357	Photography II	
ART 358	Photography III	
ART 361	Ceramics II	
ART 362	Ceramics III	
ART 364	Jewelry Design and Metals II	
ART 365	Jewelry Design and Metals III	
ART 371	Sculpture II	
ART 372	Sculpture III	
ART 431	Painting IV	
ART 432	Painting V	
ART 441	Printmaking IV	
ART 442	Printmaking V	
ART 457	Photography IV	
ART 458	Photography V	
ART 461	Ceramics IV	
ART 462	Ceramics V	
ART 464	Jewelry Design and Metals IV	
ART 465	Jewelry Design & Metals V	
ART 471	Sculpture IV	
ART 472	Sculpture V	
Total Credit Hours		15-21

Theatre Arts Minor

For information, please contact Marly Wooster, woostems@miamioh.edu, or the Department of Theatre, 119 Center for Performing Arts, 513-529-3053.

This minor offers students an opportunity to explore theatrical practice within a liberal arts tradition by providing opportunity for study of performance and production in acting, directing, theatre technology, design arts, and theatre history and analysis. A minimum overall 2.00 GPA is required for successful completion of the minor. All courses must be taken for a letter grade (not credit/no-credit).

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
THE 101	Introduction to Theatre: Drama and Analysis	3

THE 200	Production and Performance Practicum (three required, limit of two in any one area to count toward degree)	1,1,1
---------	--	-------

Select nine semester hours from the following: 9

THE 123	Acting for the Non-Major: Text and Performance	
or THE 131	Principles of Acting	
THE 142	Theatre Organization and Communication	
THE 151	Stage Makeup	
THE 209	Physical Wellness for Artists	
THE 210	The Theatrical Toolbox (maximum 3)	
THE 226	Acting Studio: Foundations	
THE 227	Acting Studio: Integrating Text	
THE 238	Playwriting Through Improvisation (maximum 4)	
THE 251	Visual Communication for the Theatre	
THE 253	Costume Fundamentals	
THE 257	Stagecraft and Theatre Technologies	
THE 258	Scene Painting Fundamentals	
THE 316	Dramaturgy	
THE 340	Internship	
THE 342	Stage Management	
THE 352	Scenic Design	
THE 353	Costume Design	
THE 354	Lighting Design	
THE 418	Playwriting	
THE 421	Fundamentals of Directing	
THE 437	Auditions	
THE 439	Special Techniques for the Actor (maximum 6)	

Select three semester hours from the following: 3

THE 393	Topics in Intercultural Perspectives and Global Theatre and Performance	
THE 394	Topics in Dramatic Literature and Cultural Performance	
THE 395	The Musical in American Culture	
THE 398	London Theatre	
THE 422	Politics and Ethics of Theatre and Performance: Representation, Race, Gender, Class and Sexuality	
THE 424	Topics in Applied Theatre, Practice, and Pedagogy	

Total Credit Hours 18

Urban Design Minor

Urban design is the study of human relationships and their expression in the physical landscapes that are cities. Urban environment is a physical manifestation of social values. Relations that comprise the realm of urban design involve not simply buildings and their creation, but the infrastructure, politics, economics, sociology, commerce, and history of cities. Students planning to pursue careers in government, public administration, social work,

architectural design, planning, etc., find their interests served by this minor.

You should meet with the coordinator of urban design studies to work out a program of study. Minimally, your program will include 21 semester hours completed with a 2.50 GPA. Courses must be taken for a grade (not credit/no-credit).

For information, please contact the Department of Architecture + Interior Design, 101 Alumni Hall, 513-529-7210.

Program Requirements

(21 semester hours)

Code	Title	Credit Hours
Basic course work		
ARC 211	Introduction to Landscape and Urban Design	3
GEO 201	Geography of Urban Diversity	3
POL 261	Public Administration	3
Select nine hours of the following: ¹		9
ARC 405	Seminars ²	
ARC 426	Architecture and Society	
ARC 427	The American City Since 1940	
ARC 435	Theory and History of Landscape Architecture	
FSW 261	Diverse Family Systems Across the Life Cycle	
GEO 451	Urban and Regional Planning	
GEO 454	Urban Geography	
GEO 459	Advanced Urban and Regional Planning	
POL 364	Federalism and Intergovernmental Relations	
POL 467	Public Budgeting	
SOC 201	Social Problems	
Other coursework subject to approval by the coordinator.		
Select three hours of the following as approved by coordinator: ³		3
ARC 477	Independent Studies	
or GEO 477	Independent Studies	
GEO 340	Internship	
GEO 493	Urban Field Experience	
Total Credit Hours		21

¹ Architecture or interior design majors: six of these nine hours must be from outside architecture; non-architecture majors: six of these nine hours must be architecture courses.

² Seminar must be approved by advisor.

³ Regardless of the option chosen, the coursework must be approved in consultation with the advisor for the minor and will conclude with a summary paper to be presented.

Esports Management Undergraduate Certificate

The Esports Management Undergraduate Certificate is a one-year, mostly online program, which provides a comprehensive understanding of the esports ecosystem and the best practices for management of a professional esports team and supporting businesses. The certificate is a total of eight courses: two semesters of three, two-credit-hour courses, surrounded by three credit hours of actual tournament organization experience. The courses provide an esports foundation in all aspects of tournament organization, branding/marketing, sponsorship, logistics, team management, recruiting, finance, global issues, publishers, history, business models, media rights/legal, and of course, broadcasting.

Program requirements

Code	Title	Credit Hours
Required courses:		
IMS 470	Introduction to Esports	2
IMS 471	Esports Broadcasting	2
IMS 472	Esports Event Management	2
IMS 473	The Business of Esports	2
IMS 474	Special Topics in Esports	2
IMS 475	Esports Brand Management	2
IMS 476	Esports Event Practicum	2
IMS 478	Esports Ecosystems	1
Total Credit Hours		15

College of Education, Health and Society

EHS Student Success

127 McGuffey Hall
Phone: 513-529-3477

www.miamioh.edu/ehs

Degrees and Majors Offered Bachelor of Science in Education

- Chinese Education
- French Education
- German Education
- Inclusive Special Education
- Integrated English Language Arts Education
- Integrated Mathematics Education
- Integrated Science Education
- Integrated Social Studies Education
- Latin Education
- Middle Childhood Education
- Primary Education PK-5
- Spanish Education

Bachelor of Science in Education Studies

- Education Studies

Bachelor of Science in Kinesiology, Nutrition, and Health

- Kinesiology
- Nutrition
- Public Health

Bachelor of Science in Social Work

- Social Work

Bachelor of Science in Sport Leadership and Management

- Sport Coaching
- Sport Communication and Media
- Sport Management

Minors

- Child Studies and Youth Development
- Coaching
- Community-Based Leadership
- Dance
- Disability Studies
- Education, Teaching, and Learning
- Family Relationships
- Health Behavior
- Nutrition
- Primary Special Education Minor with Licensure

- Special Education
- Sport Analytics
- Sport Management

Certificates

- Child Life Specialist
- Fostering Just Communities
- Healthcare Sales
- Remote Teaching for K12
- Sport Analytics
- Teaching English to Speakers of Other Languages (TESOL) Endorsement Certificate

Endorsements

- Reading Endorsement
- TESOL (Teaching English to Speakers of other Languages) Endorsement
- Computer Science Endorsement

General Information

The College of Education, Health, and Society is comprised of six departments: Educational Leadership; Educational Psychology; Teacher, Curriculum, and Educational Inquiry; Kinesiology, Nutrition and Health; Sport Leadership and Management; and Family Science and Social Work.

Each undergraduate program uses the Miami Plan for Liberal Education as a base, adds the specialized content of the major, adds appropriate professional courses, and may integrate experience in field settings through observation, practicum, and internships.

Graduate programs are offered in several fields and lead to a Master of Arts, Master of Arts in Teaching, Master of Education, Master of Science, and Specialist in Education, Doctor of Education, or a Doctor of Philosophy. See the Graduate Fields of Study section for details on those programs.

Mission Statement

The mission of the College of Education, Health, and Society is to prepare critically engaged and transformative leaders. The College prioritizes socially just outcomes, hands-on and applied learning, interdisciplinary thinking, rigorous research, and innovation. Through excellence in research, teaching, and service, EHS prepares graduates to generate knowledge, educate, serve, and promote health and well-being in diverse and global settings in order to respond to the complex problems societies face.

Accreditation

Accreditation, which specifies standards for faculty, curriculum, financial support, equipment, student services, and facilities, is awarded to the College of Education, Health, and Society by North Central Association of Colleges and Schools, Council for the Accreditation of Educator Preparation (CAEP), ACEND of the Academy of Nutrition and Dietetics (AND), National Association for School Psychologists, and State of Ohio Department of Education. The Council on Social Work Education (CSWE) has accredited the social work baccalaureate and master's programs.

Professional and Honorary Organizations

For professional development, the College of Education, Health and Society encourages participation in professional organizations where students can develop leadership skills, interact with professionals, and engage in educational activities. Organizations sponsored by the College include: Miami Council for the Social Studies, Miami University Council of Teachers of Mathematics, Miami University Science Educators, Miami University Student Athletic Trainers Association, Pre-Physical and Occupational Therapy Club, Student Council for Exceptional Children, Ohio Student Education Association (OSEA), National Council of Teachers of English–Student Affiliate of Miami (NCTE-SAM), Student Academy of Nutrition and Dietetics (SAND), Student National Education Association, and Family Studies and Social Work Student Organization (FSWSO).

To honor outstanding professional and academic performance, the School is recognized with chapters of the following: Delta Psi Kappa, Epsilon Phi Tau, Kappa Delta Epsilon, Kappa Delta Pi, Kappa Phi Kappa, Phi Alpha, Phi Delta Kappa, Phi Epsilon Kappa, and Pi Omega Pi.

Art and Music Education

Art and music education programs, administered through the College of Creative Arts, are described in that chapter. Students preparing to teach art must plan their programs with an art education advisor in the Department of Art. Students interested in music education should consult an advisor in the Department of Music.

Advising

Academic advising is one of the most important and influential components of the College of Education, Health, and Society (EHS). A primary factor is bringing students and faculty together to integrate academics and curriculum into a truly meaningful educational experience. Undergraduate academic advising is coordinated through the EHS Success Center located in 127 McGuffey Hall. Each student is assigned a professional staff advisor for their first and second years. Faculty serve as advisor for the student's junior and senior years in some departments. Undeclared EHS students are assigned to an academic advisor in the EHS Success Center.

Information for Education Majors

Earning a Teaching License

Licensure as a classroom teacher in the state of Ohio, and most other states, requires completion of a baccalaureate licensure program, passing a licensure examination(s), and a background check. Programs in the Teaching, Curriculum, and Educational Inquiry and Educational Psychology departments are approved by the Ohio Department of Education. Each program, when combined with a baccalaureate degree, makes the candidate eligible for the Ohio teaching license in a selected teaching field. Teacher/Professional licensing requirements are subject to change. Please check appropriate state's board of education website for the most up-to-date licensure requirements.

Students seeking licensure in more than one teaching field must meet all requirements for each field, including student teaching. These programs will exceed the minimum credit hours for graduation.

Supervised Teaching Policy

Supervised teaching, also called "student teaching," is a period of guided teaching when licensure program majors take increasing responsibility for learning activities of students in a classroom. It includes full-day off campus assignments for an entire semester, facilitated by a university supervisor in a school in cooperation with a licensed classroom teacher.

Student teachers are participants in all phases of the school program. They teach classes, organize and direct extracurricular activities, attend faculty meetings, and participate in other school functions.

Placements are in the Miami University designated geographic area in southwestern Ohio. Student teachers are required to make their own transportation arrangements, including costs. Students must manage their financial obligations so as to avoid outside involvement during this assignment and curtail other campus responsibilities so they do not interfere with the supervised teaching assignment. Students must have a valid Ohio BCI & I and FBI criminal background check on file in the Student Teaching Office before beginning student teaching. Students **cannot** begin student teaching until the background checks have been received.

Office of Student Teaching and Field Placement

202 McGuffey Hall
Phone: 513-529-7245

Department of Educational Leadership

For information, contact the Department of Educational Leadership, 306 McGuffey Hall or call 513-529-6825.

This department offers a Bachelor of Science in Education Studies. The Education Studies degree is designed for students who desire a career in education outside the classroom. Education Studies engages students in the study of social, philosophical, ethical, and cultural contexts of education by providing them with holistic, multicultural, and international frameworks of research and knowledge with which to understand schooling, youth, and families. Students in the Education Studies major will develop the abilities to analyze complex social issues related to education, conduct community research, and become engaged in addressing community challenges and policy-making related to schools, youth, families, health, wellness, and justice issues. Students must select one of three concentrations: 1). Creativity, Innovation & Learning; 2). Equity & Educational Change; and 3). Education and Social Entrepreneurship.

In addition, we offer a minor in Community-Based Leadership.

We also partner with an array of campus offices and programs to offer co-curricular courses designed to maximize the potential for student co-curricular learning: courses like EDL 100: Career Development and the College Student, EDL110: The University and the Student, and EDL 290: The Nature of Group Leadership which help students of any major develop knowledge and experience in particular areas.

We offer Master's degrees in School Leadership, Transformative Education, and Student Affairs in Higher Education (SAHE). We offer a Ph.D. degree in Educational Leadership and offer an Ed.D. in Educational Leadership as well. We offer licensure programs in the school principalship and superintendency. We collaborate with

school districts and Educational Service Centers to provide graduate programs for educators which are based in problems of practice, and in district or regional goals.

Education Studies - Bachelor of Science in Education Studies

Community-Based Leadership Minor

Education Studies - Bachelor of Science in Education Studies

The Bachelor of Science in Education Studies will engage students in the study of social, philosophical, ethical and cultural contexts of education by providing them with holistic, multicultural and international frameworks of research and knowledge with which to understand schooling, youth and families. Students in the Education Studies major will develop the abilities to analyze complex social issues related to education, conduct community research, and become engaged in addressing community challenges and policy-making related to schools, youth, families, health, wellness and justice issues. Students must select one of three concentrations: 1). Creativity, Innovation & Learning; 2). Equity & Educational Change; and 3). Education and Social Entrepreneurship.

Program Requirements

Code	Title	Credit Hours
Core Courses		
EDL 203	Introduction to Critical Youth Studies	3
EDL 204	Sociocultural Studies in Education	3
EDL 224	Introduction to Education Policy	3
EDL 312	Foundations of Education in Global Contexts	3
EDL 382	Community-Based Research & Learning in Education	3
Select one of the following:		3
EDL 232	Introduction to Community-Based Leadership	
EDL 318A	Teacher Leadership and School Organization (or)	
EDL 351	Leadership Ethics in Community Contexts	
Concentration		18
Select one of five concentrations (below)		
Total Credit Hours		36

Concentrations (18 credit hours)

Creativity, Innovation & Learning

Code	Title	Credit Hours
Required Courses		
CCA 111	Innovation, Creativity and Design Thinking	3
EDP 201	Human Development and Learning in Social and Educational Contexts	3
TCE 311	Educational Strategies for Non-Majors	3
Concentration Electives		

Select nine hours of the following:		9
ARC 107	Global Design	
ARC 211	Introduction to Landscape and Urban Design	
ART 111	Visual Fundamentals: Design and Composition	
ART 194	Introduction to Art Therapy	
ART 195	Introduction to Art Education	
CCA 201	Introduction to Arts Management	
CCA 222		
CCA 232		
TCE 188	Creativity and Innovation in STEM Education	
TCE 284	Writing for Educators	
TCE 288	Ways of Thinking in STEM (Science, Technology, Engineering, and Mathematics) Education	
IMS 203	Applied Digital Humanities	
IMS 212	Introduction to Game Design	
IMS 225	Games and Learning	
MUS 185	Multicultural Perspectives in Music	
MUS 225	And the Beat Goes On. . . The History of Rock and Roll	
THE 101	Introduction to Theatre: Drama and Analysis	
THE 123	Acting for the Non-Major: Text and Performance	
THE 393	Topics in Intercultural Perspectives and Global Theatre and Performance	
THE 424	Topics in Applied Theatre, Practice, and Pedagogy	

Total Credit Hours 18

Equity & Educational Change

Code	Title	Credit Hours
------	-------	--------------

Foundation Electives

Select nine hours of the following:		9
CRE 151	Introduction to Critical Race and Ethnic Studies	
SJS 165	Social Justice Perspectives	
TCE 205	Race, Cultural Diversity, and Equity in Education	
FSW 225	Family School and Community Connections	
DST 272	Introduction to Disability Studies	
WGS 201	Introduction to Women's Studies	
WGS 202	Introduction to GLBT Studies	

Community Electives 9

Option A - Select nine hours of the following:

EDL 383	Service in Urban Communities	
CRE 470	Social/Political Activism	
TCE 457	Engaging Minoritized Children & Youth	
EDL 369	Sexuality, Youth, Education	

DST 375	(Dis)Ability Allies: To be or not to be? Developing Identity and Pride from Practice
EDL 333	Youth, Media & Pop Culture
EDL 334	Transnational Youth Cultures
EDL 351	Leadership Ethics in Community Contexts
Option B - Select nine hours of the following:	
ARC 427	The American City Since 1940
SJS 215	EMPOWER I: Educational and Economic Justice and Service-Learning
SJS 216	EMPOWER II: The Intersections of Race, Class, and Education
Total Credit Hours	18

Education and Social Entrepreneurship

Code	Title	Credit Hours
Required courses (15 hours)		
ESP 201	Introduction to Entrepreneurship and Business Models	3
ESP 252	Entrepreneurial Mindset: Creativity and Organization	3
ESP 331	Social Entrepreneurship	3
EDL 351	Leadership Ethics in Community Contexts	3
ESP 401 or ESP 461	Entrepreneurship: New Ventures Entrepreneurial Consulting	3
Experiential electives (3 hours)		3
ESP 102	Entrepreneurial Immersion: From Idea to Opportunity	
EDL 340	Internship	
EDL 383	Service in Urban Communities	
Total Credit Hours		18

For more information: Contact the Department of Educational Leadership at EDL@MiamiOH.edu

Department of Educational Psychology

For information, contact the Department of Educational Psychology, 201 McGuffey Hall, 513-529-6621, edp@miamioh.edu.

This department administers the undergraduate program for Inclusive Special Education majors that leads to a Bachelor of Science Degree in Education, and two Ohio licenses as an Intervention Specialist in mild-moderate and moderate-intensive special needs. Both licenses allow graduates to teach in kindergarten through 12th grade. **Teacher/Professional licensing requirements are subject to change. Please check the appropriate state's Board of Education website for up-to-date licensure requirements.**

Mild-moderate intervention specialists have expertise in designing and implementing educational programs and services for children and youth needing support in the general education classroom and other educational settings. Moderate-intensive intervention specialists have expertise in designing and implementing curriculum

in inclusive settings and other educational settings with knowledge of inclusive instructional strategies, academic methodologies, assistive technology, and supports and opportunities for transition to adult life. Both licensure areas are grounded in a strong focus on socially just inclusive practices. Students will be introduced to disability studies theory.

Admission and Transfer Requirements

Once students declare Inclusive Special Education as a major, they will be directly admitted into the program upon admission to the university. They will be expected to meet admissions requirements for the university. Upon admission, they will be placed in a cohort. In order to continue in the cohort and major, they will need to meet certain benchmarks established by the program, which include a GPA of 2.75.

Transfer students may be admitted to the Inclusive Special Education program only if they have completed at least 15 semester hours with at least a 2.75 GPA (4.00 scale) for all college work attempted, including courses in educational psychology and/or courses specific to persons with disabilities, and are eligible for admission to teacher education programs. Otherwise, they will be considered pre-inclusive special education majors until these requirements are met.

Candidates will be expected to complete and successfully pass the portfolio review process at established intervals within the program.

Departmental Major & Minors:

Students seeking a minor can complete the required formstack. The department is committed to admitting transfer students to the Inclusive Special Education major and minor contingent upon space in the program. Transfer students may need additional time to complete the major dependent upon the time of transfer.

- Inclusive Special Education- Bachelor of Science in Education with Licensure
- Disability Studies Minor
- Primary Special Education Minor with Licensure
- Special Education Minor

Inclusive Special Education- Bachelor of Science in Education with Licensure

Many school-aged children in the United States need accommodations and modifications to fully benefit from the standard curriculum offered in schools. Because of physical, mental, behavioral, learning, or sensory differences, these students require special services to help them learn to their maximum capacity in inclusive environments. Inclusive special education is designed to recognize these differences and to implement elements of Universal Design for Learning and to develop individualized instructional plans. This program prepares you for licensure as a special education teacher, also known as Intervention Specialist, in Ohio Public Schools from kindergarten through grade 12.

This major leads to the Bachelor of Science in Education with Ohio residency licensure in Intervention Specialist - Mild-Moderate/Moderate-Intensive. Field and/or clinical experience is combined with academic coursework sophomore through senior years. In order

to complete the degree requirements in four years, students are encouraged to select the major no later than the spring semester of the first year.

Program Requirements

Code	Title	Credit Hours
Professional core		
EDL 204	Sociocultural Studies in Education	3
EDL 318A	Teacher Leadership and School Organization	3
EDP 201	Human Development and Learning in Social and Educational Contexts	3
EDP 256	Psychology of the Exceptional Learner	3
EDP 279	Technology + Media Literacy and Learning	3
TCE 191	Threshold Concepts of Teaching, Curriculum, and Educational Inquiry	3
Reading core		
EDP 471 or EDP 460	Literacy Seminar: Clinical Action Research/Problem-Based Seminar in Exceptional Education/Developmental Differences	3
TCE 246A	Foundations of Language and Critical Literacy	3
TCE 346M	Reading Instruction for Middle Grades	3
TCE 436	Middle Childhood Language Arts	3
TCE 442M	Phonics and Reading Improvement for Middle Childhood	3
Mild-Moderate/Moderate-Intensive Intervention Specialist (K-12)		
EDP 220	Field Experience in Special Education	1
EDP 458	Methods I: Learners with Moderate to Intensive Needs	3
EDP 459G	Practicum in Special Education: Moderate/Intensive	3
EDP 459	Practicum in Special Education: Mild/Moderate	3
EDP 468	Methods II for Learners with Moderate - Intensive Needs	3
EDP 478	Collaboration and the Law in Special Education	3
EDP 486	Methods I: Learners with Mild/Moderate Disabilities	3
EDP 487	Student-Centered Practices to Support Social and Emotional Needs	3
EDP 491	Methods II: Learners with Mild to Moderate Disabilities	3
EDP 494	Assessment, Evaluation, and Educational Planning for Learners with Exceptionalities	3
MTH 115	Mathematics for Teachers of Grades P-6	4
MTH 116	Mathematics for Elementary Teachers	4
SPA 127	Introduction to Communication Disorders	3
SPA 223	Theories of Language Development	3

SPA 427	Augmentative and Alternative Communication Systems for Individuals with Complex Communication Needs	3
---------	---	---

Supervised Student Teaching

EDP 419F	Supervised Teaching for Mild/Moderate and Moderate/Intensive Intervention Specialist Licensure	15
----------	--	----

Total Credit Hours **93**

Department of Family Science and Social Work

For information, contact the Department of Family Science and Social Work, 101 McGuffey Hall or call 513-529-2323.

Miami University's Department of Family Science and Social Work promotes a comprehensive understanding of the interconnected relationships between theory, research, and practice (e.g., prevention, intervention) by incorporating knowledge, values, and skills from the fields of social work, human development, and family science.

Our programs prepare students to ethically respond to the complex needs of individuals, families, groups, organizations, and communities from a global, social justice orientation.

Department of Family Science and Social Work offers the following programs:

The **Bachelors in Social Work** is accredited by the Council on Social Work Education. In addition, the National Council on Family Relations verifies that Miami's Bachelors in Social Work meets all standards and criteria needed for students to receive provisional certification as a Family Life Educator. Upon graduating, students are eligible to apply for social work licensure and provisional certification as a Family Life Educator.

Child Life Specialist undergraduate and graduate certificates provide required coursework to meet the curricular qualifications for certification as a Certified Child Life Specialist through the Association of Child Life Professionals. After completing the child life specialist certificate, candidates must also complete a 600-hour child life internships and take the certification exam in order to be certified as a child life specialist.

- Social Work - Bachelor of Science in Social Work
- Child Life Specialist Certificate

Social Work- Bachelor of Science in Social Work

For information, please contact the BSW Program Director at socialwork@MiamiOH.edu.

This Social Work major has a foundation in the liberal arts. The goal is to prepare students for generalist baccalaureate-level social work practice by integrating the knowledge, values, and skills of the social work profession. Students are provided a professional foundation in social work values and ethics, diversity, social and economic justice, populations-at-risk, human behavior and the social environment, social welfare policy and services, social work practice skills, social work research, and a field experience in an agency setting. The

program places a strong emphasis on developing knowledge and skills to work with diverse families.

The curriculum prepares students to work with persons across the lifespan facing a diversity of issues and in a wide range of settings including nonprofits, governmental agencies, and non-governmental organizations. Upon completion of the degree, students are eligible to take the national social work license exam and be certified as a family life educator. This program is accredited by the Council on Social Work Education and approved by the National Council on Family Relations.

Special Program Admission Requirements

Students may declare the social work major at any time. However, formal acceptance into the program must occur before a student is eligible to take FSW 306 and FSW 406. In order to be accepted, students must:

1. Complete FSW 201 & FSW 206 with a grade of "C" or better.
2. Current or transfer students seeking admission to the BSW program must have a minimum cumulative GPA of 2.50.
3. Read the Undergraduate Social Work Student Handbook and submit a signed acknowledgement form indicating acceptance of the policies.
4. Attend one of the Undergraduate Social Work student orientation sessions (typically offered at the start of Fall and Spring terms).

Students will receive written notification of formal acceptance once these steps are completed.

You are strongly encouraged to meet with your social work academic adviser (or BSW Program Director or Lead Departmental Advisor) within one month of declaring the social work major, and each semester thereafter.

Program Requirements

Code	Title	Credit Hours
Required Core Courses		
FSW 201	Introduction to Social Work and Family Life Education	3
FSW 206	Social Welfare Policies & Programs	4
FSW 245	Children and Families: Ages Conception - 12	3
FSW 261	Diverse Family Systems Across the Life Cycle	3
FSW 295	Research and Evaluation Methods	3
FSW 304	Professionalism and Ethics for Practice	3
FSW 306	Trauma Responsive Assessment and Intervention	3
FSW 312	Human Behavior in the Social Environment	3
FSW 365	Family Life Sexuality Education Across Cultures	3
FSW 406	Group Theory and Practice	3
FSW 411	Senior Field Experience I	4
FSW 412	Senior Seminar in Social Work I	2
FSW 413	Senior Seminar in Social Work II	2
FSW 414	Senior Field Experience II	4

FSW 415	Culturally-Informed Practice	3
FSW 418	Program Development and Evaluation	3
FSW 442	Family Resource Management: Education and Advocacy	3
FSW 451	Interpersonal Violence	3
FSW 466	Interpersonal Perspectives on Adulthood and Aging	3
FSW 475	Family Theories	3
FSW 481	Adolescent Development in Diverse Families: Ages 13-25	3

Required Related Hours

STA 261	Statistics	3-4
or CSE 243	Problem Analysis Using Computer Tools	
PSY 242	Abnormal Psychology	3

Total Credit Hours

70-71

Note: a grade of "C" or better must be earned for all "Required Core Courses". Students earning lower than a "C" in a class must repeat that course.

Social Work Senior Field Experience (OPEN TO SOCIAL WORK MAJORS ONLY)

The Social Work Methods courses, FSW 306 (Fall semester only) and FSW 406/FSW 506 (Spring semester only), is typically completed in the junior year and must be completed prior to beginning Field Experience. The social work field experience is typically taken in the senior year over two terms for a total of 450 clock hours in an agency setting (225 hours/term). Students are required to register concurrently for FSW 411 (Senior Field Experience I) and FSW 412 (Senior Field Seminar I), and FSW 413 (Senior Field Seminar I) with FSW 414 (Senior Field Experience II). The field experience provides an opportunity to apply generalist social work knowledge and skills gained in the classroom to working with clients in an agency setting.

Department of Kinesiology, Nutrition, and Health

For information, contact the Department of Kinesiology, Nutrition, and Health, 204 Phillips Hall, 513-529-2700.

The mission of the Department of Kinesiology, Nutrition, and Health advances the science and practice of human movement and health behaviors to enhance quality of life, improve client/patient outcomes, and reduce local and global health disparities.

In addition to required coursework in specific majors, students are encouraged to engage in research, clinical experiences, service projects, internships, and other educational activities to gain critical knowledge and skill proficiencies in the disciplines that comprise kinesiology, nutrition, and health. Learning occurs in the classroom as well as in the laboratories, schools, hospitals, and real world settings. Students can participate in health and fitness programs such as obesity prevention, diabetes intervention, physical rehabilitation, community health education, sustainable farming, community nutrition, contact tracing, and shadow a variety of health professionals in their work settings.

The department offers three undergraduate program majors including kinesiology, nutrition, and public health. The department also offers one undergraduate program minor: nutrition.

- Bachelor of Science in Kinesiology, Nutrition, and Health in:
 - Kinesiology
 - Nutrition
 - Public Health

Kinesiology- Bachelor of Science in Kinesiology, Nutrition, and Health

The Kinesiology major leads to a Bachelor of Science in Kinesiology, Nutrition and Health. This major is for students interested in the scientific aspects of human movement. Kinesiology focuses on the acquisition of knowledge and understanding of interactions of physiological, anatomical, neuropsychological, and biomechanical factors that affect human health and performance. Skills learned in the classroom, laboratory and internships include assessing and developing effective strategies for enhancing health, improving performance, preventing diseases related to sedentary behavior and promoting the recovery of health in rehabilitation settings. State-of-the-art laboratories complement the classroom and foster critical thinking, reasoning, and other basic principles of liberal education, instrumental in careers in and outside of Kinesiology.

Program Requirements

Code	Title	Credit Hours
Requirements outside the KNH Dept.		
BIO 161 or BIO 305	Principles of Human Physiology Human Physiology	4
CHM 141	College Chemistry	3
CHM 144	College Chemistry Laboratory	2
CHM 142	College Chemistry	3
CHM 145	College Chemistry Laboratory	2
PHY 161	Physics for the Life Sciences with Laboratory I	4
PSY 111 & PSY 112	Introduction to Psychology and Foundational Experiences in Psychology	4
STA 261	Statistics	4
Requirements in KNH		
KNH 184	Motor Skill Learning and Performance	3
KNH 188	Physical Activity and Health	3
KNH 244	Functional Anatomy	3
KNH 244L	Functional Anatomy Laboratory	1
KNH 381	Biodynamics of Human Performance	3
KNH 381L	Biodynamics of Human Performance Lab	1
KNH 382	Physical Activity & Fitness Assessment	3
KNH 382L	Physical Activity & Fitness Assessment Laboratory	1

KNH 468	Physiology of Exercise and Physical Activity	3
KNH 468L	Physiology of Exercise and Physical Activity Laboratory	1
KNH 482	Exercise Prescription: Healthy Individuals & Individuals with Chronic Diseases/Disorders	3

Related courses in Kinesiology Area

Select six hours of the following:		6
KNH 202	Nutrition Across the Life Span	
KNH 329	Psychological Perspectives on Health	
KNH 405	Advanced Nutrition I: Macronutrient Metabolism	
KNH 406	Advanced Nutrition II: Micronutrient and Phytochemical Metabolism	
KNH 409	Nutrition for Sports and Fitness	
KNH 442	Strength Training and Conditioning	
KNH 465	Musculoskeletal Disorders and Exercise	
KNH 480	Mechanics of Musculoskeletal Injury	
KNH 483	Advanced Motor Control and Learning	
KNH 491	Injury Recognition and Patient Care	

Total Credit Hours

57

Nutrition- Bachelor of Science in Kinesiology, Nutrition, and Health

The Nutrition major leads to a Bachelor of Science in Kinesiology, Nutrition and Health degree. Nutrition, an area of health science, studies human metabolism as it relates to nutrition. An interdisciplinary curriculum with courses in nutrition, food science, food systems management, lifestyle and health, with supporting courses in chemistry, social science and management is provided by this major. Students in this major must complete one of two concentrations, Community Nutrition or Dietetics, which fulfills the Accreditation Council for Education in Nutrition and Dietetics (ACEND) the accrediting body for our Didactic Dietetics Program requirements.

The Nutrition major, with a Community Nutrition concentration, allows the student to complement a foundation of nutrition, chemistry, behavior, physiology, microbiology, and statistics with course selections based on career interest. A graduate, completing this major, may choose from career opportunities in business, industry, education, or research, including medical and pharmaceutical sales, product development and marketing, and food-related businesses. This major may also be appropriate for students planning to pursue careers in health care, corporate wellness, food systems management, government food/nutrition program administration, public policy, and other allied health professions.

The Nutrition major, with a Dietetics concentration, is accredited by ACEND of the Academy of Nutrition and Dietetics (AND). This fulfills the didactic portion of the requirements to become a registered dietitian and a professional member of AND. To become a registered dietitian one must complete an ACEND approved graduate program with a dietetic internship following graduation¹ and pass the registration exam. Dietitians are professionally prepared to perform

nutritional assessment, counseling, and education as components of preventive, curative, or restorative health. Students may opt to become a nutrition and dietetics technician, registered (NDTR) through ACEND. For more information see your advisor.

¹ Acceptance rate of clinical experiences dependent upon student academic performance and other experiences.

Program Requirements

(59-75 semester hours)

The Nutrition Major must complete all requirements in the Nutrition Foundation PLUS choose a concentration in either Community Nutrition or Dietetics. The Dietetics Concentration is for students interested in becoming a Registered Dietitian and a professional member of the Academy of Nutrition and Dietetics (AND).

Code	Title	Credit Hours
Nutrition Foundation		
BIO 161	Principles of Human Physiology	4
CHM 141	College Chemistry	3
CHM 142	College Chemistry	3
CHM 144	College Chemistry Laboratory	2
CHM 145	College Chemistry Laboratory	2
CHM 231	Fundamentals of Organic Chemistry (3 Lec. 1 Lab)	4
KNH 102	Food, Nutrition & Health	3
KNH 103	Introduction to the Profession of Dietetics	2
KNH 104	Introduction to Food Science	3
KNH 202	Nutrition Across the Life Span	3
KNH 244 & 244L	Functional Anatomy and Functional Anatomy Laboratory	4
or BIO 201	Human Anatomy	
KNH 302	Global and Community Nutrition	3
KNH 405	Advanced Nutrition I: Macronutrient Metabolism	3
KNH 406	Advanced Nutrition II: Micronutrient and Phytochemical Metabolism	3
MBI 111	Microorganisms and Human Disease	3
PSY 111 & PSY 112	Introduction to Psychology and Foundational Experiences in Psychology	4
STA 261	Statistics	4
Concentration		
Select a concentration		12-28
Total Credit Hours		65-81

Concentrations

Community Nutrition Concentration: (12-13 hours)
 In addition to the Nutrition Foundation requirements, students interested in business, industry, education, research, health care, and corporate wellness, must select a minimum of 12 total hours from the options below. See your advisor for recommendations dependent upon your interests.

Code	Title	Credit Hours
Select two of the following: 6		
ATH 448	Developing Solutions in Global Health	
FSW 261	Diverse Family Systems Across the Life Cycle	
KNH 203	Nutrition in Disease Prevention Management	
KNH 303	Food Systems Management	
KNH 409	Nutrition for Sports and Fitness	
KNH 462	Public Health Planning and Evaluation	
PSY 231	Developmental Psychology	
Select two of the following: 6-7		
APC 231	Small Group Communication	
ECO 201	Principles of Microeconomics	
ECO 202	Principles of Macroeconomics	
ECO 332	Health Economics	
ESP 201	Introduction to Entrepreneurship and Business Models	
KNH 468 & 468L	Physiology of Exercise and Physical Activity and Physiology of Exercise and Physical Activity Laboratory	
KNH 482	Exercise Prescription: Healthy Individuals & Individuals with Chronic Diseases/Disorders	
MBI 131	Community Health Perspectives	
MGT 111	Introduction to Business	
MGT 291	Introduction to Management & Leadership	
MGT 303	Human Resource Management	
STC 136	Introduction to Interpersonal Communication	
Total Credit Hours		12-13

Dietetics Concentration: (26-28 hours)

In addition to the Nutrition Foundation requirements, student's planning on becoming a Registered Dietitian must also complete the following coursework. Acceptance rate of a clinical experience is dependent upon student academic performance and other experiences.

Code	Title	Credit Hours
Select the following:		
KNH 203	Nutrition in Disease Prevention Management	3
KNH 303	Food Systems Management	3
KNH 403	Professional Practices in Dietetics	3
KNH 404	Advanced Food Science	3
KNH 411	Medical Nutrition Therapy I	3
KNH 413	Medical Nutrition Therapy II	3
KNH 420	Field Experience	1-4
Select one of the following: 3		
MGT 111	Introduction to Business	

MGT 291 Introduction to Management & Leadership

MGT 303 Human Resource Management

Total Credit Hours 22-25

Public Health- Bachelor of Science in Kinesiology, Nutrition, and Health

Public Health is a field of study focused on preventing illness and promoting health in individuals, communities, and society as a whole. The Public Health program at Miami builds on the University's strengths in three areas: Health Promotion and Education; Human Disease and Epidemiology; and Health Policy and Administration. The program is housed jointly in the College of Education, Health and Society and in the College of Arts and Science. Students will complete a core curriculum covering the critical elements of Public Health along with additional courses focused on one of these specialty areas. According to the World Health Organization, the underlying domains in Health Promotion and Education include "good governance, health literacy, healthy settings, and social mobilization". In this major students will learn essential tools and skills related to planning, implementing, and evaluating public health interventions within these domains to achieve health equity. Students will also learn to build inclusive relationships among individuals, groups, and populations across different practice settings. These curricula will prepare students for either graduate school or employment in the field.

Program Requirements

Code	Title	Credit Hours
Required for all Public Health majors		
IES 441 or KNH 441	Environmental Public Health	3
KNH 125 or MBI 131	Introduction to Public Health Community Health Perspectives	3
KNH 218	Applied Health Behavior Change	3
KNH 321 or GTY 365	National and Global Health Policy Social Policy and Programs in Gerontology	3
MBI 361	Fundamentals of Epidemiology	3
STA 261 or STA 301	Statistics Applied Statistics	3-4
Required for only Public Health majors with a BS in Kinesiology, Nutrition, & Health		
KNH 262	Public Health Education	3
KNH 395	Public Health Research Methods	3
KNH 424	Public Health Disparities Past and Current	3
KNH 434	Public Health Communication and Marketing	3
KNH 462	Public Health Planning and Evaluation	3
Select one of the following:		1-4
GTY 362	Data & Decision Making in Aging	
GTY 456	Aging & Health	

GTY 465 Policies & Programs in an Aging Society

GTY 479 Research on Inequality in Aging & Health

KNH 102 Food, Nutrition & Health

KNH 188 Physical Activity and Health

KNH 214 Global Well-Being

KNH 302 Global and Community Nutrition

KNH 329 Psychological Perspectives on Health

KNH 340 Internship

KNH 377R Independent Study - Research

KNH 477R Independent Study - Research

MBI 369 Intermediate Epidemiology

POL 261 Public Administration

Total Credit Hours 34-38

Department of Sport Leadership and Management

The Department of Sport Leadership & Management (SLAM) prepares students to succeed in leadership positions in the sport industry (recreational to professional, youth to adult) by providing them with knowledge and skills to critically analyze and innovatively engage in the business and culture of sport. SLAM offers a Bachelor of Science in SLAM with majors in Sport Management, Sport Coaching, and Sport Communication & Media. Several new programs are offered in Sport Analytics, Esports Management, and Sport Psychology at the undergraduate and graduate level. SLAM students are encouraged to participate in multiple internship experiences with professional sports teams, Miami University athletics, sport agencies, and community recreation and sport programs. SLAM faculty offer study abroad sport programs on the Luxembourg campus, New Zealand, and Europe.

The SLAM department is committed to providing an exceptional college experience for our students. Our highly engaged faculty and unique partnerships with other academic units across Miami's campus provide SLAM students with one of the best undergraduate and graduate sport programs in the country. Our graduates are highly regarded by employers, professional schools, and other academic institutions and go on to rewarding careers in a variety of sport industries and business fields.

Sport Coaching - Bachelor of Science in Sport Leadership and Management

Sport Communication and Media - Bachelor of Science in Sport Leadership and Management

Sport Management - Bachelor of Science in Sport Leadership and Management

Sport Coaching - Bachelor of Science in Sport Leadership and Management

The Sport Coaching major leads to a Bachelor of Science in Sport Leadership and Management. This major prepares students to succeed in coaching interscholastic, collegiate, or professional sport. Graduates may seek careers with national governing bodies of

Olympic sport or coaching education specialists in national or state organizations/associations. Students majoring in sport coaching may not also major in sport management or minor in coaching.

Code	Title	Credit Hours
SLAM Senior Capstone:		3
SLM 495	Practicum in Sport Leadership and Management	
or SLM 402	Reflections and Actions in Sport Leadership & Management	
Sport Leadership Core Courses		18
SLM 225	Ethics in Sport	
SLM 272	Contemporary Perspectives on Leadership in Sport Contexts	
SLM 275	Introduction to Sport Analytics	
SLM 375	Psychological Perspectives in Sport and Exercise	
SLM 378	Sport, Power and Inequality	
SLM 472	Sport Administration	
Statistics Course - Select One of the Following:		3-4
ISA 125	Introduction to Business Statistics	
MTH 119	Quantitative Reasoning	
STA 125	Introduction to Business Statistics	
STA 261	Statistics	
Sport Coaching Courses		21
KNH 102	Food, Nutrition & Health	
KNH 184	Motor Skill Learning and Performance	
KNH 188	Physical Activity and Health	
SLM 337	Foundations and Fitness Training for Coaches	
SLM 338	Psychosocial Aspects of Coaching	
SLM 447	Sport Pedagogy for Coaches and Practitioners	
SLM 473	Children and Youth in Sport	
Sport Context Courses Select Two:		6
SLM 246	Sport, Management, and Culture in the Global Marketplace	
SLM 248	Global Sport Perspectives	
SLM 273	Sport Communication & Media	
SLM 274	Critical Perspectives on the Body	
SLM 276	Current Issues in Leisure and Sport	
SLM 279	African Americans in Sport	
SLM 414	Facilities and Event Management in Sport	
SLM 416	Sport Marketing	
SLM 417	Legal Issues in Sport Leadership and Management	
SLM 438	Principles of Effective Coaching	
SLM 475	Women, Gender Relations, and Sport	
Internship in Coaching (minimum of 1 - 3 Credit Hours, any additional SLM 340 Credit Hours are elective hours)		1-3
SLM 340	Internship	
Business Courses Select Three:		9

SLM 413	Sport Economics	
SLM 418	Applied Sport Analytics	
MGT 111	Introduction to Business	
MGT 211	Introduction to Management for Non-business Majors	
or MGT 291	Introduction to Management & Leadership	
MKT 211	Business Concepts in Customer Engagement	
or MKT 291	Principles of Marketing	
ACC 211	Accounting for the Non-Business Major	
FIN 211	Financial Capital	
ISA 211	Information Technology and Data Driven Decision Making in Business	
Remaining Credit Hours are Electives		
Total Credit Hours		61-64

Sport Communication and Media - Bachelor of Science in Sport Leadership and Management

Fueled by an immense global interest in sport and sport information, intense fandom, and live sport consumption, the sport communication and media landscape is one full of opportunity and engagement. The Sport Communication and Media major leads to a Bachelor of Science in Sport Leadership and Management. This major provides a distinct set of courses and hands-on experiences to prepare students to enter this ever-changing and ever-growing sport environment.

Code	Title	Credit Hours
SLAM Capstone Course:		3
SLM 495	Practicum in Sport Leadership and Management	
or SLM 402	Reflections and Actions in Sport Leadership & Management	
Sport Leadership Core		18
SLM 225	Ethics in Sport	
SLM 272	Contemporary Perspectives on Leadership in Sport Contexts	
SLM 275	Introduction to Sport Analytics	
SLM 375	Psychological Perspectives in Sport and Exercise	
SLM 378	Sport, Power and Inequality	
SLM 472	Sport Administration	
Sport Communication and Media Courses		
Foundation Courses		21
SLM 212	Introduction to Sport Management	
SLM 273	Sport Communication & Media	
JRN 101	Journalism and American Life	
MJF 105	Media, Culture and You	
MJF 146	Foundations of Production	

MJF 205	Introduction to Comm & Tech	
STC 135	Principles of Public Speaking	
Applied Courses		15
SLM 340	Internship	
JRN 201	Reporting and News Writing I	
MAC 211	Intermediate Video Production	
MAC 312	TV Studio Production	
MAC 343	Advanced Audio Production	
Sport Context Courses (Select Three)		9
SLM 248	Global Sport Perspectives	
SLM 279	African Americans in Sport	
SLM 338	Psychosocial Aspects of Coaching	
SLM 413	Sport Economics	
SLM 414	Facilities and Event Management in Sport	
SLM 416	Sport Marketing	
SLM 417	Legal Issues in Sport Leadership and Management	
SLM 453	Seminar in Sport Leadership & Management	
SLM 473	Children and Youth in Sport	
SLM 475	Women, Gender Relations, and Sport	
Total Credit Hours		66

Sport Management - Bachelor of Science in Sport Leadership and Management

The sport industry is one of the largest and fastest growing industries in the United States. The sport management major provides many diverse career opportunities and has a strong job placement rate, thanks in part to the well-rounded education and practical experience students receive with internship opportunities and a required capstone practicum experience. This program prepares students to succeed in leadership positions in the sport industry (recreational to professional, youth to adult) by providing them with knowledge and skills to critically analyze and innovatively engage in the business and culture of sport. Students will complete courses that focus on topics such as administration, economics, ethics, facilities and event management, marketing, and analytics in sport. Students major in sport management may not major in sport coaching or minor in sport management.

Program Requirements

Code	Title	Credit Hours
SLAM Capstone:		3
SLM 495	Practicum in Sport Leadership and Management	
or SLM 402	Reflections and Actions in Sport Leadership & Management	
Sport Leadership Core Courses		18
SLM 225	Ethics in Sport	
SLM 272	Contemporary Perspectives on Leadership in Sport Contexts	

SLM 275	Introduction to Sport Analytics	
SLM 375	Psychological Perspectives in Sport and Exercise	
SLM 378	Sport, Power and Inequality	
SLM 472	Sport Administration	
Statistics Course - Select One of the Following:		3 - 4
ISA 125	Introduction to Business Statistics	
MTH 119	Quantitative Reasoning	
STA 125	Introduction to Business Statistics	
STA 261	Statistics	
Sport Management Courses		15
SLM 212	Introduction to Sport Management	
SLM 273	Sport Communication & Media	
SLM 413	Sport Economics	
SLM 416	Sport Marketing	
MGT 111	Introduction to Business	
Business Courses Select Three:		9
ACC 211	Accounting for the Non-Business Major	
ECO 201	Principles of Microeconomics	
ECO 202	Principles of Macroeconomics	
ESP 201	Introduction to Entrepreneurship and Business Models	
FIN 211	Financial Capital	
ISA 211	Information Technology and Data Driven Decision Making in Business	
MGT 211	Introduction to Management for Non-business Majors	
or MGT 291	Introduction to Management & Leadership	
MKT 211	Business Concepts in Customer Engagement	
Or Select Miami Prime (all three courses are required)		
BUS 301	Basics of Business I	
BUS 302	Basics of Business II	
BUS 303	Business Process Integration	
Context of Sport Courses Select Four:		12
SLM 246	Sport, Management, and Culture in the Global Marketplace	
SLM 248	Global Sport Perspectives	
SLM 274	Critical Perspectives on the Body	
SLM 276	Current Issues in Leisure and Sport	
SLM 279	African Americans in Sport	
SLM 338	Psychosocial Aspects of Coaching	
SLM 340	Internship	
SLM 414	Facilities and Event Management in Sport	
SLM 417	Legal Issues in Sport Leadership and Management	
SLM 418	Applied Sport Analytics	
SLM 453	Seminar in Sport Leadership & Management	
SLM 473	Children and Youth in Sport	
SLM 475	Women, Gender Relations, and Sport	

Remaining Credits are Electives

Total Credit Hours 60-61

Department of Teaching, Curriculum, & Educational Inquiry

For information, contact the Department of Teaching, Curriculum, & Educational Inquiry, 401 McGuffey Hall 513-529-6443.

This department administers undergraduate teacher licensure programs approved by the Ohio Department of Education. Each program, when combined with a baccalaureate degree, makes the candidate eligible for the Ohio teaching licensure in a selected teaching field. Teacher / Professional licensing requirements are subject to change. Please check appropriate state's board of education website for the most up-to-date licensure requirements.

Students who have earned a baccalaureate degree may complete a teacher licensure program as part of a Master of Arts in Teaching degree program in five major content areas (Math, Science, English, Social Studies and Foreign Language) or may complete a licensure only program in all subject areas. (See the Graduate Fields of Study section for information about the Master of Arts in Teaching degree program.)

Students enrolled in teacher licensure programs are required to participate in supervised clinical and field experience which involves travel to area schools, and are regularly assessed during the licensure program.

Students in the Department of Teaching, Curriculum, & Educational Inquiry must take the content area of the OAE examination before student teaching.

Cohorts

A cohort is defined as a group of students who have been selected by the Department of Teaching, Curriculum, & Educational Inquiry to experience certain parts of their program together, provided they satisfy the prerequisite retention requirements for the methods courses for their licensure field and for student teaching. A cohort is identified by its general subject or licensure area and by a semester or academic year during which the members start or complete their methods (block) courses and begin their fieldwork requirements.

Admission to a Cohort

Criteria for admission to a cohort in Primary and Middle Childhood Education majors is based on a minimum 2.75 cumulative GPA in at least 30 credit hours and completion of TCE 191 and EDP 201 with a grade of B or higher in each course. Criteria for admission to a cohort in AYA and Foreign Language majors is based on a minimum 2.75 cumulative GPA in at least 64 credit hours and completion of TCE 191, EDP 201, and EDL 204 with a grade of B or higher in each course. Students not meeting these criteria should work directly with the Teacher Education Coordinator of Advising to discuss alternative pathways for cohort admission.

Transferring from One Cohort to Another

A student in one cohort may not transfer to a different cohort, unless the student meets the criteria and is admitted to the different cohort. Students who change majors or transfer into Miami may ask to be considered for an earlier cohort if space is available. Students who are selected for a cohort must take their cohort classes during that specific cohort year.

Transfer Students

Students transferring from another university or enrolled in another program at Miami may apply for selection into a teacher education licensure cohort following the guidelines in the "Limited Admission to Programs" section of this Bulletin.

Retention

There are retention checkpoints for each cohort at the time of registration for each instructional procedures course and at the time of application to supervised teaching. The department has established retention criteria (prerequisites) specific to each major for each retention point, which are available from the department. Students who do not meet the retention criteria must work with their assigned academic advisor to discuss options for moving forward in the program.

Technology Requirement

All teaching, curriculum, and educational inquiry programs will be infusing technology into their classes to assist teacher candidates in their preparation to teach in tomorrow's schools. All students seeking a degree in a teacher education program will be required to have a laptop computer when accepted into their teacher education cohort. Students should consider purchasing an Apple (Mac) laptop computer through the Miami Notebook program. Other laptop brands are acceptable, but not preferred.

Bachelor of Science in Education in:

- Art Education - See College of Creative Arts
- Foreign Language Education:
 - Chinese Education
 - French Education
 - German Education
 - Latin Education
 - Spanish Education
- Integrated English Language Arts Education
- Integrated Mathematics Education
- Integrated Science Education
- Integrated Social Studies Education
- Middle Childhood Education
- Music Education - See College of Creative Arts
- Primary Education PK-5

Minor in:

- Education, Teaching, and Learning
- Primary Special Education Minor with Licensure

Certificates in:

- Fostering Just Communities
- Remote Teaching for K12
- TESOL (Teaching English to Speakers of other Languages) Endorsement Certificate

Endorsements in:

- Middle Childhood Generalist 4-6 Endorsement
- Reading Endorsement

Chinese Education- Bachelor of Science in Education

This program offers students the opportunity to study the theory and practice of teaching the Chinese language while simultaneously studying the language, literature, and culture of the Chinese-speaking world. Critically oriented pedagogical courses complement the Chinese literature and culture courses that explore the diversity of the Chinese-speaking world. Chinese Education students participate in a study abroad experience to gain linguistic and cultural understandings. The university offers a number of study abroad programs which provide students with linguistic and cultural knowledge, competencies and skills essential to be a 21st century teacher.

Program Requirements

Code	Title	Credit Hours
Foreign Language Education Core		
Select the following:		
EDP 201	Human Development and Learning in Social and Educational Contexts	3
EDL 204	Sociocultural Studies in Education	3
EDP 256	Psychology of the Exceptional Learner	3
TCE 191	Threshold Concepts of Teaching, Curriculum, and Educational Inquiry	3
TCE 420F	Teaching Foreign Language (FL): Elementary School Practicum	3
Fall field block courses - take all three concurrently:		
EDP 301A	Assessment and Evaluation in Educational Settings	3
TCE 444	Language Teaching and Learning I	3
TCE 454	TESOL in PK-12: Instructional Theory & Practice	3
Spring field block courses - take all three concurrently:		
TCE 421A	Classroom Cultures, Community, and Climate	3
TCE 445	Language Teaching & Learning II	3
TCE 446L	Reading in the Foreign Language	3
Supervised teaching semester:		
TCE 419A	Teaching Internship- Adolescent	15
Chinese Education Courses		
Required courses (select 12 hours) ¹		12
CHI 201 & CHI 202	Second Year Chinese and Second Year Chinese	
CHI 301 & CHI 302	Third Year Chinese and Third Year Chinese	

CHI 311 & CHI 312	Business Chinese I and Business Chinese II	
CHI 330	Chinese Verbal Theatre Performance	
Select the following:		
CHI 401	Fourth Year Chinese I	3
Selected Courses ²		
Select 9 semester hours of the following:		
CHI 251	Traditional Chinese Literature in English Translation	
CHI 252	Modern Chinese Literature in English Translation	
CHI 253	Three Kingdoms	
CHI 254	Modern Chinese Autobiography	
CHI 255	Drama In China/Japan:Eng Trans	
CHI 257	Chinese Satire	
CHI 264	Chinese Cinema and Culture	
CHI 271	Chinese Culture Live	
CHI 402	Fourth Year Chinese II	
CHI 480	Independent Reading for Departmental Honors	

Related Hours

Select 12 semester hours of the following, including at least one course from the China group: 12

China:		
ART 311	Chinese Painting History	
EDP 366	Cross-cultural Examination of the United States and China within an Educational Context	
EDP 387	Chinese Education through Culture, Customs, History, and Development	
HST 354	Modern Chinese History	
Japan:		
HST 356	Modern Japanese History	
JPN 231	Japanese Tales of the Supernatural in English Translation	
JPN 255	Drama In China/Japan:Eng Trans	
JPN 260	Topics in Japanese Literature in English Translation	
JPN 266	Survey of Japanese Cinema	
JPN 381	Introduction to Japanese Linguistics	
JPN 402	Fourth Year Japanese	
East Asia:		
ART 286	History of Asian Art, China, Korea, and Japan	
ART 326	Modern & Contemporary East Asian Art	
GEO 208	The Rise of Industrialism in East Asia	
GEO 308	Geography of East Asia	
GEO 408	Geography of the Silk Road (The Heart of Asia)	
HST 324	Eurasian Nomads and History	
REL 223	Introduction to Buddhism	
Linguistics:		

LIN 201	Introduction to Linguistics	
Total Credit Hours		84

¹ These Required courses may be used in Selected or Related hours if not used as Required courses.

² These Selected courses may be used in Related hours if not used as Selected courses.

Students seeking the Bachelor of Arts in East Asian Languages and Cultures meet the College of Arts and Science writing in the major requirement by completing the following courses: CHI 302 or CHI 312 and CHI 401 or JPN 302 and JPN 401.

Study Abroad

Minimum of 9 hours in Semester long (minimum of 10 consecutive weeks) in an approved study abroad program in a Chinese-speaking country. Recommended during Spring sophomore year.

OR

Minimum of 9 hours in Two summers/winters abroad (minimum of 10 weeks total) in an approved study abroad program in a Chinese-speaking country.

Courses can be used to satisfy other major requirements above - no additional hours required.

It is imperative you engage fully in this experience to succeed in the Oral Proficiency Interview (OPI)

French Education- Bachelor of Science in Education

This program offers students the opportunity to study the theory and practice of teaching the French language while simultaneously studying the language, literature, and culture of the French-speaking world. Critically oriented pedagogical courses complement the French literature and culture courses that explore the diversity of the French-speaking world. French Education students participate in a study abroad experience to gain linguistic and cultural understandings. The university offers a number of study abroad programs which provide students with linguistic and cultural knowledge, competencies and skills essential to be a 21st century teacher.

Program Requirements

Code	Title	Credit Hours
Foreign Language Education Core		
Select the following:		
EDP 201	Human Development and Learning in Social and Educational Contexts	3
EDL 204	Sociocultural Studies in Education	3
EDP 256	Psychology of the Exceptional Learner	3
TCE 190		3
TCE 420F	Teaching Foreign Language (FL): Elementary School Practicum	3
Fall field block courses - take all three concurrently:		
EDP 301A	Assessment and Evaluation in Educational Settings	3

TCE 444	Language Teaching and Learning I	3
TCE 454	TESOL in PK-12: Instructional Theory & Practice	3

Spring field block courses - take all three concurrently:

TCE 421A	Classroom Cultures, Community, and Climate	3
----------	--	---

TCE 445	Language Teaching & Learning II	3
---------	---------------------------------	---

TCE 446L	Reading in the Foreign Language	3
----------	---------------------------------	---

Supervised teaching semester:

TCE 419A	Teaching Internship- Adolescent	15
----------	---------------------------------	----

French Education Courses

Take all of the following:

FRE 131	Masterpieces of French Culture in Translation ¹	3
---------	--	---

FRE 301	Culture & Interpretation ¹	3
---------	---------------------------------------	---

Select 6 hours of the following, in no particular sequence: 6

FRE 302	Pre-Revolutionary Literature and Life	
---------	---------------------------------------	--

FRE 303	Modern and Contemporary Literature and Life	
---------	---	--

FRE 310	Texts in Context	
---------	------------------	--

Select 18 hours at 400 level, including the following: 18

FRE 425	Senior Seminar	
---------	----------------	--

Select remaining hours from 300/400 level courses to total 33 hours 3

Total Credit Hours 81

¹ FRE 131 and FRE 301 must be taken first.

No more than six hours in translation count toward this major. FRE 361 does **not** count toward this major.

Students seeking the Bachelor of Arts in French meet the College of Arts and Science writing in the major requirement by completing the following course/s: FRE 301; six hours from FRE 302, FRE 303, or FRE 310; and the senior seminar FRE 425.

Study Abroad

Minimum of 9 hours in Semester long (minimum of 10 consecutive weeks) in an approved study abroad program in a French-speaking country is recommended during Spring sophomore year.

OR

Minimum of 9 hours in Two summers/winters abroad (minimum of 10 weeks total) in an approved study abroad program in a French-speaking country is recommended

It is imperative you engage fully in this experience to succeed in the Oral Proficiency Interview (OPI)

German Education- Bachelor of Science in Education

This program offers students the opportunity to study the theory and practice of teaching the German language while simultaneously studying the language, literature, and culture of the German-speaking world. Critically oriented pedagogical courses complement the German literature and culture courses that explore the diversity

of the German-speaking world. German Education students participate in a study abroad experience to gain linguistic and cultural understandings. The university offers a number of study abroad programs which provide students with linguistic and cultural knowledge, competencies and skills essential to be a 21st century teacher.

Program Requirements

Code	Title	Credit Hours
Foreign Language Education Core		
Select the following:		
EDP 201	Human Development and Learning in Social and Educational Contexts	3
EDL 204	Sociocultural Studies in Education	3
EDP 256	Psychology of the Exceptional Learner	3
TCE 190		3
TCE 420F	Teaching Foreign Language (FL): Elementary School Practicum	3
Fall field block courses - take all three concurrently:		
EDP 301A	Assessment and Evaluation in Educational Settings	3
TCE 444	Language Teaching and Learning I	3
TCE 454	TESOL in PK-12: Instructional Theory & Practice	3
Spring field block courses - take all three concurrently:		
TCE 421A	Classroom Cultures, Community, and Climate	3
TCE 445	Language Teaching & Learning II	3
TCE 446L	Reading in the Foreign Language	3
Supervised teaching semester:		
TCE 419A	Teaching Internship- Adolescent	15
Foreign Language Education Core		
Language skills		
GER 301	German Language Through the Media	3
Literature		
GER 311	Passionate Friendships in German Literature from the Middle Ages to the Present	3
GER 312	Coming of Age in German Life and Thought	3
Culture		
GER 321	Cultural Topics in German-Speaking Europe Since 1870	3
or GER 322	Comparative Study of Everyday Culture: German-Speaking Europe and the U.S.A.	
Advanced study (Capstone)		
GER 471	Linguistic Perspectives on Contemporary German	3
Select a 400-level GER course		
Select two 3 hour GER courses at any level, taught in English ¹		
Remaining course hours from those taught in German at 300 or 400 level		
9		
Related Hours ²		

Select nine semester hours	9
Total Credit Hours	90

- These may include study of other national literatures, literary theory, comparative literature, linguistics, or another language. Depending on the subject, another major or minor may satisfy this requirement. Courses in music, art, history, political science, and other disciplines qualify on the basis of their content.
- Related hours must be approved by your advisor.

Students seeking the Bachelor of Arts degree with a major in German meet the College of Arts and Science writing in the major requirement by completing the following courses: GER 301 and GER 471.

Study Abroad

Minimum of 9 hours in Semester long (minimum of 10 consecutive weeks) in an approved study abroad program in a German-speaking country. Recommended during Spring sophomore year.

OR

Minimum of 9 hours in Two summers/winters abroad (minimum of 10 weeks total) in an approved study abroad program in a German-speaking country.

Courses can be used to satisfy other major requirements above - no additional hours required.

It is imperative you engage fully in this experience to succeed in the Oral Proficiency Interview (OPI)

Latin Education- Bachelor of Science in Education

This program offers students the opportunity to study the theory and practice of teaching the Latin language while simultaneously studying the language, literature, and culture of the Latin-speaking world. Critically oriented pedagogical courses complement the Latin literature and culture courses that explore the diversity of the Latin-speaking world. Study abroad is not required for Classical Studies, however, credits earned abroad may count toward the major.

Program Requirements

Code	Title	Credit Hours
Foreign Language Education Core		
Select the following:		
EDP 201	Human Development and Learning in Social and Educational Contexts	3
EDL 204	Sociocultural Studies in Education	3
EDP 256	Psychology of the Exceptional Learner	3
TCE 191	Threshold Concepts of Teaching, Curriculum, and Educational Inquiry	3
TCE 420F	Teaching Foreign Language (FL): Elementary School Practicum	3
Fall field block courses - take all three concurrently:		
EDP 301A	Assessment and Evaluation in Educational Settings	3
TCE 444	Language Teaching and Learning I	3

TCE 454	TESOL in PK-12: Instructional Theory & Practice	3
Spring field block courses - take all three concurrently:		
TCE 421A	Classroom Cultures, Community, and Climate	3
TCE 445	Language Teaching & Learning II	3
TCE 446L	Reading in the Foreign Language	3
Supervised teaching semester:		
TCE 419A	Teaching Internship- Adolescent	15
Latin Education Courses		
Core Courses (minimum 6 semester hours)		6-8
Option 1 - Select two of the following:		
CLS 101	Greek Civilization in its Mediterranean Context	
CLS 102	Roman Civilization: From City to Empire	
CLS 121	Introduction to Classical Mythology	
Option 2 - Select two GRK courses OR two LAT courses at 100-200 level		
Advanced Courses		
Select 21 additional semester hours from the following, including at least one CLS course at the 300 level:		21
Any CLS, GRK, or LAT course 200 or above		
ART 382	Greek and Roman Sculpture	
ART 383	Greek and Roman Painting	
ART 384	Greek and Roman Decorative Arts	
PHL 301	Ancient Philosophy	
Capstone - take the following:		
CLS 425	Senior Seminar	3
Related Hours:		6

Total Credit Hours **84-86**

College of Arts & Science Writing Requirement (CAS-W) can be met with any CLS 300 level course.

By permission of the instructor and provided that they meet the program eligibility requirements, students may also earn up to 3 credits towards the major by serving as an Undergraduate Associate in a 100 or 200-level class. This experience is especially recommended for students considering a career in education. See the CDA for details.

Graduate work in Classics, Greek, Latin or Classical Archaeology requires not only appropriate experience reading Greek and Latin, but a reading knowledge of French or German as well. Students planning to go to graduate school should consult with the department as early as possible to design an appropriate course of study.

Note: Study abroad is not required in Latin education.

Spanish Education- Bachelor of Science in Education

This program offers students the opportunity to study the theory and practice of teaching the Spanish language while simultaneously studying the language, literature, and culture of the Spanish-speaking world. Critically oriented pedagogical courses complement the Spanish literature and culture courses that explore the diversity of the Spanish-speaking world. All Spanish Education students are required to participate in a study abroad program. The university offers a number of study abroad programs in Latin America and Spain which provide students with linguistic and cultural knowledge, competencies and skills essential to be a 21st century teacher.

Program Requirements

Code	Title	Credit Hours
Required Spanish Core		
SPN 311	Grammar Review and Introductory Composition	3
SPN 312	Introduction to Spanish Language/ Linguistics	3
SPN 315	Intro to Hispanic Literatures	3
Required Intermediate Spanish Courses		
SPN 351	Historical Perspectives on Current Issues	3
or SPN 361	Marginalized Voices	
SPN 352	Cultural History of Spain II	3
or SPN 362	Spanish American Cultural History II	
SPN 381	Language and Society: Past and Present	3
or SPN 382	Spanish Language and Hispanic Culture II	
SPN 341	Intermediate Conversational Spanish	3
or SPN 342	Advanced Conversational Spanish	
Required Advanced Spanish Courses 6		
Select from any 400/500 SPN courses		
Additional Spanish Electives		9
Select from any 300/400 SPN courses		
Capstone		
SPN 490	Issues in Hispanic Literature, Linguistics, or Culture	3
Required Education Core		
EDL 204	Sociocultural Studies in Education	3
EDP 201	Human Development and Learning in Social and Educational Contexts	3
EDP 256	Psychology of the Exceptional Learner	3
TCE 190		3
TCE 420F	Teaching Foreign Language (FL): Elementary School Practicum	3
Required Education Block		
EDP 301A	Assessment and Evaluation in Educational Settings	3
TCE 421A	Classroom Cultures, Community, and Climate	3
TCE 444	Language Teaching and Learning I	3

TCE 445	Language Teaching & Learning II	3
TCE 446L	Reading in the Foreign Language	3
TCE 454	TESOL in PK-12: Instructional Theory & Practice	3

Student Teaching

TCE 419A	Teaching Internship- Adolescent	15
----------	---------------------------------	----

Total Credit Hours **87**

Integrated English Language Arts Education- Bachelor of Science in Education

The Integrated English Language Arts Education major leads to a Bachelor of Science in Education degree. Approved by the Ohio Department of Education, this program prepares graduates to teach students in grades 7-12 in the areas of English (writing, language, reading/literature). In addition to meeting requirements of the Miami Plan, students take courses in English and Education. During their study, students observe and participate in urban and suburban/rural classrooms, culminating in a 15-week, full-time student teaching experience in which they work closely with mentor teachers in high schools or middle schools, eventually assuming instructional responsibilities for all classes.

Program Requirements

Code	Title	Credit Hours
Required Courses		
EDL 204	Sociocultural Studies in Education	3
EDP 201	Human Development and Learning in Social and Educational Contexts	3
EDP 256	Psychology of the Exceptional Learner	3
ENG 304	Backgrounds to Composition Theory and Research	3
LIN 301	History of the English Language	3
LIN 302	Structure of Modern English	3
TCE 191	Threshold Concepts of Teaching, Curriculum, and Educational Inquiry	3
TCE 246A	Foundations of Language and Critical Literacy	3
TCE 423	Literature and Other Media for Adolescents	3
Fall field block courses - take all three concurrently:		
TCE 346A	Reading Instruction for Adolescents	3
TCE 421A	Classroom Cultures, Community, and Climate	3
TCE 427	Adolescent Language Arts I	3
Spring field block courses - take all three concurrently:		
EDP 301A	Assessment and Evaluation in Educational Settings	3
TCE 428	Adolescent Language Arts II	3
TCE 454	TESOL in PK-12: Instructional Theory & Practice	3
Supervised Teacher Semester:		
TCE 419A	Teaching Internship- Adolescent	15

Composition Courses

Select two of the following: 6

ENG/IMS 224	Professional Communication & Digital Rhetoric
ENG 225	Advanced Composition
ENG 226	Introduction to Creative Writing: Short Fiction and Poetry
ENG 298	Introduction to Literary and Cultural Studies
TCE 284	Writing for Educators

English Literature Course

Select one of the following: 3

ENG 272	English Literature to 1660
ENG 273	English Literature 1660-1900
ENG 274	English Literature 1901 to Present
ENG 328	Sixteenth-Century English Literature
ENG 331	Seventeenth-Century English Literature
ENG 335	English Literature of the 18th Century
ENG 339	British Romanticism, 1789-1837
ENG 343	Victorian Literature, 1837-1901
ENG 345	British Modernism, 1890-1945

American Literature Course

Select one of the following: 3

ENG 275	American Literature to 1900
ENG 276	American Literature 1900 to the Present
ENG 293	Contemporary American Fiction
ENG 349	Early American Literature
ENG 352	Antebellum American Literature
ENG 353	American Realism and Naturalism
ENG 354	American Modernism
ENG 355	Contemporary American Literature

Shakespeare

Select one of the following: 3

ENG 134	Introduction to Shakespeare
ENG 221	Shakespeare and Film
ENG 372	Shakespeare's Principal Plays: Early Works
ENG 373	Shakespeare's Principal Plays: Late Works

World Literature Course

Select one of the following: 3

CHI 251	Traditional Chinese Literature in English Translation
CHI 252	Modern Chinese Literature in English Translation
CHI 253	Three Kingdoms
CHI 254	Modern Chinese Autobiography
CHI 257	Chinese Satire
CHI 264	Chinese Cinema and Culture
CLS 121	Introduction to Classical Mythology
ENG 254	Caribbean, Latin American and Latinx Literatures

FRE 350	Topics in French Literature in Translation	
Diversity Literature Course		
Select one of the following:		3
ENG 169	Disability and Literature	
ENG 232	Women Writers	
ENG 237	GLBTQ Literature	
ENG 248	Asian American Literature	
ENG 254	Caribbean, Latin American and Latinx Literatures	
ENG 336	African American Writing, 1746-1877	
ENG/CRE 337	African American Writing, 1878-1945	
ENG/CRE 338	African American Writing, 1946-Present	
ENG 348	Ethnic American Literatures	
ENG 356	Women and Gender in Film	
ENG 390	Studies In Amer Regionalism	
Genre Literature		
Select one of the following:		3
ENG 123	Introduction to Poetry	
ENG 124	Introduction to Fiction	
ENG 125	Introduction to Drama	
ENG 231	The Short Story	
ENG 386	Studies in Drama and Performance	
ENG 387	Studies in Poetry	
ENG 388	Studies in Prose	
ENG 450	Studies in Genre	
THE 101	Introduction to Theatre: Drama and Analysis	
Total Credit Hours		84

Integrated Mathematics Education- Bachelor of Science in Education

The Integrated Mathematics Education major leads to a Bachelor of Science Degree in Education. Approved by the Ohio Department of Education, this program prepares graduates to teach students in grades 7-12 in the area of Mathematics. In addition to meeting requirements of the Miami Plan, students take courses in Mathematics, Teaching, Curriculum, and Educational Inquiry, and Educational Psychology. During their study, students observe and participate in urban and suburban/rural classrooms, culminating in a 15-week, full-time student teaching experience in which they work closely with mentor teachers in high schools or middle schools, eventually assuming instructional responsibilities for all classes.

Program Requirements

Code	Title	Credit Hours
Required Courses		
EDL 204	Sociocultural Studies in Education	3
EDP 201	Human Development and Learning in Social and Educational Contexts	3

EDP 256	Psychology of the Exceptional Learner	3
TCE 191	Threshold Concepts of Teaching, Curriculum, and Educational Inquiry	3
Select one of the following calculus sequences:		8-12
MTH 151 & MTH 251 & MTH 252	Calculus I and Calculus II and Calculus III	
MTH 249 & MTH 252	Calculus II and Calculus III	
MTH 251 & MTH 252	Calculus II and Calculus III	
Select the following:		
MTH 222	Introduction to Linear Algebra	3
MTH 309	Ohio Assessment for Educators Mathematics Problems Seminar	1
MTH 331	Proof: Introduction to Higher Mathematics	3
MTH 408	Mathematical Problem Solving with Technology	3
MTH 409	Secondary Mathematics from an Advanced Perspective	3
MTH 411	Foundations of Geometry	3
MTH 421	Introduction to Abstract Algebra	4
MTH 482	Great Theorems of Mathematics	3
STA 301	Applied Statistics	3
STA 401	Probability	3
Fall field block courses - take all three concurrently:		
TCE 421A	Classroom Cultures, Community, and Climate	3
TCE 429A	Adolescent Mathematics I	3
TCE 446A	Integrating Literacy Across the Content Areas	3
Spring field block courses - take all three concurrently:		
EDP 301A	Assessment and Evaluation in Educational Settings	3
TCE 430	Adolescent Mathematics II	3
TCE 454	TESOL in PK-12: Instructional Theory & Practice	3
Supervised teaching semester:		
TCE 419A	Teaching Internship- Adolescent	15
Total Credit Hours		82-86

Integrated Science Education - Bachelor of Science in Education

The Bachelor of Science in Education degree with an Adolescent/Young Adult (AYA) Integrated Science major provides graduates with the opportunity to teach in 7-12th grade schools in all the major science disciplines (biology, chemistry, earth science and physics) while concentrating in one science area.

Candidates are exposed to state-of-the-art teaching methods and science/math courses as well as teaching in diverse settings, taking English Language Learner (ELL) methods, experiencing elective Science, Technology, Engineering and Mathematics (STEM) Education

methods and engaging in real world scientific research as part of their program.

Since National Science Teachers Association (NSTA) requires candidates to specialize in one science discipline area and have a broad understanding of the other three disciplines, this increases the total number of credit hours required for this degree. The curriculum was streamlined as much as possible in order to minimize the number of required credit hours (124-131 credit hours for the Integrated Science degree will be required).

The majority of the science education majors enter Miami University with an abundant number of Advanced Placement credit hours thus enabling them more flexibility in scheduling their courses. The current science education programs have similar required credit hours and the students have been able to graduate in four years. We don't foresee students having difficulty in managing this degree in a four-year period of time.

Program Requirements

Requirements for all Integrated Science Education Specialties

Code	Title	Credit Hours
Required Pre/Co-requisites		
BIO 115	Biological Concepts: Ecology, Evolution, Genetics, and Diversity	4
BIO 116	Biological Concepts: Structure, Function, Cellular, and Molecular Biology	4
CHM 141 & CHM 144	College Chemistry and College Chemistry Laboratory	5
CHM 142 & CHM 145	College Chemistry and College Chemistry Laboratory	5
GLG 111 & GLG 115L	The Dynamic Earth and Understanding the Earth	4
GLG 307	Water and Society	3
IES 275	Principles of Environmental Science	3
PHY 111	Astronomy and Space Physics	3
STA 261	Statistics	4
Science Research - BIO, CHM, GLG, or PHY 277R, 377R, or 477R		3-6
Teacher Education Core		
EDL 204	Sociocultural Studies in Education	3
EDP 201	Human Development and Learning in Social and Educational Contexts	3
EDP 256	Psychology of the Exceptional Learner	3
TCE 191	Threshold Concepts of Teaching, Curriculum, and Educational Inquiry	3
Integrated Science Education Required Courses		
Fall field block courses - take all three concurrently		
EDP 301A	Assessment and Evaluation in Educational Settings	3
TCE 431	Adolescent Science Methods I	3
TCE 454	TESOL in PK-12: Instructional Theory & Practice	3
Spring field block courses - take all three concurrently		

TCE 421A	Classroom Cultures, Community, and Climate	3
TCE 432	Adolescent Science Methods II	3
TCE 446A	Integrating Literacy Across the Content Areas	3
Supervised teaching semester		
TCE 419A	Teaching Internship- Adolescent	15
Total Credit Hours		83-86

Integrated Science Education Specialties

Biology

Code	Title	Credit Hours
Required Courses		
BIO 161	Principles of Human Physiology	4
BIO 203	Introduction to Cell Biology	3
BIO 206	Evolutionary Biology	3
BIO 209	Fundamentals of Ecology	3
BIO 342	Genetics	3
CHM 231	Fundamentals of Organic Chemistry	4
PHY 161	Physics for the Life Sciences with Laboratory I	4
PHY 162	Physics for the Life Sciences with Laboratory II	4
TCE 415	Inquiry Into Life Science	3
Total Credit Hours		31

Chemistry

Code	Title	Credit Hours
Required Courses		
BIO 206	Evolutionary Biology	3
CHM 241 & CHM 244	Organic Chemistry and Organic Chemistry Laboratory	5
CHM 242 & CHM 245	Organic Chemistry and Organic Chemistry Laboratory	5
CHM 375	Analytical Chemistry for Majors	3
CHM 415	Misconceptions in Chemistry	3
CHM 491	Chemistry in Societal Issues	3
PHY 161	Physics for the Life Sciences with Laboratory I	4
PHY 162	Physics for the Life Sciences with Laboratory II	4
TCE 415	Inquiry Into Life Science	3
Total Credit Hours		33

Earth Science

Code	Title	Credit Hours
Required Courses		
BIO 161	Principles of Human Physiology	4
CHM 231	Fundamentals of Organic Chemistry	4
GLG 204	Survival on an Evolving Planet	4
GLG 211	Chemistry of Earth Systems	4
GLG 301	Sedimentology and Stratigraphy	4

GLG 356	Mineralogy	4
PHY 161	Physics for the Life Sciences with Laboratory I	4
PHY 162	Physics for the Life Sciences with Laboratory II	4
TCE 415	Inquiry Into Life Science	3
GLG Elective		3
Total Credit Hours		38

Physics

Code	Title	Credit Hours
Required Courses		
BIO 206	Evolutionary Biology	3
MTH 151	Calculus I	4
MTH 251	Calculus II	4
MTH 252	Calculus III	4
PHY 191	General Physics with Laboratory I	5
PHY 192	General Physics with Laboratory II	5
PHY 215	Physics by Inquiry	3
or TCE 415	Inquiry Into Life Science	
PHY 281	Contemporary Physics I: Foundations	3
Total Credit Hours		31

Integrated Social Studies Education- Bachelor of Science in Education

The Integrated Social Studies Education major leads to a Bachelor of Science Degree in Education. Approved by the Ohio Department of Education, this program prepares graduates to teach students in grades 7-12 in the areas of Social Studies. In addition to meeting the requirements of the Miami Plan, students take courses in Social Studies and Educational Psychology. During their study, students observe and participate in urban and suburban/rural classrooms, culminating in a 15-week, full-time student teaching experience in which they work closely with mentor teachers in high schools or middle schools, eventually assuming instructional responsibilities for all classes.

Program Requirements

(55 credit hours of social studies content coursework)

Code	Title	Credit Hours
Required Courses		
ECO 201 & ECO 202	Principles of Microeconomics and Principles of Macroeconomics	6
GEO 101	Global Forces, Local Diversity	3
GEO 121	Earth's Physical Environment	4
HST 111 & HST 112	Survey of American History to 1877 and Survey of American History: From 1877 to the Present	6
POL 201	Political Thinking	3
POL 241	American Political System	3
Select one of the following:		3

ATH 155	Introduction to Anthropology	
ATH 175	Global Cultural Diversity	
ATH 185	Cultural Diversity in the U.S.	
SOC 151	Social Relations in the U.S.	
SOC 153	Sociology in a Global Context	
Select one of POL 221-POL 499		3
Select the following sequence:		6
HST 197 & HST 198	World History to 1500 and World History Since 1500	
Select four courses in history, 200-499, one of which must be non-western, including the following:		12
HST 217	Modern Latin American History	
HST 221	African-American History	
HST 224	Africa to 1884	
HST 225	The Making of Modern Africa	
HST 241	Introduction to Islamic History	
HST 215	Latin America in the United States	
HST 319	Revolution in Latin America	
HST 324	Eurasian Nomads and History	
HST 354	Modern Chinese History	
HST 356	Modern Japanese History	
HST 371	Native American History to 1840	
HST 372	Native American History since 1840	
Select one of the following Philosophy courses:		3-4
PHL 301	Ancient Philosophy	
PHL 103	Society and the Individual	
PHL 104	Purpose or Chance in the Universe	
PHL 105	Theories of Human Nature	
PHL 131	Introduction to Ethics	
PHL 205	Science and Culture	
PHL 241	Philosophy of Art	
PHL 245	Writing Philosophy	
PHL 263	Informal Logic	
PHL 302	Modern Philosophy	
PHL 311	Ethical Theory	
PHL 312	Contemporary Moral Problems	
PHL 331	Political Philosophy	
PHL 335	Philosophy of Law	
PHL 355	Feminist Theory	
Undergraduate education course requirements:		
EDL 204	Sociocultural Studies in Education	3
EDP 201	Human Development and Learning in Social and Educational Contexts	3
EDP 256	Psychology of the Exceptional Learner	3
TCE 191	Threshold Concepts of Teaching, Curriculum, and Educational Inquiry	3
Take the following three courses concurrently fall semester of cohort year (typically junior year).		
EDP 301A	Assessment and Evaluation in Educational Settings	3
TCE 433	Adolescent Social Studies Methods I	3
TCE 454	TESOL in PK-12: Instructional Theory & Practice	3

Select all of the following concurrently, spring semester of cohort year (typically junior year):

TCE 421A	Classroom Cultures, Community, and Climate	3
TCE 434	Adolescent Social Studies Methods II	3
TCE 446A	Integrating Literacy Across the Content Areas	3

Supervised teaching semester:

TCE 419A	Teaching Internship- Adolescent	15
----------	---------------------------------	----

Total Credit Hours 97-98

Middle Childhood Education- Bachelor of Science in Education Program Requirements

Code	Title	Credit Hours
------	-------	--------------

Required for all Middle Childhood Concentrations

EDL 204	Sociocultural Studies in Education	3
EDP 201	Human Development and Learning in Social and Educational Contexts	3
EDP 256	Psychology of the Exceptional Learner	3
TCE 191	Threshold Concepts of Teaching, Curriculum, and Educational Inquiry	3

Select one of the following: 3

AMS 205	Introduction to American Cultures	
ATH 185	Cultural Diversity in the U.S.	
ENG 248	Asian American Literature	
ENG 254	Caribbean, Latin American and Latinx Literatures	
GEO 201	Geography of Urban Diversity	
FSW 481	Adolescent Development in Diverse Families: Ages 13-25	
IDS 159	Strength Through Cultural Diversity	
WGS 201	Introduction to Women's Studies	

Early Field Block: Take the following three courses concurrently: 9

TCE 246M	Foundations of Language and Literacy	
TCE 252M	Early Field Experience: Middle Childhood	
TCE 442M	Phonics and Reading Improvement for Middle Childhood	

Methods Block: Take the following three courses plus two methods courses (one for each concentration) the fall semester following the Early Field Block 9

EDP 301M	Assessment and Evaluation in Educational Settings	
TCE 346M	Reading Instruction for Middle Grades	
TCE 421M	Classroom Cultures, Community, and Climate	

Select two of the following (depending on content areas chosen): 6

TCE 429M	Middle Childhood Mathematics	
TCE 436	Middle Childhood Language Arts	

TCE 439	Middle Childhood Social Studies	
TCE 441	Middle Childhood Science	

Practicum Block: Take the following two courses together spring semester following Methods Block: 6

EDL 318M	Teacher Leadership and School Organization	
----------	--	--

TCE 448M	Reading Practicum for Middle Childhood	
----------	--	--

TCE 419M	Teaching Internship-Middle Childhood	15
----------	--------------------------------------	----

Concentrations

Select two concentrations 37-45

Total Credit Hours 97-105

Concentrations

Language Arts Concentration

Code	Title	Credit Hours
------	-------	--------------

ENG 262	Children's Literature	3
ENG 304	Backgrounds to Composition Theory and Research	3
LIN 301	History of the English Language	3
TCE 423	Literature and Other Media for Adolescents	3

Select one of the following: 3

ENG 224	Professional Communication & Digital Rhetoric	
ENG 225	Advanced Composition	
ENG 226	Introduction to Creative Writing: Short Fiction and Poetry	
TCE 284	Writing for Educators	

Select one of the following: 3

CLS 121	Introduction to Classical Mythology	
GER 231	Enchanted Worlds: Folk and Literary Fairy Tales	
RUS 137	Magic and Power in Russian Folklore	

Total Credit Hours 18

Math Concentration

Code	Title	Credit Hours
------	-------	--------------

MTH 151	Calculus I	4
MTH 217	Mathematics for Middle Childhood Teachers: Structure of Arithmetic and Algebra	4
MTH 218	Geometry for Middle Childhood Teachers	4
MTH 407	Mathematical Structures Through Inquiry	3
STA 301	Applied Statistics	3-4
or STA 261	Statistics	
TCE 265	Mathematics: History and Technology	3

Total Credit Hours 21-22

Science Concentration

Code	Title	Credit Hours	
TCE 181	Physical Science and Society	4-5	
or CHM 111 & 111L	Chemistry in Modern Society and Chemistry in Modern Society Laboratory		
or CHM 131	Chemistry of Life Processes		
or CHM 141 & CHM 144	College Chemistry and College Chemistry Laboratory		
or PHY 161	Physics for the Life Sciences with Laboratory I		
or PHY 191	General Physics with Laboratory I		
TCE 182	Earth Science and Society	4	
or GLG 111 & GLG 115L	The Dynamic Earth and Understanding the Earth		
or GLG 121 & GLG 115L	Environmental Geology and Understanding the Earth		
or GLG 141 & GLG 115L	Geology Of U.S. National Parks and Understanding the Earth		
TCE 415	Inquiry Into Life Science		
Select a science elective course ¹		3	
Select two of the following:		6-8	
BIO 101	Biotechnology: Coming of Age in the 21st Century	20-23	
BIO 115	Biological Concepts: Ecology, Evolution, Genetics, and Diversity		
BIO 116	Biological Concepts: Structure, Function, Cellular, and Molecular Biology		
BIO 121	Environmental Biology		
BIO 131	Plants, Humanity, and Environment		
BIO 155	Field Botany		
BIO 161	Principles of Human Physiology		
BIO 176	Ecology of North America		
BIO 191	Plant Biology		
MBI 111	Microorganisms and Human Disease		
MBI 121	The Microbial World		
Total Credit Hours			

¹ Choose any BIO, CHM, GLG, IES, MBI, and PHY 100-499; GEO 121, GEO 211, GEO 221.

Social Studies Concentration

Code	Title	Credit Hours
HST 111 & HST 112	Survey of American History to 1877 and Survey of American History: From 1877 to the Present	6
GEO 101	Global Forces, Local Diversity	3
TCE 362	U.S. Political/Economic Experience for Teachers	4
Select one of the following:		3
HST 197	World History to 1500	3-4
HST 198	World History Since 1500	
Select one of the following:		
ATH 155	Introduction to Anthropology	

ATH 175	Global Cultural Diversity
SOC 151	Social Relations in the U.S.
SOC 153	Sociology in a Global Context

Total Credit Hours**19-20**

Primary Education PK-5 - Bachelor of Science in Education

The Primary PK-5 major leads to a Bachelor of Science in Education degree. Approved by the Ohio Department of Education, this program prepares graduates to teach students in grades PK through 5th in all content areas. In addition to meeting requirements of the Miami Plan, students take courses in Teaching, Curriculum, & Educational Inquiry; Educational Leadership; Kinesiology, Nutrition, and Health; Family Science and Social Work; and Educational Psychology. During their study of justice-oriented and critically conscious curricula and pedagogies, students participate actively in urban and suburban/rural classrooms and communities, culminating in a 15-week, full-time student teaching experience in which they work closely with mentor teachers in Head Start facilities, and in area elementary schools, eventually assuming instructional responsibilities for all classes.

Program Requirements

Code	Title	Credit Hours
EDL 204	Sociocultural Studies in Education	3
EDP 201	Human Development and Learning in Social and Educational Contexts	3
EDP 256	Psychology of the Exceptional Learner	3
MTH 115	Mathematics for Teachers of Grades P-6	4
MTH 116	Mathematics for Elementary Teachers	4
TCE 191	Threshold Concepts of Teaching, Curriculum, and Educational Inquiry	3
TCE 225	Family School and Community Connections	3
TCE 242P	Phonics and Literacy Instruction for Teachers	3
TCE 362	U.S. Political/Economic Experience for Teachers	4
TCE 419P	Teaching Internship Primary PK-5	15
Block One		
Take the following courses concurrently (after successful admission to the cohort):		
KNH 245	Issues of Health & Wellness for the Young Child	3
TCE 246P	Foundations of Reading, Language, and Literacy	3
TCE 272P	Introduction of Childhood Development and Education	3
TCE 315P	Children's Literature for PK-5 Classrooms	3
TCE 454	TESOL in PK-12: Instructional Theory & Practice	3
Block Two		

Take the following courses concurrently (after successful completion of Block One):

EDP 495E	Inclusion and Adaptations for Students with Mild/Moderate and Gifted Needs in PreK to 5 Classrooms	3
TCE 317P	Science PK-5: Child and Curriculum Integration	3
TCE 318P	Mathematics PK-5: Child and Curriculum Integration	3
TCE 417P	Social Studies PK-5: Child and Curriculum Integration	3
TCE 474P	Classroom Cultures, Community, and Climate	3

Block Three

Take the following courses concurrently (after successful completion of Block Two):

EDL 318E	Teacher Leadership and School Organization	3
EDP 432	Assessment and Educational Planning for Children in Preschool through Fifth Grade	3
TCE 346P	Language, Literacy, and Culture in PK-5 Education	3
TCE 473P	Negotiating the Complexities of Teaching: PK-5 Synthesis	3

Total Credit Hours **87**

Minors

In addition to majors, The College of Education, Health, and Society offers minors. A minor is a specific program to be taken along with a major to complement your skills and increase your career opportunities. Completing a minor is optional.

More information about minors is included in the Other Requirements section.

- Child Studies and Youth Development
- Coaching
- Community-Based Leadership
- Dance
- Disability Studies
- Education, Teaching, and Learning
- Family Relationships
- Health Behavior
- Nutrition
- Primary Special Education Minor with Licensure
- Special Education
- Sport Analytics
- Sport Management

Child Studies and Youth Development Minor

For more information, please contact the Department of Family Science and Social Work, 101 McGuffey Hall or call 513-529-2323.

This minor prepares students to work with children from birth to age 25. Courses focus on growth and development, caregiver-child relationships, and understanding the diverse experiences of children and youth within their families and communities. This program is of special interest to those majoring in areas such as education, psychology, and speech pathology. This minor is not open to majors in Social Work.

A minimum 2.00 GPA is required for all courses in this minor. No courses may be taken credit/no credit.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Core Requirements		
Select all of the following:		
FSW 245	Children and Families: Ages Conception - 12	3
FSW 261	Diverse Family Systems Across the Life Cycle	3
FSW 365	Family Life Sexuality Education Across Cultures	3
FSW 481	Adolescent Development in Diverse Families: Ages 13-25	3
Elective Courses		
Select two of the following:		
EDL 203	Introduction to Critical Youth Studies	6
FSW 206	Social Welfare Policies & Programs	
FSW 318	Child Life Theory and Practice	
FSW 375	Perspectives on Child Maltreatment and Child Advocacy	
FSW 385	Global Child Advocacy Issues	
FSW 445	Therapeutic Play for Child Life Specialists	
Total Credit Hours		18

Coaching Minor

The minor in coaching allows students to obtain the knowledge and skills needed to coach at the youth, interscholastic, intercollegiate, and professional levels of sport. The minor is open to all university students except those student majoring in sport coaching.

Coaching Minor Requirements

(18 semester hours)

Code	Title	Credit Hours
Select all of the following:		
KNH 184	Motor Skill Learning and Performance	3
SLM 337	Foundations and Fitness Training for Coaches	3
SLM 447	Sport Pedagogy for Coaches and Practitioners	3
Select two of the following:		
SLM 338	Psychosocial Aspects of Coaching	6

SLM 438	Principles of Effective Coaching	
SLM 473	Children and Youth in Sport	
Select one of the following:		3
SLM 225	Ethics in Sport	
SLM 248	Global Sport Perspectives	
SLM/CRE/SOC 279	African Americans in Sport	
SLM 378	Sport, Power and Inequality	
SLM 471	Sport, Leisure, and Aging	
SLM 475	Women, Gender Relations, and Sport	
Total Credit Hours		18

Community-Based Leadership Minor

Students will explore leadership as it is practiced in communities, organizations, and public institutions. Explorations of leadership as a critical activity for contemporary public life in a democratic society.

Minimum 3.00 cumulative GPA in minor classes required to receive minor degree.

Education Studies majors taking the minor may share up to 6 credit hours of program requirements which already count towards the CBL minor.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Required Leadership Courses		
EDL 232	Introduction to Community-Based Leadership	3
EDL 351	Leadership Ethics in Community Contexts	3
Required Communications Course		
Select one of the following:		3
AAA/AMS/CRE/LAS/WGS 211	Writing with Purpose: Interdisciplinary Inquiry and Communication	
APC 428	Communication in Conflict Management	
JRN 101	Journalism and American Life	
STC 135	Principles of Public Speaking	
STC 136	Introduction to Interpersonal Communication	
STC 236	Intercultural Communication	
STC 259	Foundations of Campaign Design	
STC 431	Persuading Audiences	
Electives		
Select six hours of the following:		6
AMS 205	Introduction to American Cultures	
AMS 207	America: Global and Intercultural Perspectives	
ATH/CRE 325	Identity, Race, Gender, Class	

CRE/SJS/SOC 265	Critical Inquiry: Penny Lecture Series
CRE 348	Race and Ethnic Relations
DST/EDP/SOC/WGS 375	(Dis)Ability Allies: To be or not to be? Developing Identity and Pride from Practice
TCE/FSW 225	Family School and Community Connections
EDL 195	Team Building Development - Facilitation & Group Dynamics
EDL 203	Introduction to Critical Youth Studies
EDL 204	Sociocultural Studies in Education
EDL 290	The Nature of Group Leadership
EDL 333	Youth, Media & Pop Culture
EDL 334	Transnational Youth Cultures
EDL 369	Sexuality, Youth, Education
EDL 382	Community-Based Research & Learning in Education
FSW 245	Children and Families: Ages Conception - 12
FSW 481	Adolescent Development in Diverse Families: Ages 13-25
GEO 201	Geography of Urban Diversity
GEO 271	Human Dimensions of Natural Resource Conservation
GEO/WGS 436	Women, Gender, and the Environment
GEO 451	Urban and Regional Planning
HST 216	Introduction to Public History
IDS 159	Strength Through Cultural Diversity
IMS 225	Games and Learning
LAS 315	Latin American Diaspora: Communities, Conditions and Issues
LAS/HST 319	Revolution in Latin America
NCS 201	Theories of Civic Leadership and Democracy
NCS 202	Introduction to Nonprofits and NGOs
PHL 131	Introduction to Ethics
PHL 312	Contemporary Moral Problems
SJS 159	Creating Global Peace
SJS 215	EMPOWER I: Educational and Economic Justice and Service-Learning
SJS 216	EMPOWER II: The Intersections of Race, Class, and Education
SOC 153	Sociology in a Global Context
SOC 203	Sociology of Gender
SOC 258	Self and Society
STC 437	Media, Advocacy & Social Change
THE 439	Special Techniques for the Actor
WGS 201	Introduction to Women's Studies
The following upper level courses may also be selected as electives but require prerequisites:	
CRE 362	Family Poverty
DST 494	Disability in Global and Local Contexts
FSW 462	Family Policy and Law

GEO 462	Citizenship and the City
SJS/SOC 323	Social Justice and Change
SOC 409	Systems of Justice
SOC/CRE/SJS 470	Social/Political Activism
WGS 301	Women and Difference: Intersections of Race, Class, and Sexuality
WGS 402	Engaged Learning Practicum

The department strongly supports student participation in immersive learning opportunities. Elective credits can also be earned through participation of the following (credit cannot be granted retroactively):

EDL 340	Internship
	EDL Independent Study Course
	EDL Independent Study Research Course

Required Culminating Course

EDL 464	Community-Based Leadership and Change	3
---------	---------------------------------------	---

Total Credit Hours 18

For more information: Contact the Department of Educational Leadership at EDL@miamioh.edu

Disability Studies Minor

For information, contact the Department of Educational Psychology, 201 McGuffey Hall, edp@miamioh.edu.

This minor offers a broad liberal arts approach to the study of disability. It provides students with knowledge of the historical, social, artistic, literary, legal, educational, philosophical and political framing of disability. Students develop a strong interdisciplinary foundation, with emphasis on cultural constructions of disability, and the intersections of disability, race, gender, sex, age, class and other markers of diversity and difference. Students have the opportunity to enhance this foundation by extending their learning into the community through the senior capstone internship and/or independent research requirement.

Program requirements

(18 semester hours)

Take the required courses, no more than two additional courses at the 100-200 level, and the capstone experience.

Code	Title	Credit Hours
Required courses		
DST/EDP/SOC 272	Introduction to Disability Studies	3
DST/EDP/SOC/ WGS 375	(Dis)Ability Allies: To be or not to be? Developing Identity and Pride from Practice	3
Capstone course		
EDP 489/DST 494	Disability in Global and Local Contexts	3
Additional courses		
Select no more than two courses at the 100-200 level:		3-6
ARC 107	Global Design	
SPA 101	Beginning ASL I	

DST/SPA 102	Beginning ASL II	
DST/ENG 169	Disability and Literature	
DST/EDP/WGS 278	Women and (Dis)ability: Fictions and Contaminations of Identity	
Select remaining hours at the 300-400 level:		6-9
DST/SPA 312	American Deaf Cultures	
DST/EDP 378	Media Illusions: Creations of "The Disabled" Identity	
DST/CRE/SJS/ SOC 470	Social/Political Activism	
EDL 315	Disability History in America	
ENG/WGS 435	Queer Theory	
FSW 245	Children and Families: Ages Conception - 12	
GTY/SOC 357	Medical Sociology	
SLM 378	Sport, Power and Inequality	

Total Credit Hours 18-24

Education, Teaching, and Learning Minor

For information, contact the Department of Teaching, Curriculum, and Educational Inquiry at 513-529-6443.

Most people will have contact with the educational systems in their communities during their lifetimes. Many will have careers that at least part of the time involve training employees. Some envision careers that involve helping people learn new tasks and ideas. Some see themselves running for political office. This minor can provide a basic understanding of ideas in the world of education.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
EDP 201	Human Development and Learning in Social and Educational Contexts	3
TCE 190		3
TCE 311	Educational Strategies for Non-Majors	3
Select 9 hours from the following:		9
TCE 188	Creativity and Innovation in STEM Education	
TCE 202	Global Childhood Education: Diversity, Education & Society	
TCE 225	Family School and Community Connections	
or FSW 225	Family School and Community Connections	
TCE 284	Writing for Educators	
TCE 288	Ways of Thinking in STEM (Science, Technology, Engineering, and Mathematics) Education	
TCE 415	Inquiry Into Life Science	
TCE 422	Studies in Educational Issues	
TCE 452	Teaching Social Studies	

TCE 455	Capstone Seminar: Comparative Education in Europe or China
TCE 461	Grant Writing Skills/Methods
TCE 483	Educators as Activists: Preparing Educators and Allies for Forces Impacting Classrooms and Schools
TCE 488	Grand Challenges in STEM Education
TCE 495	Writing Information Books for Children
Total Credit Hours	18

Family Relationships Minor

This minor examines the diversity and complexity of family experiences and relationships across the life course. Courses focus on contextual influences on families, sexuality and gender, interpersonal violence, and human development. Students desiring to increase their knowledge about families in order to enhance their career opportunities will find this minor of interest; students majoring in psychology, sociology, and education may be especially interested. This minor is not open to students majoring in Social Work.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Core Requirements		
Select all of the following:		
FSW 261	Diverse Family Systems Across the Life Cycle	3
FSW 365	Family Life Sexuality Education Across Cultures	3
FSW 451	Interpersonal Violence	3
FSW 475	Family Theories	3
Elective Courses		
Select two of the following:		
FSW 201	Introduction to Social Work and Family Life Education	6
FSW 362	Family Poverty	
FSW 442	Family Resource Management: Education and Advocacy	
FSW 466	Interpersonal Perspectives on Adulthood and Aging	
Total Credit Hours		18

Health Behavior Minor

This minor provides the foundational courses for students who wish to specialize in health education and become a 'Certified Health Education Specialist' (or CHES). It is open to all students and complements majors in health-related professional and pre-professional programs. A minimum 2.00 GPA is required for all courses in the minor. No courses may be taken credit/no-credit. Students majoring in Public Health in the College of Arts and Science, or Community Nutrition can count no more than 6 hours from their major towards this minor. This minor is not open to students

majoring in Public Health in The College of Education, Health, & Society.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Complete the following:		
KNH 218	Applied Health Behavior Change	3
KNH 262	Public Health Education	3
KNH 434	Public Health Communication and Marketing	3
KNH 462	Public Health Planning and Evaluation	3
Electives - select two of the following:		
KNH 102	Food, Nutrition & Health	6
KNH 125	Introduction to Public Health	
KNH 188	Physical Activity and Health	
KNH 209	Medical Terminology for Health Professionals	
KNH 302	Global and Community Nutrition	
KNH 321	National and Global Health Policy	
KNH 329	Psychological Perspectives on Health	
KNH 395	Public Health Research Methods	
KNH 409	Nutrition for Sports and Fitness	
KNH 424	Public Health Disparities Past and Current	
Total Credit Hours		18

Nutrition Minor

This minor provides an understanding of nutrition and includes specialized courses in child nutrition, nutrition for the aging, and community nutrition. It is open to all students and complements majors in health-related professional and pre-professional programs. A minimum 2.00 GPA is required for all courses in the minor. No courses may be taken credit/no-credit.

Program Requirements

(19-20 semester hours)

Code	Title	Credit Hours
Required courses		
KNH 102	Food, Nutrition & Health	3
KNH 104	Introduction to Food Science	3
KNH 202	Nutrition Across the Life Span	3
Select one of the following:		
CHM 131	Chemistry of Life Processes	4-5
CHM 141 & CHM 144	College Chemistry and College Chemistry Laboratory	
Electives		
Select two of the following:		
ATH 348	Introduction to Medical Anthropology	6
ITL 231	Italian Food Cultures in Context	

KNH 203	Nutrition in Disease Prevention Management
KNH 302	Global and Community Nutrition
KNH 405	Advanced Nutrition I: Macronutrient Metabolism
KNH 406	Advanced Nutrition II: Micronutrient and Phytochemical Metabolism
KNH 409	Nutrition for Sports and Fitness
KNH 453H	Nutrition Education

Total Credit Hours 19-20

Primary Special Education Minor with Licensure

This minor is required for students in the PK5/PK5 Intervention Specialist Dual Licensure Program to complete the four-year requirements for primary intervention specialist licensure. This minor allows PK5/PK5IS dual licensure students to expand their skills to teach students in preschool through fifth grade with and without disabilities. This minor is only available to students who are majoring in Primary Education who are seeking PK5 and PK5 Special Education licensure

Program Requirements

Code	Title	Credit Hours
EDP 459	Practicum in Special Education: Mild/Moderate	3
EDP 478	Collaboration and the Law in Special Education	3
EDP 486	Methods I: Learners with Mild/Moderate Disabilities	3
EDP 491	Methods II: Learners with Mild to Moderate Disabilities	3
SPA 223	Theories of Language Development	3
SPA 427	Augmentative and Alternative Communication Systems for Individuals with Complex Communication Needs	3

Total Credit Hours 18

Special Education Minor

A minor is a special program to be taken along with a major to complete your skills and increase your career opportunities. More information on minors is in the Other Requirements chapter.

Special Education Without Licensure

Open to any major, this minor can usually be completed within a four-year program. Applications for this minor are accepted in the EDP office in 201 McGuffey Hall, each year until enrollment limits are reached. Online classes during winter and summer terms may be required.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Select this course first:		
EDP 256	Psychology of the Exceptional Learner	3
Select the following:		
EDP 486	Methods I: Learners with Mild/Moderate Disabilities	3
EDP 487	Student-Centered Practices to Support Social and Emotional Needs	3
or EDP 496	Behavioral Interventions: Theory, Principles, and Techniques	
Select from the following to complete 18 hours:		9
EDP/DST/SOC 272	Introduction to Disability Studies	
EDP 478	Collaboration and the Law in Special Education	
EDP 491	Methods II: Learners with Mild to Moderate Disabilities	
EDP 494	Assessment, Evaluation, and Educational Planning for Learners with Exceptionalities	
or EDP 432	Assessment and Educational Planning for Children in Preschool through Fifth Grade	

Total Credit Hours 18

Sport Analytics Minor Description

The sport analytics minor provides students with an understanding of how sport organizations analyze, interpret, and communicate data efficiently and effectively in sport. Students will learn the analytical and technical skills needed for database programming, regression modeling, and data visualization as it applies to the economics, marketing, administration, communication, and performance of sport.

Eligibility

A minimum 2.0 GPA is required for all courses in the minor. Courses must be taken for a grade (not credit/no-credit). Students planning to take this minor should consult with a faculty advisor in the Sport Leadership and Management program. This minor is open to all university students except those enrolled in the Data Analytics Bachelor of Arts - Concentration in Sport Analytics. Students may not earn a Sport Analytics Minor and an undergraduate Certificate in Sport Analytics.

Program Requirements

Code	Title	Credit Hours
Required Courses:		
SLM 275	Introduction to Sport Analytics	3
SLM 314	Sport Analytics I	3
or ISA 243	Database and Programming for Analytics	
SLM 315	Sport Analytics II	3
or ISA 291	Applied Regression Analysis in Business	
SLM 317	Sport Analytics III	3
or ENG 285	Professional Communication for Data Analytics	

SLM 413	Sport Economics	3
or SLM 416	Sport Marketing	
or SLM 273	Sport Communication & Media	
SLM 418	Applied Sport Analytics	3
Total Credit Hours		18

Sport Management Minor

This minor focuses on the knowledge and skills needed for administrative or managerial positions in sport at various levels (from youth to elite sport) and in various context (from community recreational to professional sport). The minor is open to all university students. Students majoring in sport management may not minor in sport management.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
SLM 212	Introduction to Sport Management	3
SLM 413	Sport Economics	3
SLM 416	Sport Marketing	3
SLM 472	Sport Administration	3
Select one of the following:		3
SLM 225	Ethics in Sport	
SLM 273	Sport Communication & Media	
SLM 414	Facilities and Event Management in Sport	
Select one of the following:		3
SLM 246	Sport, Management, and Culture in the Global Marketplace	
SLM 248	Global Sport Perspectives	
SLM 279	African Americans in Sport	
SLM 378	Sport, Power and Inequality	
SLM 417	Legal Issues in Sport Leadership and Management	
SLM 471	Sport, Leisure, and Aging	
SLM 473	Children and Youth in Sport	
SLM 475	Women, Gender Relations, and Sport	
Total Credit Hours		18

Child Life Specialist Certificate

The Child Life Certificate includes the coursework required by the Association of Child Life Professionals for eligibility to complete official child life internships and take the Child Life Professional Certification Exam.

Completing the Child Life Certificate does not constitute certification by the Association of Child Life Professionals.

Certified Child Life Specialists often work in pediatric hospitals but may also work in other spaces (e.g., courtrooms, funeral homes or bereavement services) where children may experience trauma. The field of Child Life is evidence-based, providing interventions (e.g., therapeutic play, education, self-care, stress reduction, distraction, etc) with children and families that are developmentally appropriate.

As members of a child's care team, Child Life Specialists serve an important role in improving the illness-related experiences of both patients and their families.

Students may not declare the Child Life Specialist Certificate and either the Child Studies and Youth Development or Family Relationships minor.

Students must complete an application in order to be admitted to the certificate. The application is available at: <https://miamioh.edu/ehs/academics/departments/fsw/academics/majors/family-science/child-life/undergraduate/index.html>

Program Requirements

(33-35 credit hours)

Code	Title	Credit Hours
Required courses:		
FSW 245	Children and Families: Ages Conception - 12	3
FSW 261	Diverse Family Systems Across the Life Cycle	3
FSW 295	Research and Evaluation Methods	3
FSW 318	Child Life Theory and Practice	3
FSW 435	Death Studies	3
FSW 445	Therapeutic Play for Child Life Specialists	3
FSW 481	Adolescent Development in Diverse Families: Ages 13-25	3
FSW 340	Internship	3
Choose 3 of the following:		9-11
FSW 375	Perspectives on Child Maltreatment and Child Advocacy	
FSW 385	Global Child Advocacy Issues	
FSW 415	Culturally-Informed Practice	
FSW 451	Interpersonal Violence	
FSW 455	Child Abuse & Neglect: Assessment & Child Safety	
FSW 475	Family Theories	
BIO 161	Principles of Human Physiology	
KNH 209	Medical Terminology for Health Professionals	
KNH 245	Issues of Health & Wellness for the Young Child	
KNH 424	Public Health Disparities Past and Current	
PHL 375	Medical Ethics	
PSY 111	Introduction to Psychology	
PSY 242	Abnormal Psychology	
Total Credit Hours		33-35

Fostering Just Communities Certificate

For information, contact the Department of Teaching, Curriculum, and Educational Inquiry, 401 McGuffey Hall 513-529-6443.

This 12-credit undergraduate certificate program is open to all majors, is inter-disciplinary, requires a place-based learning component, and focuses on social justice in urban communities. Multiple options to completion.

Program Requirements

Code	Title	Credit Hours
Complete one of the following pathways:		12
Urban Cohort		
Preparatory		
SJS 215	EMPOWER I: Educational and Economic Justice and Service-Learning	
Experiential		
Student Teaching or 120-hour semester internship (either Immersive Residential or not)		
TCE 419A or TCE 419P or TCE 419M	Teaching Internship- Adolescent Teaching Internship Primary PK-5 Teaching Internship-Middle Childhood	
Reflective		
TCE 420	Field Experience ¹	
Culminating		
See Fostering Just Communities Advisor for Options		
Fall Residency Program		
Preparatory		
SJS 215	EMPOWER I: Educational and Economic Justice and Service-Learning	
Experiential		
Immersive Residential Semester Internship		
Reflective		
EDL 377	Independent Studies	
Culminating		
ARC 427	The American City Since 1940	
Flex Plan		
Preparatory		
SJS 215	EMPOWER I: Educational and Economic Justice and Service-Learning (See Fostering Just Communities Advisor for additional options)	
Experiential		
Cincinnati Summer Immersion Program or 120 hour Non-residential Semester Internship		
Reflective		
Culminating		
See Fostering Just Communities Advisor for Options		
Approved course (See Fostering Just Communities Advisor) and 1 credit hour independent study		
Total Credit Hours		12

¹ See advisor for available topics.

Healthcare Sales Certificate

Demand for healthcare services are on the rise. As a result, the demand for medical equipment, medical supplies, and pharmaceuticals has also increased. This certificate program is designed to prepare students for careers in healthcare sales, and includes both curricular and co-curricular experiences. The program is open to students across the university.

Program Requirements

Code	Title	Credit Hours
ECO 332	Health Economics	3
KNH 209	Medical Terminology for Health Professionals	3
MKT 315	Professional Selling	3
MKT 490	Emerging Topics in Marketing ¹	3
PMD 320	Topics in Healthcare ²	1
Total Credit Hours		13

¹ Students must select MKT 490C *Advanced Healthcare Sales & MKT*.

² Students must select PMD 320C *Healthcare Sales*.

Remote Teaching for K12 Certificate

Blended, online, and remote learning environments are now prevalent in K12 learning. Blended and remote learning enables teachers to extend and expand the classroom and to support more personalized learning. In addition, online learning is becoming a more prevalent alternative to classroom instruction. The purpose of this certificate is to prepare K12 undergraduate students in teacher preparation programs with the skills, pedagogy, methods, and practice to prepare them for teaching in remote learning environments.

Program Requirements

Code	Title	Credit Hours
Required		
EDP 437	Blended and Online Learning Design	3
EDP 447	eLearning in K-12 Education	3
TCE 420R	Remote Practices for K-12 Learners	3
Electives (choose one from the following):		3
ART 295	Elementary Art Methods	
ART 296	Secondary Art Methods	
EDP 446	Educational Interactive Design	
EDP 486	Methods I: Learners with Mild/Moderate Disabilities	
MUS 355	General Music Teaching Techniques: Early Childhood and Elementary	
TCE 317P	Science PK-5: Child and Curriculum Integration	

TCE 318P	Mathematics PK-5: Child and Curriculum Integration
TCE 346M	Reading Instruction for Middle Grades
TCE 346P	Language, Literacy, and Culture in PK-5 Education
TCE 417P	Social Studies PK-5: Child and Curriculum Integration
TCE 418	TESOL in PK-12: Teaching Practicum
TCE 425	TESOL in PK-12: Literacy Development
TCE 427	Adolescent Language Arts I
TCE 428	Adolescent Language Arts II
TCE 429A	Adolescent Mathematics I
TCE 429M	Middle Childhood Mathematics
TCE 430	Adolescent Mathematics II
TCE 431	Adolescent Science Methods I
TCE 432	Adolescent Science Methods II
TCE 433	Adolescent Social Studies Methods I
TCE 434	Adolescent Social Studies Methods II
TCE 436	Middle Childhood Language Arts
TCE 439	Middle Childhood Social Studies
TCE 441	Middle Childhood Science
TCE 446A	Integrating Literacy Across the Content Areas
TCE 446L	Reading in the Foreign Language
TCE 448M	Reading Practicum for Middle Childhood

Total Credit Hours 12

Sport Analytics Certificate

Description

This Sport Analytics certificate is designed for students who are interested in pursuing a path in the sport analytics field along with their chosen major. Students selecting this certificate should have an interest in studying and applying database management, regression analysis, and data visualization in the sport-based environment. This certificate is applicable to those seeking careers in the fields of sport management, coaching, business analytics, and performance analysis.

Eligibility

A minimum 2.0 GPA is required for all courses in the certificate. Courses must be taken for a grade (not credit/no-credit). Students planning to complete this certificate should consult with a faculty advisor in the Sport Leadership and Management program. This certificate is open to all university students. Students may not earn an undergraduate Certificate in Sport Analytics and a Sport Analytics Minor.

Program Requirements

Code	Title	Credit Hours
Required courses:		
SLM 275	Introduction to Sport Analytics	3
SLM 314	Sport Analytics I	3
SLM 315	Sport Analytics II	3

SLM 317	Sport Analytics III	3
Total Credit Hours		12

Teaching English to Speakers of Other Languages (TESOL) Endorsement Certificate

The Undergraduate Teaching English to Speakers of Other Languages (TESOL) Endorsement Certificate provides the skills and experiences to prepare students pursuing teaching licensure to successfully work with English learners in their future classrooms. Upon successful completion of the certificate program, students must pass the TESOL Ohio Assessment for Educators 021 (TESOL) in order to add the TESOL endorsement to their teaching licensure.

Program Requirements

Code	Title	Credit Hours
TCE 221	Teaching English Language Learners in PK-12: Culture & Second Language Acquisition	3
TCE 418	TESOL in PK-12: Teaching Practicum	3
TCE 425	TESOL in PK-12: Literacy Development	3
TCE 454	TESOL in PK-12: Instructional Theory & Practice	3
Total Credit Hours		12

College of Engineering and Computing

Advising Office

106 Benton Hall
Phone: 513-529-0700
www.cec.MiamiOH.edu

General Information

The mission of the College of Engineering and Computing is to serve society by providing high quality undergraduate and graduate education in the fields of computing and engineering. We are committed to creating an environment for teaching, learning, and scholarship that is inclusive, intellectually stimulating, interactive and innovative, and in which all students, staff, and faculty reach their full potential. Our guiding principle is to provide professional education integrated with Miami University's traditional strength in liberal education.

Everyone in the College of Engineering and Computing values:

- Effective student learning and student success
- An intellectually stimulating and challenging environment
- Faculty growth and learning as teachers and scholars
- Diversity of staff, faculty, and students
- Respect for the environment

We are committed to a learning environment that fosters:

- Innovation and creativity
- Ethical behavior
- Inclusiveness and respect for others
- International and global opportunities and perspectives
- Fact-based, collegial decision-making and teamwork
- Safety in all our professional endeavors

First-Year Course Selection for Undeclared Students

The College of Engineering and Computing has developed the following first-year course pattern for students who have not declared a major and who want to progress satisfactorily in engineering and computing majors while maintaining maximum flexibility in considering other science/math-based programs. Advisors are available at summer orientation to help you select courses within this pattern. You will be assigned an advisor to help you with course and career selection while you remain an undeclared major. Once you have selected a major, an advisor in that area will be assigned to you.

If you have already chosen a major in engineering or computing, please refer to the program description for your chosen major later in this section for recommended first-year course selections.

If you are undecided about your major, but considering a major in the College of Engineering and Computing, select courses within the following pattern with the advice of an academic advisor:

Course	Title	Credit Hours
Fall		
CEC 111	Imagination, Ingenuity and Impact I	2
ENG 111	Composition and Rhetoric (or equivalent)	3
MTH 151 or MTH 249	Calculus I ¹ or Calculus II	5
Select one of the following (talk to an advisor):		3-5
PHY 191 or PHY 181	General Physics with Laboratory I or General Physics I	
CHM 141 & CHM 144	College Chemistry and College Chemistry Laboratory	
Select one of the following:		3
Miami Plan Perspectives Area & Signature Inquiry Elective		
CSE 174	Fundamentals of Programming and Problem Solving	
		Credit Hours 16-18
Spring		
CEC 112	Imagination, Ingenuity, and Impact II	2
MTH 251 or MTH 252	Calculus II or Calculus III	4
Miami Plan Perspectives Areas & Signature Inquiry Elective		3
Select one of the following (talk to an advisor):		3-6
PHY 192 or PHY 182	General Physics with Laboratory II or General Physics II	
CHM 142 & CHM 145	College Chemistry and College Chemistry Laboratory	
		Credit Hours 12-15
		Total Credit Hours 28-33

¹ Students typically start with MTH 151. Depending on the ACT/SAT score or high school background, however, a student may start with MTH 125 or MTH 249. Taking a prerequisite course to MTH 151 (MTH 125) will usually not hinder a student's academic progress.

Choosing Liberal Education Electives

All programs in the College have general education electives that fulfill the Miami Plan for Liberal Education. You are encouraged to seek advice from a faculty advisor in choosing electives that are consistent with your interests and educational goals.

Study Abroad

Students are encouraged to consider spending a summer term, winter term, semester, or year studying abroad. This experience offers a valuable opportunity to enrich students' cultural perspectives and to help understand the needs of clients in computing and engineering in our increasingly global society. Students considering study abroad need to meet with their advisor and plan their curriculum as early as possible.

Honorary and Professional Organizations

Through honorary and professional organizations, students can develop leadership skills, interact with professionals in their fields, and engage in educational activities that have significance beyond the campus.

A partial list of organizations connected with the College of Engineering and Computing includes: American Institute of Aeronautics and Astronautics, American Institute of Chemical Engineers, American Society of Mechanical Engineers, Association for Computing Machinery, Association for Women in Computing, Engineers Without Borders, Institute of Electrical and Electronics Engineers, National Society of Black Engineers, National Society of Professional Engineers, Society of Automotive Engineers, Society of Hispanic Professional Engineers, Society of Manufacturing Engineers, Society of Women Engineers, Student Energy Initiative, Tau Beta Pi, Theta Tau, and the Technical Association of the Pulp and Paper Industry.

Advisory Councils

The College of Engineering and Computing and its departments have advisors representing students, faculty, staff, and professional leaders -- including alumni -- from business, industry, government and academia. Advisory groups ensure that CEC and its departments are continuously improving in serving the changing needs of each constituency and society. Advisory groups include the CEC Executive Advisory Council, the CEC Women's Advisory Committee, and departmental External Advisory and Student Advisory/Leadership Councils. The Executive Advisory Council, Women's Advisory Committee, and departmental External Advisory Councils typically meet at least twice a year with faculty, staff, and students. Student Advisory/Leadership Councils and faculty committees typically meet multiple times each semester.

Internship and Co-op Opportunities

Internship and co-op programs provide opportunities for students in engineering and computing to gain work experience in an area related to their majors. Both programs offer employers an opportunity to preview prospective employees and for students to preview prospective employers. Most companies pay intern and co-op students. Contact the Center for Career Exploration and Success for more information.

Placement and Graduate Studies

Most graduates enter professions directly upon graduation. Each year many employers visit campus specifically to recruit engineering and computing seniors. Placement rates for graduates of the College have been consistently high. Placement services are available to all Miami students through the Center for Career Exploration and Success.

Our graduates are also well prepared to pursue graduate education, including medical and law school. Assistantships are frequently available in the graduate programs at other universities in addition to Miami University. Many graduates, who enter their professions directly, pursue graduate degrees on a part-time basis with the financial support of their employers.

Divisional Requirements

DOUBLE MAJORS: Students with two majors in the College of Engineering and Computing must take a minimum of 15

unique, additional credit hours in their second major beyond the requirements of the first major.

Students must attain a minimum 2.00 GPA for required departmental courses in their major. Specific course requirements for each of the College's majors are listed in this chapter.

If you have any questions about these requirements, please contact your academic advisor.

Basic Requirements: Bachelor of Science Programs

The combination of a professional education in the major and the Miami Plan for Liberal Education promotes growth of the breadth and depth of students' skills and abilities. With the help of the Executive and External Advisory Councils and representatives from business, industry, government and academia, the College has articulated broad outcome characteristics desired of our graduates.

College of Engineering and Computing graduates should be able to:

- Define and solve problems
- Make ethical choices and act responsibly
- Critically evaluate information
- Work effectively on a team
- Exercise initiative
- Function in a leadership role
- Recognize broad societal contexts and interests
- Serve clients and society with sensitivity and accountability
- Value diversity, equity and inclusivity in addressing societal needs
- Interact effectively with diverse cultures
- Adapt to change
- Recognize the value of lifelong learning
- Write effectively
- Speak and listen effectively
- Understand and apply mathematics and science
- Understand and apply the principles of continuous quality improvement
- Pursue further formal education

Bachelor of Arts in Computer Science

- Computer Science

Bachelor of Science in Computer Science

- Computer Science

Bachelor of Science in Cybersecurity

- Cybersecurity

Bachelor of Science in Engineering

- Biomedical Engineering
- Chemical Engineering
- Computer Engineering
- Electrical Engineering
- Engineering Management

- Mechanical Engineering
- Robotics Engineering
- Smart Manufacturing Engineering

Bachelor of Science in Software Engineering

- Software Engineering

Minors

A minor is a specific program to be taken along with a major to complement your skills and to increase your career opportunities. Completing a minor is optional. More information about minors is included in the Other Requirements section. The required semester hours are noted with the requirements for each minor.

- Bioinformatics
- Climate Accounting and Engineering
- Clinical Engineering
- Computer Science
- Electrical Engineering
- Environmental Engineering
- Humanitarian Engineering and Computing
- Mechanical Engineering
- Paper Engineering
- Paper Science
- Process Control
- Regulatory Affairs

Certificate Programs

- Advanced Manufacturing and Materials Evaluation
- Leadership

Biomedical Engineering- Bachelor of Science in Engineering

For information, contact the Department of Chemical, Paper and Biomedical Engineering, 64 Engineering Building, 513-529-0760.

This program is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>.

Biomedical engineering is the integration of life sciences with engineering to develop solutions for healthcare related problems. The program uses a multi-disciplinary approach, deriving its strength from biology, chemistry, physics, mathematics and engineering disciplines as well as computational sciences. Together, these enable the graduate to design, analyze, synthesize, and test products and processes in a variety of areas, such as medical equipment and instrumentation, pharmaceuticals, biotechnology, prosthetics and biomaterials. Graduates may also choose to pursue advanced study in graduate or professional degree programs.

The biomedical engineering program provides the student with a broad biomedical engineering education enhanced by liberal arts courses in life sciences, economics, humanities, social sciences, and global perspectives.

Within the biomedical engineering curriculum, students can specialize in Biomechanics, Biomedical Materials, Clinical Engineering and Bioinstrumentation, or Pre-Medicine. Organizations that employ biomedical engineers include manufacturers of medical devices, equipment and prosthetics, hospitals, clinical laboratories, pharmaceutical companies, biotechnology companies, and high-level consulting companies.

Program Educational Objectives

The undergraduate Biomedical Engineering program at Miami University focuses on the integration of interdisciplinary engineering sciences, biological sciences, engineering design and a global liberal education. Based on the needs of our constituents, we expect a graduate to attain the following within a few years of graduation:

1. The graduate will have interdisciplinary training in biomedical engineering that will allow them to have successful careers in industry, research and development, plant design and manufacturing, and in regulatory/governmental, academic, and clinical work.
2. The graduate will have the ability to work with individuals from diverse backgrounds to meet professional obligations and will contribute to an inclusive and equitable workplace.
3. The graduate will have independent critical thinking, problem solving, communication, organizations, and leadership skills that can be applied to support interdisciplinary teams that may include physicians, cell and molecular biologists, physiologists, geneticists, and other engineers.
4. The graduate will have life-long learning skills and awareness of ethical responsibilities that will allow successful adaptation to the rapidly changing field of biomedical engineering.
5. The graduate will have sound training in mathematics, the biological sciences, liberal arts, engineering and sciences that will facilitate successful pursuit of advanced degrees in medicine, law, business, and engineering or related fields.

Student Outcomes

These student outcomes prepare our graduates to attain the program educational objectives listed above, and should be attained by students by the time they graduate.

1. Ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. Ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. Ability to communicate effectively with a range of audiences.
4. Ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. Ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. Ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.

7. Ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Credit/No-credit Policy

All courses in chemistry, physics, biology, mathematics, statistics and those in the College of Engineering and Computing (CPB, CSE, ECE, EGM, MME, CEC) that are used to fulfill requirements of the major, must be taken for a grade.

Divisional Policy

DOUBLE MAJORS: Students with two majors in the College of Engineering and Computing must take a minimum of 15 different/additional credit hours in their second major beyond the requirements of their first major.

Grade Requirements

You must earn a grade of C or better in CPB 204.

Program Requirements

The Biomedical Engineering major requires the following courses. Additional hours to meet the Miami Plan for Liberal Education are also required.

Code	Title	Credit Hours
Physics		
PHY 181	General Physics I	4
PHY 182	General Physics II	4
Chemistry		
CHM 141 & CHM 144	College Chemistry and College Chemistry Laboratory	5
CHM 142 & CHM 145	College Chemistry and College Chemistry Laboratory	5
Mathematics and Statistics		
MTH 151	Calculus I	4
MTH 251 or MTH 249	Calculus II	4-5
MTH 245 or MTH 246	Differential Equations for Engineers Linear Algebra and Differential Equations for Engineers	3-4
STA 301 or STA 261	Applied Statistics Statistics	3-4
Biological Sciences		
BIO/MBI 116	Biological Concepts: Structure, Function, Cellular, and Molecular Biology	4
BIO 203	Introduction to Cell Biology	3
BIO 305	Human Physiology	4
Advanced Writing		
ENG 313	Technical Writing	3
Core Biomedical Engineering Courses		
CSE 174	Fundamentals of Programming and Problem Solving	3
CEC 111	Imagination, Ingenuity and Impact I	2
CEC 112	Imagination, Ingenuity, and Impact II	2
CPB 219	Statics and Mechanics of Materials	3

CPB 204	Mass and Energy Balances I	2
CPB/MME 314	Engineering Thermodynamics	3
CPB 318	Transport Phenomena I	4
CPB 324	Chemical and Bio- Engineering Computation and Statistics	3
CPB/MME 341	Engineering Economics	3
CPB 328	Bioinstrumentation	3
CPB 419	Biomaterials	3
CPB 423	Biomechanics	3
CPB 417	Biomedical Engineering	3
CPB 421	Bioethics	1
CPB 471 & CPB 472	Engineering Design I and Engineering Design II	4
ECE 205	Electric Circuit Analysis I	4

Biomedical Engineering Electives

Select two of the following:		6
CPB 416	Biochemical Engineering	
CPB 424	Musculoskeletal Biomechanics	
CPB 426	Fundamentals of Tissue Engineering	
CPB 428	Engineering Principles in Medical Device Design	
ECE 306	Signals and Systems	
ECE 426	Biomedical Signal Analysis and Machine Learning	
CPB 445	Hospital Instrumentation	
CPB 453	Medical Device Development and Regulatory Considerations	

Non-Biomedical Engineering Electives

Select one of the following:		3-5
CPB 448	Hospital Rotation	
CPB 452	Introduction to FDA Regulations and Medical Device Laws	
CSE 456	Bioinformatic Principles	
KNH 381 & 381L	Biodynamics of Human Performance and Biodynamics of Human Performance Lab	
CHM 231	Fundamentals of Organic Chemistry	
CHM 241 & CHM 244	Organic Chemistry and Organic Chemistry Laboratory	
CHM 242 & CHM 245	Organic Chemistry and Organic Chemistry Laboratory	
CHM 332 & 332L	Outlines of Biochemistry and Outlines of Biochemistry Lab	
CHM 432	Fundamentals of Biochemistry	

Total Credit Hours **101-106**

Chemical Engineering- Bachelor of Science in Engineering

For information, contact the Department of Chemical, Paper and Biomedical Engineering, 64 Engineering Building, 513-529-0760.

This program is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>.

Chemical Engineering encompasses the analysis, design, and synthesis of products and processes in a variety of areas, such as chemical and petrochemical processes, pharmaceuticals, environmental processes, biotechnology/bioengineering, and pulp and paper processes. The field of chemical engineering requires the ability to understand and apply math and science, to research concepts and apply modeling methods, and to simulate and test working conditions and their impact on the designed systems.

The chemical engineer of the 21st century must be able to think critically in broader contexts because problems in contemporary society are not only technical but also social and economic in nature. This program provides the student with a broad chemical engineering education enhanced by courses in manufacturing engineering, chemistry and biochemistry, economics, humanities, social science, global perspectives, and liberal arts.

Graduates have the opportunity to work in a diverse spectrum of professional fields. These vary from research to design, from development to manufacturing, and from technical sales to production. Chemical engineers work in manufacturing-related areas as well as in non-technical sectors of the economy such as business, law, and management. Graduates will also be prepared to continue their education at the graduate level.

A partial list of industries that employ chemical engineers includes biotechnology and biomedicine, electronics, food processing, environmental protection, paper, petroleum refining, and synthetic fibers.

Merit scholarships provided by the industry-supported Miami University Paper Science and Engineering Foundation enable those students with good academic records who choose the paper science and engineering option within chemical engineering to receive partial tuition to as much as full in-state tuition costs (tuition, fees, room and board). Out-of-state students may be eligible for an additional award of \$2,000 per year.

Program Educational Objectives

The undergraduate Chemical Engineering program at Miami University is focused on the integration of engineering science, process design and a global liberal education, with concentrations in biochemical, environmental and paper engineering. Based on the needs of our constituents, we expect a graduate to attain the following within a few years of graduation:

1. The graduate will have and apply the technical knowledge, skills, and expertise required of a process engineer to achieve practical solutions to problems in the chemical industry or for a company allied to the chemical industry. The graduate will serve the needs of biochemical, environmental, and paper industries.
2. The graduate will have the ability to work with individuals from diverse backgrounds to meet professional obligations and will contribute to an inclusive and equitable workplace.
3. The graduate will have the key personal attributes (including independent critical thinking, problem solving, communication, organization, and leadership) desirable in an engineer and use these attributes to learn and develop.
4. The graduate will have life-long learning skills and awareness of ethical responsibilities, which will allow successful adaptation to the changing environment and evolving technologies throughout their professional career.
5. The graduate will have sound grounding in engineering, sciences, and liberal education, which will facilitate successful pursuit of graduate studies in engineering or other professional degrees, such as business, law and medicine.

Student Outcomes

These student outcomes prepare our graduates to attain the program educational objectives listed above, and should be attained by students by the time they graduate.

1. Ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. Ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. Ability to communicate effectively with a range of audiences.
4. Ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. Ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. Ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. Ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Credit/No-Credit Policy

All courses in chemistry, physics, biology, mathematics, statistics and those in the College of Engineering and Computing (CPB, CSE, ECE, EGM, MME, CEC) that are used to fulfill requirements of the major, must be taken for a grade.

Divisional Policy

DOUBLE MAJORS: Students with two majors in the College of Engineering and Computing must take a minimum of 15 different/additional credit hours in their second major beyond the requirements of their first major.

Grade Requirements

You must earn a grade of C or better in CPB 204 .

Transfer Credit Policy

To obtain transfer credit for any 300- or 400-level chemical, paper and biomedical engineering course, you must first receive written departmental approval **before** enrolling in that course at another college or university. Transfer credit may be obtained for **only one** engineering course in the series CPB 204, CPB 318, CPB 314, CPB 313, CPB 403/CPB 503, and CPB 414/CPB 514. Contact the department if transferring into this program.

Program Requirements

(The Chemical Engineering major requires the following courses; additional hours to meet the Miami Plan for Liberal Education are also required.)

Code	Title	Credit Hours
Core Requirements		
CHM 141 & CHM 144	College Chemistry and College Chemistry Laboratory	5
CHM 142 & CHM 145	College Chemistry and College Chemistry Laboratory	5
Select one of the following:		6
CHM 241 & CHM 242	Organic Chemistry and Organic Chemistry	
CHM 251 & CHM 252	Organic Chemistry for Chemistry Majors and Organic Chemistry for Chemistry Majors	
Select the following:		
CHM 244 or CHM 254	Organic Chemistry Laboratory Organic Chemistry Laboratory for Chemistry Majors	2
CHM 332 & 332L or CHM 363 or CHM 375 or CHM 432 or CHM 471	Outlines of Biochemistry and Outlines of Biochemistry Lab Analytical Chemistry Analytical Chemistry for Majors Fundamentals of Biochemistry Biophysical Chemistry I	3-4
ENG 313	Technical Writing	3
MTH 151	Calculus I	4
MTH 245 or MTH 246	Differential Equations for Engineers Linear Algebra and Differential Equations for Engineers	3-4
MTH 251 or MTH 249	Calculus II Calculus II	4-5
STA 301 or STA 261 or ECE 345	Applied Statistics Statistics Introduction to Probability, Statistics, and Random Processes	3-4
PHY 181	General Physics I	4
PHY 182	General Physics II	4
Engineering Science		
CEC 111	Imagination, Ingenuity and Impact I	2
CEC 112	Imagination, Ingenuity, and Impact II	2
CPB/MME 314	Engineering Thermodynamics	3
CPB/MME 341	Engineering Economics	3
CPB 219 or MME 211	Statics and Mechanics of Materials Static Modeling of Mechanical Systems	3
Chemical Engineering Courses		
CPB 204	Mass and Energy Balances I	2
CPB 202 or MME 223 or CPB 419	Pulp and Paper Physics Engineering Materials Biomaterials	3

CPB 205	Mass and Energy Balances II	2
CPB 311	Transport Phenomena Laboratory	2
CPB 318	Transport Phenomena I	4
CPB 324	Chemical and Bio- Engineering Computation and Statistics	3
	or CSE 271 Object-Oriented Programming	
CPB 412	Chemical Engineering Thermodynamics	3
CPB 414	Mass Transfer and Unit Operations	4
CPB 415	Chemical Kinetics and Reactor Design	3
CPB 451	Unit Operations Laboratory	2
CPB 471	Engineering Design I	2
CPB 472	Engineering Design II	2
CPB 473	Chemical Process Design	3
CPB 482	Process Control	3
CPB 483	Chemical Process Safety	1

Technical Electives

Select 9 or more credit hours of the following courses:		9
CPB 201	Principles of Paper Science and Engineering	
CPB 244	Introduction to Environmental Engineering	
CPB 301	Pulp and Paper Chemistry	
CPB 326	Fundamentals of Medical Device Design	
CPB 404	Papermaking	
CPB 416	Biochemical Engineering	
CPB 417	Biomedical Engineering	
CPB 423	Biomechanics	
CPB 426	Fundamentals of Tissue Engineering	
CPB 405	Industrial Environmental Control	
CPB 441	Pollution Prevention in Environmental Management	
CPB 442	Air Pollution Control	
CPB 490	Special Topics in Paper and Chemical Engineering	
ECE 205	Electric Circuit Analysis I	

Total Credit Hours

107-111

Computer Engineering- Bachelor of Science in Engineering

For information, contact the Department of Electrical and Computer Engineering, 260 Garland Hall, 513-529-0740.

This program is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>.

Computer engineering combines elements of electrical engineering and computer science to design and operate devices and/or systems incorporating computers as components. It seeks to interface appropriate software to digital hardware in creating computer-centric products and services. The field of computer engineering requires the ability to understand and apply mathematics, science, and software development techniques, to research concepts and apply modeling methods, to simulate and test working conditions and their impact on

the designed systems, and to synthesize different elements in order to obtain the optimum design of a specific product.

The increasing sophistication in products and systems requires industry to hire academically qualified computer engineers who can apply modern techniques and methods of engineering. Examples include computer-aided design, computer assisted engineering, computer-vision embedded systems, intelligent control and power systems, and robotics.

The computer engineer of the 21st century must be able to think critically in broader contexts because problems in contemporary society are not only technical but also social and economic in nature. This program provides the student with a broad computer engineering education enhanced by courses in manufacturing engineering, electrical engineering, computer science, mechanical engineering, economics, humanities, social science, global perspectives, and liberal arts.

Graduates have the opportunity to work in a diverse spectrum of professional fields. These vary from research to design, development to manufacturing, and technical sales to production. Many computer engineers work in manufacturing-related areas such as in the analysis and design of various products as well as in non-technical sectors of the economy such as business, law, and management. Graduates are also prepared to continue their education at the graduate level.

The computer engineering curriculum provides students with a sound foundation in basic science, mathematics, humanities, communication skills and technical subjects. Design projects and teamwork, as well as ethics and professional responsibilities of an engineer, are emphasized throughout the curriculum.

Program Educational Objectives

Program educational objectives describe the career and professional accomplishments that the program prepares graduates to attain within a few years of graduation. The objectives of the computer engineering program are for graduates to achieve:

- Success in being employed in an area related to computer engineering or enrolled in an advanced program.
- Advancement in professional skills and knowledge with an understanding of the impact on societal, economic, global, and environmental issues.
- Progression in responsibilities by exercising effective communication, leadership, and teamwork skills.
- Commitment to professionalism, ethical, inclusive and equitable practices, continuous improvement, and lifelong learning.

Student Outcomes

These student outcomes prepare our graduates to attain the program educational objectives listed above.

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. an ability to communicate effectively with a range of audiences.

4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions .
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Credit/No Credit Policy

All courses in chemistry, physics, biology, mathematics, statistics and those in the College of Engineering and Computing (CPB, CSE, ECE, EGM, MME, CEC) that are used to fulfill requirements of the major, must be taken for a grade.

Divisional Policy

DOUBLE MAJORS: Students with two majors in the College of Engineering and Computing must take a minimum of 15 different/additional credit hours in their second major beyond the requirements of their first major.

Program Requirements

(105 semester hours minimum)

Code	Title	Credit Hours
Core requirements		
CHM 141	College Chemistry	3
ECE 345	Introduction to Probability, Statistics, and Random Processes	3
ECO 201	Principles of Microeconomics	3
ENG 313	Technical Writing	3
MTH 151	Calculus I	4
MTH 231	Elements of Discrete Mathematics	3
MTH 246	Linear Algebra and Differential Equations for Engineers	4
MTH 251 or MTH 249	Calculus II Calculus II	4
MTH 252	Calculus III	4
PHY 191	General Physics with Laboratory I	5
PHY 192	General Physics with Laboratory II	5
Computer Science		
CSE 174	Fundamentals of Programming and Problem Solving	3
CSE 271	Object-Oriented Programming	3
CSE 274	Data Abstraction and Data Structures	3
CSE 278	Systems I: Introduction to Systems Programming	3
CSE 381	Systems 2: OS, Concurrency, Virtualization, and Security	3
General Engineering		
CEC 111	Imagination, Ingenuity and Impact I	2

CEC 112	Imagination, Ingenuity, and Impact II	2
ECE/MME 448	Senior Design Project	2
ECE/MME 449	Senior Design Project	2
Required Electrical and Computer Engineering		
ECE 205	Electric Circuit Analysis I	4
ECE 287	Digital Systems Design	4
ECE 289	Computer Organization	3
ECE 304	Electronics	3
ECE 306	Signals and Systems	3
ECE 314	Elements of Robotics	3
ECE 388	Introduction to Smartphone Technologies	3
ECE 425	Digital Signal Processing	3
ECE 461	Network Performance Analysis	3
ECE 484	Embedded Systems Design	3
or ECE 387	Embedded Systems Design	
Professional Computer Engineering Electives		
Select six hours of the following: ¹		6
ECE 325	Applied Electromagnetics	
ECE 411	Sensors and Data Fusion with Robotics Applications	
ECE 414	Design and Modeling of Robotic Systems	
ECE 426	Biomedical Signal Analysis and Machine Learning	
ECE 429	Digital Image Processing	
ECE/MME 436	Control of Dynamic Systems	
ECE 453	Communication Systems	
ECE 487	Computer Aided Design Tools for Computer Engineering	
ECE 497	Electric Vehicle Technology	
CSE 374	Algorithms I	
CSE 383	Web Application Programming	
CSE 443	High Performance Computing & Parallel Programming	
CSE 467	Computer and Network Security	
CSE 474	Compiler Design	
CSE 486	Introduction to Artificial Intelligence	
General Technical Electives²		
Select three credits from the following:		3
Any additional course from the Professional Computer Engineering Professional Electives list		
ECE 291	Energy Systems Engineering	
ECE 301	Advanced Circuits and Fundamentals of Renewable Energy	
ECE 302	MATLAB and its engineering applications	
ECE 317	Industrial Robotics	
ECE 395	Undergraduate Research Immersion Project	
Any 400-level ECE course not already taken		
CSE 201	Introduction to Software Engineering	
CSE 273	Optimization Modeling	
CSE 283	Data Communication and Networks	

CSE 385	Database Systems	
MTH 331	Proof: Introduction to Higher Mathematics	
MTH 432	Optimization	
MTH 438	Theory and Applications of Graphs	
MTH 453	Numerical Analysis	
Total Credit Hours		105

- ¹ At least one Professional Computer Engineering Elective course must be an ECE course.
- ² Courses cannot double-count as both General Technical Electives and Professional Computer Engineering Electives.

Computer Science - Bachelor of Arts in Computer Science

For information, contact the Department of Computer Science and Software Engineering 205 Benton Hall, 513-529-0340, e-mail cseAdvising@MiamiOH.edu, or visit <http://cse.MiamiOH.edu>.

If you want to change the world and you like to think analytically and solve problems, and have an aptitude for mathematics, then consider a major in computer science. Innovations such as the internet, mobile and web applications, video games, machine learning, and artificial intelligence all owe their foundations to developments in computer science.

The Bachelor of Arts degree in Computer Science provides students with an understanding of the key principles and practices of computing and includes a focus in a second area through the completion of a minor, a co-major, or a second major outside of Computer Science to create powerful combinations of expertise. In either the BS or BA degree program, you will study programming languages, algorithms, computer architecture, operating systems, and applications of computer science such as networks, security, virtual reality, and the ethical and social implications of computer technology.

The U.S. Bureau of Labor's job outlook for computer science graduates is excellent, and the number of positions is expected to increase by 25% between 2021 and 2031. This employment growth is due to the demand for increasing efficiency in network technology, computing speeds, software performance, and embedded systems. The median annual earnings for software developers were \$120,730 in May 2021. According to the National Association of Colleges and Employers, starting offers for graduates with a bachelor's degree in computer science average more than \$72,000.

Graduates from Department of Computer Science and Software Engineering programs may work as software engineers, consultants, programmers, network systems analysts, computer scientists, systems programmers, network administrators, or database administrators. The minor or second major completed as part of the Bachelor of Arts program can open additional possibilities when you graduate.

Understanding the Bachelor of Arts and Bachelor of Science degree options

When deciding between a BA or a BS degree in Computer Science, begin by thinking about your interests:

- **Do you have an interest in another subject area that you would like to pursue alongside majoring in Computer Science?** If so, then consider the Bachelor of Arts degree. This degree requires a minor or second major outside of Computer Science and Software Engineering. This allows you to learn about business, the arts, education, science, or some other field of interest to you. It also gives you more flexible science options.
- **Would you like to take additional computer science electives, and strengthen your mathematics, statistics, and science knowledge?** If so, then the Bachelor of Science degree might be your best bet. It includes 3 additional Computer Science electives (so, 7 electives in all), 3 additional electives in mathematics and/or statistics, and 2 science courses that are designed for science majors.
- **What if you are not sure?** No problem: the requirements look the same for roughly the first two years. An advisor from our department can help you plan your courses in a way that keeps your options open in case you would like to switch.

Students may not double major in both the BS and BA in Computer Science. The minor or additional major taken to meet BA degree requirements must be outside the Department of Computer Science and Software Engineering. At least nine credit hours taken to meet the requirements for the minor be unique, additional credit hours beyond the requirements of the BA in Computer Science degree. Students who double major must take a minimum of 15 unique, additional credit hours in their second major beyond the requirements of the first major. There are no other restrictions on the discipline on which the minor may focus.

Program Educational Objectives

Graduates from the Computer Science program are expected to attain or achieve the following Program Educational Objectives within a few years of graduation:

- Develop in their chosen profession and/or progress toward an advanced degree
- Provide innovative solutions using technical skills in their discipline
- Communicate effectively, demonstrate leadership, and work collaboratively in diverse teams/organizations
- Act responsibly and ethically in their profession and as informed citizens

Student Outcomes

- Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions.
- Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
- Communicate effectively in a variety of professional contexts.
- Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
- Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.

- Apply computer science theory and software development fundamentals to produce computing-based solutions.
- Acquire and apply new knowledge as needed, using appropriate learning strategies.

Departmental Honors

If you excel in your studies, you may qualify for the University Honors Program or the program for Honors in Computer Science and Software Engineering. As a senior in these programs, you will have the opportunity to work closely with the faculty on research projects of interest.

Credit/No-Credit Policy

All courses in mathematics, statistics and those in the College of Engineering and Computing (CEC, CSE, CPB, ECE, EGM, MME) that are used to fulfill requirements of the major must be taken for a grade.

Divisional Policy

DOUBLE MAJORS: Students with two majors in the College of Engineering and Computing must take a minimum of 15 different/additional credit hours in their second major beyond the requirements of their first major.

Graduate Study

The department offers a combined bachelor's/master's degree program that allows students to complete bachelor's and master's degrees in computer science in an accelerated manner. Students are eligible to apply for this program in their junior year. Please contact the CSE department office for more information.

Additional information is available from the CSE department office and website <http://cse.MiamiOH.edu>.

Program Requirements

Code	Title	Credit Hours
Core Requirements		
STC 135	Principles of Public Speaking	3
Mathematics and Statistics		
MTH 151	Calculus I	4
MTH 231	Elements of Discrete Mathematics	3
	or MTH 331	Proof: Introduction to Higher Mathematics
STA 261	Statistics	3-4
	or STA 301	Applied Statistics
	or ECE 345	Introduction to Probability, Statistics, and Random Processes
Minor, second major, or co-major outside of the CSE department		18-30
Computer Science Core		
CSE 174	Fundamentals of Programming and Problem Solving	3
CYB 134	Introduction to Cybersecurity	3
CEC 111	Imagination, Ingenuity and Impact I	2
CEC 112	Imagination, Ingenuity, and Impact II	2
CSE 201	Introduction to Software Engineering	3
CSE 271	Object-Oriented Programming	3

CSE 274	Data Abstraction and Data Structures	3
CSE 278	Systems I: Introduction to Systems Programming	3
CSE 374	Algorithms I	3
CSE 381	Systems 2: OS, Concurrency, Virtualization, and Security	3
CSE 383	Web Application Programming	3
CSE 448	Senior Design Project	2
CSE 449	Senior Design Project	1-2
CSE 465	Comparative Programming Languages	3
CSE Electives (4 courses)		12
9-12 hours of computer science electives		
CSE 385	Database Systems	
CSE 386	Foundations of Computer Graphics and Games	
CSE 389	Game Design and Implementation	
CSE 401	Software Quality Assurance and Testing	
CSE 432	Machine Learning	
CSE 443	High Performance Computing & Parallel Programming	
CSE 451	Web Services and Service Oriented Architectures	
CSE 466	Bioinformatics Computing Skills	
CSE 467	Computer and Network Security	
CSE 470	Special Topics in CSE	
CSE 473	Automata, Formal Languages, and Computability	
CSE 474	Compiler Design	
CSE 484	Algorithms II	
CSE 485	Advanced Database Systems	
CSE 486	Introduction to Artificial Intelligence	
CSE 488	Image Processing & Computer Vision	
CSE 489	Advanced Graphics and Game Engine Design	
CYB 235	Computer Network Design and Administration	
0-3 hours of affiliate electives		
CSE 202	Software Requirements	
CSE 212	Software Engineering for User Interface and User Experience Design	
CSE 262	Technology, Ethics, and Global Society	
CSE 270	Special Topics	
CSE 273	Optimization Modeling	
CSE 301	Software Architecture and Design	
CSE 302	Software Construction	
CSE 372	Stochastic Modeling	
CSE 411	Introduction to Model-Driven Software Engineering	
CYB 234	System Administration and Scripting for Cybersecurity	
CYB 236	Data Security	
ECE 287	Digital Systems Design	
ECE 484	Embedded Systems Design	

ECE 461	Network Performance Analysis
IMS 440	Emerging Technology Practicum
ISA 401	Business Intelligence and Data Visualization
ISA 414	Managing Big Data
ISA 491	Introduction to Data Mining in Business
0-3 hours of research electives	
CSE 340U	Undergraduate Summer Scholars Program
CSE 480	Special Problems
CSE 491	Undergraduate Research

Total Credit Hours**80-94**

Computer Science- Bachelor of Science in Computer Science

For information, contact the Department of Computer Science and Software Engineering 205 Benton Hall, 513-529-0340, e-mail cseAdvising@MiamiOH.edu, or visit <http://cse.MiamiOH.edu>.

This program is accredited by the Computing Accreditation Commission of ABET <http://www.abet.org>.

If you want to change the world and you like to think analytically and solve problems, and have an aptitude for mathematics, then consider a major in computer science. Innovations such as the internet, mobile and web applications, video games, machine learning, and artificial intelligence all owe their foundations to developments in computer science.

The Bachelor of Arts degree in Computer Science provides students with an understanding of the key principles and practices of computing and includes a focus in a second area through the completion of a minor, a co-major, or a second major outside of Computer Science to create powerful combinations of expertise. In either the BS or BA degree program, you will study programming languages, algorithms, computer architecture, operating systems, and applications of computer science such as networks, security, virtual reality, and the ethical and social implications of computer technology.

The U.S. Bureau of Labor's job outlook for computer science graduates is excellent, and the number of positions is expected to increase by 25% between 2021 and 2031. This employment growth is due to the demand for increasing efficiency in network technology, computing speeds, software performance, and embedded systems. The median annual earnings for software developers were \$120,730 in May 2021. According to the National Association of Colleges and Employers, starting offers for graduates with a bachelor's degree in computer science average more than \$72,000.

Graduates from Department of Computer Science and Software Engineering programs may work as software engineers, consultants, programmers, network systems analysts, computer scientists, systems programmers, network administrators, or database administrators. The minor or second major completed as part of the Bachelor of Arts program can open additional possibilities when you graduate.

Understanding the Bachelor of Arts and Bachelor of Science degree options

When deciding between a BA or a BS degree in Computer Science, begin by thinking about your interests:

- **Do you have an interest in another subject area that you would like to pursue alongside majoring in Computer Science?** If so, then consider the Bachelor of Arts degree. This degree requires a minor or second major outside of Computer Science and Software Engineering. This allows you to learn about business, the arts, education, science, or some other field of interest to you. It also gives you more flexible science options.
- **Would you like to take additional computer science electives, and strengthen your mathematics, statistics, and science knowledge?** If so, then the Bachelor of Science degree might be your best bet. It includes 3 additional Computer Science electives (so, 7 electives in all), 3 additional electives in mathematics and/or statistics, and 2 science courses that are designed for science majors.
- **What if you are not sure?** No problem: the requirements look the same for roughly the first two years. An advisor from our department can help you plan your courses in a way that keeps your options open in case you would like to switch.

Program Educational Objectives

Graduates from the Computer Science program are expected to attain or achieve the following Program Educational Objectives within a few years of graduation:

- Develop in their chosen profession and/or progress toward an advanced degree
- Provide innovative solutions using technical skills in their discipline
- Communicate effectively, demonstrate leadership, and work collaboratively in diverse teams/organizations
- Act responsibly and ethically in their profession and as informed citizens

Student Outcomes

- Analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions.
- Design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline.
- Communicate effectively in a variety of professional contexts.
- Recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles.
- Function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline.
- Apply computer science theory and software development fundamentals to produce computing-based solutions.
- Acquire and apply new knowledge as needed, using appropriate learning strategies.

Departmental Honors

If you excel in your studies, you may qualify for the University Honors Program or the program for Honors in Computer Science and Software Engineering. As a senior in these programs, you will have the opportunity to work closely with the faculty on research projects of interest.

Credit/No-Credit Policy

All courses in chemistry, physics, biology, mathematics, statistics and those in the College of Engineering and Computing (CPB, CSE, ECE, EGM, MME, CEC) that are used to fulfill requirements of the major, must be taken for a grade.

Divisional Policy

DOUBLE MAJORS: Students with two majors in the College of Engineering and Computing must take a minimum of 15 different/additional credit hours in their second major beyond the requirements of their first major.

Graduate Study

The department offers a combined bachelor's/master's degree program that allows students to complete bachelor's and master's degrees in computer science in an accelerated manner. Students are eligible to apply for this program in their junior year. Please contact the CSE department office for more information.

Additional information is available from the CSE department office and website <http://cse.MiamiOH.edu>.

Program Requirements: Computer Science

Code	Title	Credit Hours
Core Requirements		
STC 135 or APC 231	Principles of Public Speaking Small Group Communication	3
Mathematics		
MTH 151	Calculus I	4
MTH 231 or MTH 331	Elements of Discrete Mathematics Proof: Introduction to Higher Mathematics	3
Statistics		
STA 301 or STA 261 or ECE 345	Applied Statistics Statistics Introduction to Probability, Statistics, and Random Processes	3-4
Mathematics/Statistics Electives		9-10
Take three of the following:		
STA 333	Nonparametric Statistics	
STA 363	Introduction to Statistical Modeling	
STA/ISA 365	Statistical Monitoring and Design of Experiments	
STA 401	Probability	
STA 402	Statistical Programming	
STA 404	Advanced Data Visualization	
STA 427	Introduction to Bayesian Statistics	

STA 432	Survey Sampling in Business	
STA 466	Experimental Design Methods	
STA 467	Statistical Learning	
MTH 222	Introduction to Linear Algebra	
MTH 245	Differential Equations for Engineers	
MTH 251	Calculus II	
or MTH 249	Calculus II	
MTH 252	Calculus III	
MTH 347	Differential Equations	
MTH 411	Foundations of Geometry	
MTH 421	Introduction to Abstract Algebra	
MTH 432	Optimization	
MTH 437	Game Theory and Related Topics	
MTH 438	Theory and Applications of Graphs	
MTH 439	Combinatorics	
MTH 441	Real Analysis	
MTH 447	Topics in Mathematical Finance	
Natural Science Electives		8-10
Select two of the following six options		
BIO/MBI 115	Biological Concepts: Ecology, Evolution, Genetics, and Diversity	
BIO/MBI 116	Biological Concepts: Structure, Function, Cellular, and Molecular Biology	
CHM 141 & CHM 144	College Chemistry and College Chemistry Laboratory	
CHM 142 & CHM 145	College Chemistry and College Chemistry Laboratory	
PHY 181 & PHY 183	General Physics I and General Physics Laboratory I	
PHY 182 & PHY 184	General Physics II and General Physics Laboratory II	
Mathematics/Statistics/Science Elective		3-5
Select one additional course from one of the following		
Any of the above Mathematics/Statistics Electives		
Any of the above Natural Science Electives		
Any Miami Plan Natural Science		
Computer Science Core		
CEC 111	Imagination, Ingenuity and Impact I	2
CEC 112	Imagination, Ingenuity, and Impact II	2
CYB 134	Introduction to Cybersecurity	3
CSE 174	Fundamentals of Programming and Problem Solving	3
CSE 201	Introduction to Software Engineering	3
CSE 271	Object-Oriented Programming	3
CSE 274	Data Abstraction and Data Structures	3
CSE 278	Systems I: Introduction to Systems Programming	3
CSE 374	Algorithms I	3
CSE 381	Systems 2: OS, Concurrency, Virtualization, and Security	3
CSE 383	Web Application Programming	3
CSE 448	Senior Design Project	2
CSE 449	Senior Design Project	2

CSE 465	Comparative Programming Languages	3
CSE Electives (a total of 21 hours are required)		21
15 to 21 hours of computer science electives:		
CSE 302	Software Construction	
CSE 382	Mobile App Development	
CSE 385	Database Systems	
CSE 386	Foundations of Computer Graphics and Games	
CSE 389	Game Design and Implementation	
CSE 401	Software Quality Assurance and Testing	
CSE 432	Machine Learning	
CSE 443	High Performance Computing & Parallel Programming	
CSE 451	Web Services and Service Oriented Architectures	
CSE/BIO 466	Bioinformatics Computing Skills	
CSE 467	Computer and Network Security	
CSE 470	Special Topics in CSE	
CSE 473	Automata, Formal Languages, and Computability	
CSE 474	Compiler Design	
CSE 484	Algorithms II	
CSE 485	Advanced Database Systems	
CSE 486	Introduction to Artificial Intelligence	
CSE 488	Image Processing & Computer Vision	
CSE 489	Advanced Graphics and Game Engine Design	
CYB 235	Computer Network Design and Administration	
0 to 6 hours of affiliate electives:		
CSE 202	Software Requirements	
CSE 212	Software Engineering for User Interface and User Experience Design	
CSE 262	Technology, Ethics, and Global Society	
CSE 270	Special Topics	
CSE 273	Optimization Modeling	
CSE 301	Software Architecture and Design	
CSE 372	Stochastic Modeling	
CSE 411	Introduction to Model-Driven Software Engineering	
CYB 234	System Administration and Scripting for Cybersecurity	
CYB 236	Data Security	
ECE 287	Digital Systems Design	
ECE 387	Embedded Systems Design	
ECE 461	Network Performance Analysis	
IMS 440	Emerging Technology Practicum	
ISA 401	Business Intelligence and Data Visualization	
ISA 414	Managing Big Data	
ISA 491	Introduction to Data Mining in Business	
MTH 438	Theory and Applications of Graphs	

Select 0 to 3 hours of research electives:

CSE 340U	Undergraduate Summer Scholars Program (requires petition)
CSE 480	Special Problems (honors Program)
CSE 491	Undergraduate Research

Total Credit Hours **92-98**

Note: Additional free elective hours may need to be taken.

Cybersecurity - Bachelor of Science in Cybersecurity

Core infrastructure including financial, medical and military systems, water, gas and oil pipelines, the electrical grid, communications, weather forecasting, GPS navigation/guidance systems and other critical social systems rely heavily on software and computer systems. These computing-based systems are fundamental to modern society and are constantly under attack and stress from natural disasters and man-made malicious threats ranging from minor crimes to military-style cyberwarfare. To preserve our way of life, it is imperative that we secure and safeguard these critical computer systems. This exigent need has accelerated the growth and advancement of Cybersecurity as a vital and indispensable aspect of our current and foreseeable computing landscape.

The Bachelor of Science in Cybersecurity degree emphasizes core concepts, principles, skills, and robust practices for designing, developing, and maintaining highly-secure computing systems and protecting them from diverse threats and attacks. The program also emphasizes best practices of cybersecurity from a societal, organizational, ethical, and human-factors perspective to provide a comprehensive understanding of this multifaceted field. The courses in the degree program are carefully fine-tuned from the ground-up to provide the necessary depth and breadth to maximize opportunities for graduates to find employment in diverse industries (including hardware, software, health, finance, etc.), the government, military, and academia. Moreover, the curriculum prepares students to pursue professional certifications (such as Network+, Security+, etc.) as needed.

A high school background in computers is not necessary to major in cybersecurity because the program includes introductory courses needed for the major. However, it is desirable to have an interest in analytical thinking and problem solving, an aptitude for mathematics, and a curiosity to delve into the workings of computers and technology.

Cybersecurity graduates are in very high demand. Their salaries are in the top three highest paying jobs in computing fields with a median salary of about \$100,000 per year. The demand is so high that 40,000 jobs for security professionals go unfilled in the U.S. each year according to Forbes and employers are struggling to fill 200,000 other cybersecurity-related roles. The US Bureau of Labor Statistics projects cybersecurity analysts to be the fastest-growing employment sector with a growth rate of 31% in the next ten years. These factors collectively make Cybersecurity a lucrative and highly-fulfilling career path. Graduates with the BS in Cybersecurity work in a variety of roles such as "Security analyst", "Cyber defense analyst", "Cybersecurity Analyst", and "Data security analyst", to name a few.

Program Requirements

Code	Title	Credit Hours
Core requirements		
Mathematics/Statistics		
MTH 151	Calculus I	4
MTH 231	Elements of Discrete Mathematics	3
STA 261	Statistics	3-4
	or STA 301 Applied Statistics	
Cybersecurity Core		
CEC 111	Imagination, Ingenuity and Impact I	2
CEC 112	Imagination, Ingenuity, and Impact II	2
CSE 174	Fundamentals of Programming and Problem Solving	3
CSE 201	Introduction to Software Engineering	3
CSE 271	Object-Oriented Programming	3
CSE 274	Data Abstraction and Data Structures	3
CSE 278	Systems I: Introduction to Systems Programming	3
CYB 134	Introduction to Cybersecurity	3
CYB 234	System Administration and Scripting for Cybersecurity	3
CYB 235	Computer Network Design and Administration	3
CYB 236	Data Security	3
CYB 331	Software Security	3
CYB 332	Human, Organizational, and Societal Security	3
CYB 334	Network Security	3
CYB 335	Defensive Security	3
CYB 435	Offensive Security	3
CYB 437	Cybersecurity Senior Design Project/ Capstone	3
CYB Electives (4 courses)		12
CSE 301	Software Architecture and Design	
CSE 374	Algorithms I	
CSE 381	Systems 2: OS, Concurrency, Virtualization, and Security	
CSE 382	Mobile App Development	
CSE 383	Web Application Programming	
CSE 385	Database Systems	
CSE 401	Software Quality Assurance and Testing	
CSE 432	Machine Learning	
CSE 485	Advanced Database Systems	
CSE 486	Introduction to Artificial Intelligence	
ISA 412	Data Warehousing and Business Intelligence	
POL 437	Cyberlaw	
Communication		
STC 135	Principles of Public Speaking	3
Total Credit Hours		74-75

Electrical Engineering- Bachelor of Science in Engineering

For information, contact the Department of Electrical and Computer Engineering, 260 Garland Hall, 513-529-0740.

This program is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>.

Electrical engineering is the process of applying electric and magnetic phenomena in an innovative way to create useful products and services. Progress in electrical engineering led society from the electricity age through communication and computer ages to the current information age. The profession encompasses a broad range of concentration areas such as electronic circuits, instrumentation and control, integrated circuits, electromagnetics, power and energy, communications, computers and networks, and signal processing. Products and services like electricity, broadcasting, computers, cellular phones, navigation equipment, and the internet affect and influence every aspect of modern civilization. The widespread utilization of electrical means of measurement and control, computers, and communications has resulted in the need for electrical engineers in all types of industries. Excellent employment opportunities exist for well-prepared graduates.

Miami's electrical engineering curriculum provides students with a sound foundation in basic science, mathematics, the humanities, communication skills, and technical subjects. Design, project management, and teamwork, as well as ethics and professionalism, are emphasized throughout the curriculum.

Program Educational Objectives

Program educational objectives describe the career and professional accomplishments that the program prepares graduates to attain within a few years of graduation. The objectives of the electrical engineering program are for graduates to achieve:

- Success in being employed in an area related to electrical engineering or enrolled in an advanced program.
- Advancement in professional skills and knowledge with an understanding of the impact on societal, economic, global, and environmental issues.
- Progression in responsibilities by exercising effective communication, leadership, and teamwork skills.
- Commitment to professionalism, ethical, inclusive and equitable practices, continuous improvement, and lifelong learning.

Student Outcomes

These student outcomes prepare our graduates to attain the program educational objectives listed above.

1. an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. an ability to communicate effectively with a range of audiences.

4. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions .
7. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Credit/No Credit Policy

All courses in chemistry, physics, biology, mathematics, statistics and those in the College of Engineering and Computing (CPB, CSE, ECE, EGM, MME, CEC) that are used to fulfill requirements of the major, must be taken for a grade.

Divisional Policy

DOUBLE MAJORS: Students with two majors in the College of Engineering and Computing must take a minimum of 15 different/additional credit hours in their second major beyond the requirements of their first major.

Program Requirements

(104 semester hours minimum)

Code	Title	Credit Hours
Core Requirements		
CHM 141	College Chemistry	3
ECO 201	Principles of Microeconomics	3
ECE 345	Introduction to Probability, Statistics, and Random Processes	3
ENG 313	Technical Writing	3
MTH 151	Calculus I	4
MTH 251	Calculus II	4-5
	or MTH 249	Calculus II
MTH 246	Linear Algebra and Differential Equations for Engineers	4
MTH 252	Calculus III	4
PHY 191	General Physics with Laboratory I	5
PHY 192	General Physics with Laboratory II	5
Computer Science		
CSE 174	Fundamentals of Programming and Problem Solving	3
General Engineering		
CEC 111	Imagination, Ingenuity and Impact I	2
CEC 112	Imagination, Ingenuity, and Impact II	2
ECE 448	Senior Design Project	2
ECE 449	Senior Design Project	2
Required Electrical and Computer Engineering		
ECE 205	Electric Circuit Analysis I	4
ECE 287	Digital Systems Design	4

ECE 301	Advanced Circuits and Fundamentals of Renewable Energy	3
ECE/MME 303 or ECE 314	Computer-Aided Experimentation Elements of Robotics	3
ECE 304	Electronics	3
ECE 306	Signals and Systems	3
ECE 325	Applied Electromagnetics	3
ECE 425	Digital Signal Processing	3
ECE/MME 436	Control of Dynamic Systems	3
ECE 484	Embedded Systems Design	3

Professional EE Electives

Select 12 hours of the following: 12

ECE 388	Introduction to Smartphone Technologies
ECE 411	Sensors and Data Fusion with Robotics Applications
ECE 414	Design and Modeling of Robotic Systems
ECE 426	Biomedical Signal Analysis and Machine Learning
ECE 427	Radar Signal Processing
ECE 429	Digital Image Processing
ECE 430	Electromagnetics in Wireless Sensing and Communications
ECE 453	Communication Systems
ECE 461	Network Performance Analysis
ECE 487	Computer Aided Design Tools for Computer Engineering
ECE 491	Power Systems Engineering
ECE 493	Power Electronics
ECE 497	Electric Vehicle Technology

General Technical Electives¹

Select 11 hours of the following: 11

Additional courses from the Professional EE Elective list	
ECE 289	Computer Organization
ECE 291	Energy Systems Engineering
ECE 302	MATLAB and its engineering applications
ECE 317	Industrial Robotics
ECE 395	Undergraduate Research Immersion Project
MTH 231	Elements of Discrete Mathematics
MTH 331	Proof: Introduction to Higher Mathematics
MTH 432	Optimization
MTH 438	Theory and Applications of Graphs
MTH 441	Real Analysis
MTH 451	Introduction to Complex Variables
MTH 453	Numerical Analysis
PHY 281	Contemporary Physics I: Foundations
PHY 282 & PHY 293	Contemporary Physics II: Frontiers and Contemporary Physics Laboratory
PHY 286	Introduction to Computational Physics

PHY 421	Molecular and Cellular Biophysics
PHY 441	Optics and Laser Physics
CSE 271	Object-Oriented Programming
CSE 274	Data Abstraction and Data Structures
CSE 283	Data Communication and Networks
MME 211	Static Modeling of Mechanical Systems (not both)
or CPB 219	Statics and Mechanics of Materials
CPB/MME 314	Engineering Thermodynamics

Total Credit Hours **104-105**

- ¹ General Technical Electives are subject to the following rules:
- At least 3 credits of General Technical Electives must be 300-level or above.
 - At least 6 credits must be from ECE.
 - Courses cannot be double-counted as both Professional EE Electives and General Technical Electives.
 - CHM 141/CHM 144 may be used if they are not double-counted for Miami Plan requirement.

Engineering Management-Bachelor of Science in Engineering

For information, contact the College of Engineering and Computing Dean's Office, 513-529-0700 or visit <http://miamioh.edu/cec/academics/interdisciplinary-majors/engineering-management/index.html>.

Engineering Management provides an interdisciplinary approach for addressing the complexities of today's world. Highly competitive global businesses require employees with a solid technical foundation, business expertise, an entrepreneurial mindset, and the leadership skills afforded by a broad liberal education. The Engineering Management program includes courses in engineering, business/entrepreneurship, science, mathematics, and the liberal arts. It is designed to develop your engineering and business expertise, social awareness, and interpersonal communication skills. Students earn a Bachelor of Science in Engineering degree. Students who complete the Entrepreneurship concentration cannot also be awarded the Entrepreneurship minor.

Student Outcomes

Students in each of the Engineering Management concentrations – Electronics and Computing, Manufacturing Engineering, Environmental Engineering, and Paper Science and Engineering – should attain the following outcomes by the time of graduation:

1. an ability to communicate effectively with a range of audiences
2. an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts

3. an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives

4. an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Engineering Management with Electronics and Computing Concentration

This concentration provides a foundation in electrical and computer engineering while developing the skills necessary to manage the development of products, including computers and other electronic devices. Graduates have an impact on the needs of society, where global reliance on electronics and computing is ever-increasing. The additional student outcomes for this concentration are:

- an ability to solve electrical, computer, and related problems in a business or engineering environment by applying computing, business, math, science, and engineering fundamentals.
- an ability to manage the design and creation of electrical and computer systems to meet client needs in business and engineering applications.

Engineering Management with Manufacturing Engineering Concentration

This concentration focuses on product and process design. It requires the ability to plan the practices of manufacturing; to research and develop tools, manufacturing processes, machines, equipment, and control strategies; and to integrate the facilities and systems so that quality products can be produced at a competitive cost. The additional student outcomes for this concentration are:

- an ability to design manufacturing processes, products, and the corresponding processing machinery
- an ability to create competitive advantage by manufacturing planning, strategy, and control
- an ability to analyze, synthesize, and control manufacturing operations using statistical methods and to make technical inferences about a manufacturing process by measuring process variables.

Engineering Management with Environmental Engineering Concentration

This concentration provides a foundation in environmental engineering while developing the skills necessary to achieve practical and economical solutions to environmental challenges pertaining to industry and society. Graduates have an impact on our global progress toward achieving a sustainable society. The additional student outcomes for this concentration are:

- an ability to plan, identify, design, and assess pollution prevention alternatives and pollution control processes for industry and for society

- an ability to demonstrate the organizational, leadership and general communication skills needed by an environmental professional.

Engineering Management with Paper Science and Engineering Concentration

This concentration provides a foundation in paper science and engineering while developing the technical knowledge, skills, and talents required to achieve practical solutions to challenges in the paper industry or for a company allied to the paper industry. Graduates have an impact on innovation and progress toward sustainability in the pulp and paper sector. The additional student outcomes for this concentration are:

- an ability to plan, identify, design, and assess solutions to challenges in the paper industry or for a company allied to the paper industry.
- an ability to demonstrate the organizational, leadership and general communication skills needed by professionals in the global pulp and paper industry

Credit/No Credit Policy

All courses in chemistry, physics, biology, mathematics, statistics, in the business core, and in the College of Engineering and Computing (CPB, CSE, ECE, EGM, MME, CEC) that are used to fulfill requirements of the major, must be taken for a letter grade.

Divisional Policy

DOUBLE MAJORS: Students with two majors in the College of Engineering and Computing must take a minimum of 15 credit hours of unique, additional courses in the second major beyond the requirements of the first major.

Program Requirements

The number of hours needed to graduate depends on your choice of concentration and mathematical preparation. Course requirements for the Miami Plan are listed separately in that chapter. Many of the courses taken to fulfill the Miami Plan can be used to fill other requirements of this program. Additional hours beyond the minimum required for a bachelor's degree at Miami may be needed based on concentration.

Code	Title	Credit Hours
Core Requirements		
CHM 141	College Chemistry	3
ECO 201	Principles of Microeconomics	3
ENG 313	Technical Writing	3
MTH 151	Calculus I	4
MTH 251 or MTH 249	Calculus II	4-5
General Engineering		
CEC 111	Imagination, Ingenuity and Impact I	2
CEC 112	Imagination, Ingenuity, and Impact II	2
MME/CPB 341	Engineering Economics	3
EGM 411	Leading and Managing Projects	3

BUSINESS CONCENTRATION 21

Complete either the General Business Concentration or the Entrepreneurship Concentration

GENERAL BUSINESS CONCENTRATION

ACC 221	Introduction to Financial Accounting
ECO 202	Principles of Macroeconomics
MKT 291	Principles of Marketing
MGT 291	Introduction to Management & Leadership
MGT 295	Introduction to Operations and Supply Chain Management

Management Track -- Complete one of the following Management Tracks in the General Business concentration: Entrepreneurship, Human Resources, Materials Management, or Operations Management

Entrepreneurship

ESP 341	Corporate Entrepreneurship
ESP 401	Entrepreneurship: New Ventures
Human Resources - select two of the following:	
MGT 303	Human Resource Management
MGT 404	Compensation Management
MGT 405	Negotiations and Conflict Management
MGT 406	Talent Acquisition and Development

Materials Management - select two of the following:

ISA 303	Enterprise Systems
MGT 431	Logistics Management
MGT 432	Global Strategic Sourcing

Operations Management

MGT 451	Operations Planning and Scheduling
MGT 453	Quality Management Systems

ENTREPRENEURSHIP CONCENTRATION

ESP 101	Entrepreneurship Foundations
Take both Startup and Innovation Weekends of	
ESP 102	Entrepreneurial Immersion: From Idea to Opportunity (Startup Weekend)
ESP 102	Entrepreneurial Immersion: From Idea to Opportunity (Innovation Weekend)
ESP 201	Introduction to Entrepreneurship and Business Models
ESP 251	Entrepreneurial Value Creation and Capture
ESP 252	Entrepreneurial Mindset: Creativity and Organization
ESP 331	Social Entrepreneurship
Choose one:	
ESP 321	Startup Entrepreneurship
ESP 341	Corporate Entrepreneurship
ESP 351	Creativity in Entrepreneurship
Choose one:	
ESP 401	Entrepreneurship: New Ventures
ESP 461	Entrepreneurial Consulting

ENGINEERING CONCENTRATION 55-60

Complete one Engineering Concentration

MANUFACTURING (59-60 credit hours)

PHY 181 & PHY 183	General Physics I and General Physics Laboratory I
PHY 182	General Physics II
CSE 372	Stochastic Modeling
or STA 401	Probability
ECE 205	Electric Circuit Analysis I
MTH 246	Linear Algebra and Differential Equations for Engineers
STA 301	Applied Statistics
or STA 261	Statistics
MME 201	Modeling and Design in Engineering
MME 211	Static Modeling of Mechanical Systems
MME 223	Engineering Materials
MME 231	Manufacturing Processes
MME 301	Product Design and Development
MME 305	Measurements and Instrumentation
MME 312	Mechanics of Materials
MME 331	Advanced Manufacturing and Design
MME 334	Quality Planning and Control
MME 337	Manufacturing Automation
MME 411	Machine and Tool Design
MME/ECE 448	Senior Design Project
MME/ECE 449	Senior Design Project

PAPER SCIENCE AND ENGINEERING (56-58 credit hours)

CHM 144	College Chemistry Laboratory
PHY 181	General Physics I
PHY 182	General Physics II
CHM 142 & CHM 145	College Chemistry and College Chemistry Laboratory
CHM 231	Fundamentals of Organic Chemistry
MTH 245	Differential Equations for Engineers
or MTH 246	Linear Algebra and Differential Equations for Engineers
or MTH 347	Differential Equations
STA 301	Applied Statistics
or STA 261	Statistics
CPB 201	Principles of Paper Science and Engineering
CPB 202	Pulp and Paper Physics
CPB 204	Mass and Energy Balances I
CPB 219	Statics and Mechanics of Materials
or MME 211	Static Modeling of Mechanical Systems
CPB 301	Pulp and Paper Chemistry
CPB 311	Transport Phenomena Laboratory
CPB 318	Transport Phenomena I
CPB/MME 314	Engineering Thermodynamics
CPB 404	Papermaking
CPB 471	Engineering Design I
CPB 472	Engineering Design II
CPB 490	Special Topics in Paper and Chemical Engineering

ENVIRONMENTAL ENGINEERING (55-57 credit hours)	
CHM 144	College Chemistry Laboratory
PHY 181	General Physics I
PHY 182	General Physics II
CHM 142 & CHM 145	College Chemistry and College Chemistry Laboratory
CHM 231	Fundamentals of Organic Chemistry
MTH 245	Differential Equations for Engineers
or MTH 246	Linear Algebra and Differential Equations for Engineers
or MTH 347	Differential Equations
CPB 204	Mass and Energy Balances I
CPB 219	Statics and Mechanics of Materials
or MME 211	Static Modeling of Mechanical Systems
CPB 244	Introduction to Environmental Engineering
CPB 311	Transport Phenomena Laboratory
CPB 318	Transport Phenomena I
CPB/MME 314	Engineering Thermodynamics
CPB 471	Engineering Design I
CPB 472	Engineering Design II
STA 301	Applied Statistics
or STA 261	Statistics
Select three of the following:	
CPB 405	Industrial Environmental Control
CPB 441	Pollution Prevention in Environmental Management
CPB 442	Air Pollution Control
MME 451	Sustainability Considerations in Design and Development
ELECTRONICS AND COMPUTING (55-58 credit hours)	
PHY 181 & PHY 183	General Physics I and General Physics Laboratory I
PHY 182 & PHY 184	General Physics II and General Physics Laboratory II
CSE 174	Fundamentals of Programming and Problem Solving
ECE 205	Electric Circuit Analysis I
ECE 287	Digital Systems Design
ECE 304	Electronics
ECE 306	Signals and Systems
ECE 345	Introduction to Probability, Statistics, and Random Processes
or STA 301	Applied Statistics
or STA 261	Statistics
ECE 387	Embedded Systems Design
or ECE 484	Embedded Systems Design
ECE/MME 448	Senior Design Project
or CSE 448	Senior Design Project
ECE/MME 449	Senior Design Project
or CSE 449	Senior Design Project
MTH 222	Introduction to Linear Algebra
or MTH 231	Elements of Discrete Mathematics
MTH 245	Differential Equations for Engineers

or MTH 246 Linear Algebra and Differential Equations for Engineers

or MTH 347 Differential Equations

Select at least 12 hours of electives from:

Any 200-level or higher ECE course.

CSE 201 Introduction to Software Engineering

CSE 212 Software Engineering for User Interface and User Experience Design

CSE 252 Web Application Programming

CSE 271 Object-Oriented Programming

CSE 273 Optimization Modeling

CSE 274 Data Abstraction and Data Structures

CSE 278 Systems I: Introduction to Systems Programming

Any 300-level or higher CSE course

MTH 252 Calculus III

Total Credit Hours

103-109

Mechanical Engineering- Bachelor of Science in Engineering

For information, contact the Department of Mechanical and Manufacturing Engineering, 56 Garland Hall, 513-529-0710.

This program is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>.

Mechanical Engineering encompasses the design, analysis, production and operation of machines and systems. It requires the ability to use principles from mathematics, science, and engineering, perform research, create mathematical and physical models, simulate and test working conditions, and synthesize different elements in order to obtain the optimum design of a specific product or process.

The increasing sophistication of products and systems requires academically qualified mechanical engineers who can apply state-of-the-art tools and methods of engineering. Examples include computer-aided engineering/design/manufacturing, finite-element analysis, computational fluid mechanics, robotics, heat transfer, dynamics, and advanced machine and tool design.

The mechanical engineer of the 21st century must be able to think critically in broader contexts because engineering solutions to problems in contemporary society often involve complex social, political, environmental and economic issues. Miami's mechanical engineering program provides students with a broad mechanical engineering foundation supplemented by courses in manufacturing engineering, electrical engineering, computer science, chemical/biological engineering, economics, mathematics, physics, chemistry, biology, and a strong liberal arts component that includes fine arts, humanities, social science, and global/intercultural perspectives.

Graduates have the opportunity to work in a diverse spectrum of professional fields. These include design, development, research, manufacturing, production, project management, technical sales, and field support and service. Many mechanical engineers work in manufacturing-related areas, in the analysis and design of myriad products, and in other sectors of the economy such as medicine,

law and government service. Graduates are also prepared to continue their education at the graduate level. Graduating seniors are encouraged to take the Fundamentals of Engineering examination, which is the first of two examinations that lead to becoming a licensed professional engineer.

For information, contact the Department of Mechanical & Manufacturing Engineering, 56 Garland Hall (513-529-0710) and visit our web site: <http://www.CEC/MiamiOH.edu/MME/>.

Program Educational Objectives

Graduates of the Mechanical Engineering program are expected to attain or achieve the following Program Educational Objectives within a few years of graduation:

- Advance in their chosen profession and/or in their pursuit of an advanced degree.
- Demonstrate leadership and teamwork characterized by Miami University's Code of Love & Honor.
- Apply sound engineering principles and skills to synthesize innovative solutions to customer needs and challenges.
- Execute responsibilities in an ethical manner.

Student Outcomes

The Student Outcomes, from ABET Engineering Accreditation Commission (EAC) criteria, prepare graduates of the Mechanical and Manufacturing Engineering programs to attain the Program Educational Objectives.

- EAC (1) An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- EAC (2) An ability to apply engineering design to produce solutions that meet specified needs with consideration to public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- EAC (3) An ability to communicate effectively with a range of audiences
- EAC (4) An ability to recognize ethical and professional responsibilities
- EAC (5) An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- EAC (6) An ability to develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions
- EAC (7) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies

Mechanical Engineering Program Criteria

The Mechanical Engineering curriculum also provides graduates with:

MCH 1: An ability to apply principles of engineering, basic science and mathematics (including multivariate calculus and differential equations) to solve engineering problems.

MCH 2: An ability to model, analyze, design and realize physical systems, components or processes.

MCH 3: The preparation to work professionally in either thermal or mechanical systems areas.

Departmental Honors

If you excel in your studies, you may qualify for the University Honors Program or the program for Honors in Mechanical and Manufacturing Engineering. As a senior in these programs, you will have the opportunity to work closely with the faculty on research projects of interest.

Credit/No Credit Policy

All courses in chemistry, physics, biology, mathematics, statistics and those in the College of Engineering and Computing (CPB, CSE, ECE, MME, CEC, EGM) that are used to fulfill requirements of the major, must be taken for a grade.

Divisional Policy

DOUBLE MAJORS: Students with two majors in the College of Engineering and Computing must take a minimum of 15 different/additional credit hours in their second major beyond the requirements of their first major.

Program Requirements

Minimum of 125 semester hours¹

Code	Title	Credit Hours
Core Requirements		
CHM 141 & CHM 144	College Chemistry and College Chemistry Laboratory	5
ECO 201	Principles of Microeconomics	3
ENG 313	Technical Writing	3
MTH 151	Calculus I	4
MTH 246	Linear Algebra and Differential Equations for Engineers	4
MTH 251 or MTH 249	Calculus II Calculus II	4-5
MTH 252	Calculus III	4
PHY 181 & PHY 183	General Physics I and General Physics Laboratory I	5
PHY 182	General Physics II	4
STA 301 or STA 261	Applied Statistics Statistics	3 - 4
Engineering Science		
ECE 205	Electric Circuit Analysis I	4
MME 211	Static Modeling of Mechanical Systems	3
MME 223	Engineering Materials	3
MME 311	Dynamic Modeling of Mechanical Systems	3
MME 312	Mechanics of Materials	3
MME/CPB 313	Fluid Mechanics	3
MME/CPB 314	Engineering Thermodynamics	3
Mechanical Engineering Core		

CEC 111	Imagination, Ingenuity and Impact I	2
CEC 112	Imagination, Ingenuity, and Impact II	2
MME 231	Manufacturing Processes	3
MME 201	Modeling and Design in Engineering	2
MME 202	Numerical Methods in Engineering	3
MME 305	Measurements and Instrumentation	3
MME 321	System Modeling, Analysis, & Control	3
MME/CPB 341	Engineering Economics	3
MME/CPB 403	Heat Transfer	3
MME 411	Machine and Tool Design	4
MME 415	Thermal-Fluid Studio	2
Senior Capstone Engineering Design		
MME 448	Senior Design Project	2
MME 449	Senior Design Project	2
Complete Any One Track (6 hours)		6
Track 1: Mechanics (select 2 courses)		
MME 412	Advanced Mechanics of Materials	
MME 470	Special Topics in Mechanical Engineering (Fracture Mechanics)	
Track 2: Thermal Fluids (select 2 courses)		
MME 413	Introduction to Compressible Flow	
MME 414	Engineering Thermodynamics II	
Track 3: Dynamics and Controls (select 2 courses)		
MME 315	Mechanical Vibrations	
MME 436	Control of Dynamic Systems	
MME 495	Introduction to Applied Nonlinear Dynamics	
Technical electives		
Select one of the following courses for a minimum of three credit hours: ²		3
CPB 244	Introduction to Environmental Engineering	
CPB 423	Biomechanics	
CPB 482	Process Control	
CSE 153	Introduction to C/C++ Programming	
or CSE 174	Fundamentals of Programming and Problem Solving	
CSE 271	Object-Oriented Programming	
CSE 273	Optimization Modeling	
CSE 372	Stochastic Modeling	
ECE 287	Digital Systems Design	
ECE 291	Energy Systems Engineering	
ECE 302	MATLAB and its engineering applications	
ECE 304	Electronics	
ECE 306	Signals and Systems	
MME 331	Advanced Manufacturing and Design	
MME 334	Quality Planning and Control	
MME 337	Manufacturing Automation	
MME 360	Special Topics	
MME 375	Human Robot Interaction	
MME 435	Process Engineering	

MME 451	Sustainability Considerations in Design and Development
ECO 202	Principles of Macroeconomics

Total Credit Hours**104-106**

- ¹ A minimum of 125 semester credit hours is required for graduation, which includes completion of the requirements for the Miami Plan, and depends on the choice of electives.
- ² Other courses may be approved by petition. The technical elective may be used to satisfy a Miami Plan Social Science requirement (PA-2A).

Robotics Engineering - Bachelor of Science in Engineering

The Robotics Engineering major encompasses industrial automation, autonomous systems and artificial intelligence. Robotics finds wide applications in industry and our daily life on an ever-increasing scale. It is a highly interdisciplinary field synthesizing elements from electrical and computer engineering, computer science and software engineering, mechanical and manufacturing engineering, mathematics as well as other disciplines. Excellent employment opportunities exist for well-prepared graduates.

There are three specialties within the Robotics Engineering major: Automation, Intelligent Systems, and General Robotics. The Automation specialty focuses on robotic applications in the manufacturing process. The Intelligent Systems specialty emphasizes application of artificial intelligence and design of autonomous systems. General Robotics provides students the flexibility in choosing courses of their interest from a set of courses related to Robotics Engineering.

Miami's robotics engineering curriculum provides students with a sound foundation in basic science, mathematics, the humanities, communication skills, and technical subjects. Design, project management and teamwork as well as ethics and professionalism are emphasized throughout the curriculum.

Program Educational Objectives

Program educational objectives describe the career and professional accomplishments that the program prepares graduates to attain within a few years of graduation. The objectives of the robotics engineering program are for graduates to achieve:

- Success in being employed in an area related to robotics engineering or enrolled in an advanced program.
- Advancement in professional skills and knowledge with an understanding of the impact on societal, economic, global, and environmental issues.
- Progression in responsibilities by exercising effective communication, leadership, and teamwork skills.
- Commitment to professionalism, ethical, inclusive and equitable practices, continuous improvement, and lifelong learning.

Student Outcomes

These student outcomes prepare our graduates to attain the program educational objectives listed above.

- an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
- an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
- an ability to communicate effectively with a range of audiences.
- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Credit/No Credit Policy

All courses in chemistry, physics, biology, mathematics, statistics and those in the College of Engineering and Computing (CPB, CSE, ECE, EGM, MME, CEC) that are used to fulfill requirements of the major, must be taken for a grade.

Divisional Policy

DOUBLE MAJORS: Students with two majors in the College of Engineering and Computing must take a minimum of 15 different/additional credit hours in their second major beyond the requirements of their first major.

Program Requirements

Code	Title	Credit Hours
Core Requirements		
CHM 141	College Chemistry (or MP - Biological Sci.)	3
ECE 345	Introduction to Probability, Statistics, and Random Processes	3
ECO 201	Principles of Microeconomics	3
ENG 313	Technical Writing	3
MTH 151	Calculus I	4
MTH 231	Elements of Discrete Mathematics	3
MTH 246	Linear Algebra and Differential Equations for Engineers	4
MTH 251 or MTH 249	Calculus II Calculus II	4
PHY 191	General Physics with Laboratory I	5
PHY 192	General Physics with Laboratory II	5
General Engineering		
CEC 111	Imagination, Ingenuity and Impact I	2
CEC 112	Imagination, Ingenuity, and Impact II	2
ECE/MME 448 or CSE 448	Senior Design Project Senior Design Project	2

ECE/MME 449 or CSE 449	Senior Design Project Senior Design Project	2
Required Robotics Engineering		
CSE 174	Fundamentals of Programming and Problem Solving	3
CSE 271	Object-Oriented Programming	3
CSE 274	Data Abstraction and Data Structures	3
ECE 205	Electric Circuit Analysis I	4
ECE 287	Digital Systems Design	4
ECE 304	Electronics	3
ECE 306	Signals and Systems	3
ECE 314	Elements of Robotics	3
ECE 317	Industrial Robotics	3
ECE 414	Design and Modeling of Robotic Systems	3
MME 211	Static Modeling of Mechanical Systems	3
MME 311	Dynamic Modeling of Mechanical Systems	3

Complete one of the following specialties: 18

Specialty I - Automation

MME 305	Measurements and Instrumentation	
MME 321	System Modeling, Analysis, & Control	
Choose 12 credit hours from the following:		
MME 337	Manufacturing Automation	
MME 375	Human Robot Interaction	
MME/ECE 436	Control of Dynamic Systems	
MME 438	Mechanics, Analysis, and Control of Robots	
MME 439	Seminar in Robotics	

Specialty II - Intelligent Systems

CSE 278	Systems I: Introduction to Systems Programming	
CSE 386	Foundations of Computer Graphics and Games	
Choose 12 credit hours from the following:		
CSE 432	Machine Learning	
CSE 486	Introduction to Artificial Intelligence	
CSE 488	Image Processing & Computer Vision	
ECE 411	Sensors and Data Fusion with Robotics Applications	
ECE 484	Embedded Systems Design	

Specialty III - General Robotics

12 credit hours must be at the 400-level		
Choose at least 12 credit hours from the courses in Specialty I and II		
Choose, at most, 6 credit hours from the following:		
ECE 425	Digital Signal Processing	
ECE 453	Communication Systems	
ECE 493	Power Electronics	

General Technical Electives 3

Choose at least 3 credit hours from the following:		
ECE 289	Computer Organization	
ECE 291	Energy Systems Engineering	

ECE 301	Advanced Circuits and Fundamentals of Renewable Energy
ECE 302	MATLAB and its engineering applications
CSE 201	Introduction to Software Engineering
CSE 302	Software Construction
CSE 212	Software Engineering for User Interface and User Experience Design
CSE 251	Introduction to Game Programming
CSE 252	Web Application Programming
CSE 273	Optimization Modeling
EGM 411	Leading and Managing Projects
MME 202	Numerical Methods in Engineering
MME 223	Engineering Materials
MME 231	Manufacturing Processes
MME 301	Product Design and Development
MME/CPB 341	Engineering Economics
MTH 252	Calculus III

Consult academic advisors for additional course options.

Total Credit Hours
104

Smart Manufacturing Engineering - Bachelor of Science in Engineering

For information, contact the Department of Mechanical and Manufacturing Engineering, 56 Garland Hall, 513-529-0710.

This program is accredited by the Engineering Accreditation Commission of ABET, <http://www.abet.org>.

Manufacturing continues to remain one of the leading contributors to the national GDP, and the growth and innovation within nearly all sectors of manufacturing can be attributed to data driven solutions. Smart manufacturing uses data generation and evaluation at various scales to help make informed decisions from control of specific equipment to the operation of an entire factory. Smart or intelligent manufacturing technologies being applied to increase productivity, improve quality, and reduce costs include digital engineering/design/manufacturing, robotics and automation, real-time data analytics, lean and agile process management, six sigma statistical process control, and additive manufacturing. Smarter, automated and more flexible companies need academically qualified and skilled manufacturing engineers.

Creating appropriate engineering solutions to the current problems facing industry and society often involves complex social, political, environmental and economic issues. The department provides graduates with an in-depth education in mathematics, science, engineering, and design, with a focus on smart or digital manufacturing processes, data analytics, predictive maintenance, system engineering, digital twins, methods and materials, as well as requiring a broad education in computing, economics, and the liberal arts. The department is committed to excellence in undergraduate education: student learning, classroom effectiveness, assessment,

engineering design, professional ethics, student advising and opportunities for leadership.

Graduates typically work as manufacturing engineers in areas such as product and process development and design, quality control, advanced manufacturing, lean manufacturing, systems design and integrator, process and plant-facilities design, project management, and industrial engineering. After gaining industrial experience, graduates often move into organizational management positions. Graduates are also prepared to continue their education at the graduate level. Graduating seniors are encouraged to take the Fundamentals of Engineering examination, which is the first of two examinations that lead to becoming a licensed professional engineer.

For information, contact the Department of Mechanical & Manufacturing Engineering, 56 Garland Hall (513-529-0710) and visit our web site: <http://www.CEC.MiamiOH.edu/MME/>

Program Educational Objectives

Graduates of Miami's Smart Manufacturing Engineering program are expected to attain or achieve the following Program Educational Objectives within a few years of graduation:

- Advance in their chosen profession and/or in their pursuit of an advanced degree.
- Demonstrate leadership and teamwork characterized by Miami University's Code of Love & Honor.
- Apply sound engineering principles and skills to synthesize innovative solutions to customer needs and challenges.
- Execute responsibilities in an ethical manner.

Student Outcomes

The Student Outcomes, from ABET Engineering Accreditation Commission (EAC) criteria, prepare graduates of the Mechanical and Manufacturing Engineering programs to attain the Program Educational Objectives.

- EAC (1) An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
- EAC (2) An ability to apply engineering design to produce solutions that meet specified needs with consideration to public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
- EAC (3) An ability to communicate effectively with a range of audiences
- EAC (4) An ability to recognize ethical and professional responsibilities
- EAC (5) An ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
- EAC (6) An ability to develop and conduct appropriate experimentation, analyze, and interpret data, and use engineering judgment to draw conclusions
- EAC (7) An ability to acquire and apply new knowledge as needed, using appropriate learning strategies

Smart Manufacturing Engineering Program Criteria

The Smart Manufacturing Engineering curriculum also provides graduates with:

- MFG 1: An ability to design manufacturing processes.
- MFG 2: An ability to design products and the corresponding processing machinery.
- MFG 3: An ability to create competitive advantage by manufacturing planning, strategy, and control.
- MFG 4: An ability to analyze, synthesize, and control manufacturing operations using statistical methods.
- MFG 5: An ability to make technical inferences about a manufacturing process by measuring process variables.

Departmental Honors

If you excel in your studies, you may qualify for the University Honors Program or the program for Honors in Mechanical and Manufacturing Engineering. As a senior in these programs, you will have the opportunity to work closely with the faculty on research projects of interest.

Credit/No Credit Policy

All courses in chemistry, physics, biology, mathematics, statistics and those in the College of Engineering and Computing (CPB, CSE, ECE, MME, CEC, EGM) that are used to fulfill requirements of the major, must be taken for a grade.

Divisional Policy

DOUBLE MAJORS: Students with two majors in the College of Engineering and Computing must take a minimum of 15 different/additional credit hours in their second major beyond the requirements of their first major.

Program Requirements

(128 semester hours minimum)

Note: MME 331, 435, 432 are offered only in the fall semester (typically) and MME 337, 433 are offered only in the spring semester (typically).

Code	Title	Credit Hours
Core Requirements		
CHM 141 & CHM 144	College Chemistry and College Chemistry Laboratory	5
ECO 201	Principles of Microeconomics	3
ENG 313	Technical Writing	3
MTH 151	Calculus I	4
MTH 251 or MTH 249	Calculus II	4-5
MTH 246	Linear Algebra and Differential Equations for Engineers	4
PHY 181 & PHY 183	General Physics I and General Physics Laboratory I	5

PHY 182	General Physics II	4
STA 301 or STA 261	Applied Statistics Statistics	3 - 4

Engineering Science

ECE 205	Electric Circuit Analysis I	4
MME 211	Static Modeling of Mechanical Systems	3
MME 223	Engineering Materials	3
MME 312	Mechanics of Materials	3

Manufacturing Engineering Core

CEC 111	Imagination, Ingenuity and Impact I	2
CEC 112	Imagination, Ingenuity, and Impact II	2
MME 201	Modeling and Design in Engineering	2
MME 231	Manufacturing Processes	3
MME 232	Polymer Processes	3
MME 301	Product Design and Development	3
MME 305	Measurements and Instrumentation	3
MME 331	Advanced Manufacturing and Design	3
MME 334	Quality Planning and Control	3
MME 337	Manufacturing Automation	3
MME/CPB 341	Engineering Economics	3
STA 363	Introduction to Statistical Modeling	3
MME 411	Machine and Tool Design	3
MME 432	Digital Manufacturing	3
MME 433	Smart Factory	3
MME 435	Process Engineering (Engineering Processes)	3
MME 470	Special Topics in Mechanical Engineering	3
or STA 402	Statistical Programming	
or STA 404	Advanced Data Visualization	

Senior Capstone Engineering Design

MME 448	Senior Design Project	2
MME 449	Senior Design Project	2

Technical Electives

Select two of the following courses for a minimum of 6 credit hours: ¹		
CPB 244	Introduction to Environmental Engineering	
CPB 482	Process Control	
CSE 174	Fundamentals of Programming and Problem Solving	
CSE 271	Object-Oriented Programming	
CSE 273	Optimization Modeling	
CSE 372	Stochastic Modeling	
ECE 287	Digital Systems Design	
ECE 291	Energy Systems Engineering	
ECE 302	MATLAB and its engineering applications	
ECE 304	Electronics	
ECE 306	Signals and Systems	
ECO 202	Principles of Macroeconomics	
MME 311	Dynamic Modeling of Mechanical Systems	

MME 313	Fluid Mechanics
MME 314	Engineering Thermodynamics
MME 315	Mechanical Vibrations
MME 321	System Modeling, Analysis, & Control
MME 360	Special Topics
MME 375	Human Robot Interaction
MME/CPB 403	Heat Transfer
MME 412	Advanced Mechanics of Materials
MME 414	Engineering Thermodynamics II
MME 451	Sustainability Considerations in Design and Development
MME 495	Introduction to Applied Nonlinear Dynamics

Total Credit Hours **106-108**

¹ Other courses may be approved by petition.

Software Engineering- Bachelor of Science in Software Engineering

For information, contact the Department of Computer Science and Software Engineering, 205 Benton Hall, 513-529-0340, or visit <http://cse.MiamiOH.edu>.

The software engineering major provides graduates with the foundational knowledge and practical skills necessary to develop large, complex computer software systems. The program focuses on the methodologies, techniques and tools needed to develop complex software in a multidisciplinary environment. Topics of study go beyond traditional computer science and include software design, software maintenance, and formal methods for software development. Throughout the program, students are expected to learn in a team environment and thus gain skills in effective communication. In addition to interest in analytical skills, problem solving, and an aptitude for working with technology, students are expected to develop an appreciation for teamwork.

The U.S. Bureau of Labor's job outlook for software engineering graduates is excellent, and the number of positions is expected to increase by 25% between 2021 and 2031. This employment growth is due to the demand for increasing efficiency in network technology, computing speeds, software performance, and embedded systems. The median annual earnings for software developers were \$120,730 in May 2021. According to the National Association of Colleges and Employers, starting offers for graduates with a bachelor's degree in computer science average more than \$72,000.

Program Educational Objectives

Graduates from the Software Engineering program are expected to attain or achieve the following Program Educational Objectives within a few years of graduation:

- Develop in their chosen profession and/or progress toward an advanced degree
- Provide innovative solutions using technical skills in their discipline

- Communicate effectively, demonstrate leadership, and work collaboratively in diverse teams/organizations
- Act responsibly and ethically in their profession and as informed citizens

Student Outcomes

Upon graduation, software engineering majors should be able to:

1. Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics.
2. Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors.
3. Communicate effectively with a range of audiences.
4. Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts.
5. Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives.
6. Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions.
7. Acquire and apply new knowledge as needed, using appropriate learning strategies.

For more information, visit our website at <http://cse.MiamiOH.edu>.

Departmental Honors

If you excel in your studies, you may qualify for the University Honors Program or the program for Honors in Computer Science and Software Engineering. As a senior in these programs, you will have the opportunity to work closely with the faculty on research projects of interest.

Credit/No-Credit Policy

All courses in chemistry, physics, biology, mathematics, statistics and those in the College of Engineering and Computing (CPB, CSE, ECE, EGM, MME, CEC) that are used to fulfill requirements of the major, must be taken for a grade.

Divisional Policy

DOUBLE MAJORS: Students with two majors in the College of Engineering and Computing must take a minimum of 15 different/additional credit hours in their second major beyond the requirements of their first major.

Program Requirements

Code	Title	Credit Hours
Core Requirements		
STC 135 or APC 231	Principles of Public Speaking Small Group Communication	3
Mathematics:		
MTH 151	Calculus I	4

MTH 231	Elements of Discrete Mathematics	3
or MTH 331	Proof: Introduction to Higher Mathematics	
Statistics		
STA 301	Applied Statistics	3-4
or STA 261	Statistics	
or ECE 345	Introduction to Probability, Statistics, and Random Processes	
Mathematics/Statistics Electives		9-10
Take three of the following:		
STA 333	Nonparametric Statistics	
STA 363	Introduction to Statistical Modeling	
STA/ISA 365	Statistical Monitoring and Design of Experiments	
STA 401	Probability	
STA 402	Statistical Programming	
STA 404	Advanced Data Visualization	
STA 427	Introduction to Bayesian Statistics	
STA 432	Survey Sampling in Business	
STA 466	Experimental Design Methods	
STA 467	Statistical Learning	
MTH 222	Introduction to Linear Algebra	
MTH 245	Differential Equations for Engineers	
MTH 251	Calculus II	
or MTH 249	Calculus II	
MTH 252	Calculus III	
MTH 347	Differential Equations	
MTH 411	Foundations of Geometry	
MTH 421	Introduction to Abstract Algebra	
MTH 432	Optimization	
MTH 437	Game Theory and Related Topics	
MTH 438	Theory and Applications of Graphs	
MTH 439	Combinatorics	
MTH 441	Real Analysis	
MTH 447	Topics in Mathematical Finance	
Natural Science Electives		8-10
Select two of the following six options:		
BIO/MBI 115	Biological Concepts: Ecology, Evolution, Genetics, and Diversity	
BIO/MBI 116	Biological Concepts: Structure, Function, Cellular, and Molecular Biology	
CHM 141 & CHM 144	College Chemistry and College Chemistry Laboratory	
CHM 142 & CHM 145	College Chemistry and College Chemistry Laboratory	
PHY 191	General Physics with Laboratory I	
PHY 192	General Physics with Laboratory II	
Mathematics/Statistics/Science Elective		3-5
Select one additional course from one of the following:		
Any of the above Mathematics/Statistics Electives		
Any of the above Natural Science Electives		
Any Miami Plan Natural Science		

Software Engineering Core

CEC 111	Imagination, Ingenuity and Impact I	2
CEC 112	Imagination, Ingenuity, and Impact II	2
CSE 174	Fundamentals of Programming and Problem Solving	3
CYB 134	Introduction to Cybersecurity	3
CSE 201	Introduction to Software Engineering	3
CSE 202	Software Requirements	3
CSE 212	Software Engineering for User Interface and User Experience Design	3
CSE 271	Object-Oriented Programming	3
CSE 274	Data Abstraction and Data Structures	3
CSE 278	Systems I: Introduction to Systems Programming	3
CSE 301	Software Architecture and Design	3
CSE 302	Software Construction	3
CSE 374	Algorithms I	3
CSE 383	Web Application Programming	3
CSE 401	Software Quality Assurance and Testing	3
CSE 448	Senior Design Project	2
CSE 449	Senior Design Project	2
CSE Electives (a total of 12 hours are required)		12
6 to 12 hours of software engineering electives:		
CSE 382	Mobile App Development	
CSE 385	Database Systems	
CSE 389	Game Design and Implementation	
CSE 411	Introduction to Model-Driven Software Engineering	
CSE 432	Machine Learning	
CSE 451	Web Services and Service Oriented Architectures	
CSE 467	Computer and Network Security	
CSE 470	Special Topics in CSE	
CSE 474	Compiler Design	
CSE 485	Advanced Database Systems	
CSE 489	Advanced Graphics and Game Engine Design	
CYB 235	Computer Network Design and Administration	
IMS 211	Introduction to Game Studies	
IMS 212	Introduction to Game Design	
IMS 319	Foundations in Digital 3-D Modeling and Animation	
ISA 401	Business Intelligence and Data Visualization	
ISA 406	IT Project Management	
0 to 6 hours of affiliate electives:		
CSE 262	Technology, Ethics, and Global Society	
CSE 270	Special Topics	
CSE 381	Systems 2: OS, Concurrency, Virtualization, and Security	
CSE 386	Foundations of Computer Graphics and Games	

CSE 443	High Performance Computing & Parallel Programming
CSE 465	Comparative Programming Languages
CSE 473	Automata, Formal Languages, and Computability
CSE 486	Introduction to Artificial Intelligence
CSE 488	Image Processing & Computer Vision
CYB 234	System Administration and Scripting for Cybersecurity
CYB 236	Data Security
ECE 287	Digital Systems Design
ECE 461	Network Performance Analysis
IMS 333	Digital Innovation and Entrepreneurship
IMS 414	Web and Social Media Analytics
ISA 235	Information Technology and the Intelligent Enterprise
0 to 3 hours of research electives:	
CSE 340U	Undergraduate Summer Scholars Program (requires petition)
CSE 480	Special Problems (honors Program)
CSE 491	Undergraduate Research
Total Credit Hours	92-98

Bioinformatics Minor

This minor is offered cooperatively by the Departments of Biology, Computer Science and Software Engineering, Microbiology, and Statistics. For information, contact the Department of Biology, 212 Pearson Hall, 513-529-3100.

Bioinformatics, or the application of computational techniques to molecular biology problems, is a fast-growing field of significant importance in both academia and industry. Students completing a bioinformatics minor will gain the basic knowledge of biology and programming needed to work in this area, as well as an understanding of how computational techniques can be used to advance our knowledge of biology and the life sciences.

Program Requirements

(19-20 semester hours)

Code	Title	Credit Hours
Required Courses		
BIO/MBI 116	Biological Concepts: Structure, Function, Cellular, and Molecular Biology	4
BIO/CSE/MBI 256	Introduction to Programming for the Life Sciences	3
or CSE 271	Object-Oriented Programming	
BIO/CHM/CSE/MBI 466	Bioinformatics Computing Skills	3
Select one of the following:		3-4
STA 363	Introduction to Statistical Modeling	
STA 402	Statistical Programming	
STA 463	Regression Analysis	

STA 466	Experimental Design Methods	
BIO, CHM, CSE, or MBI at the 200-level or above (BIO 342, MBI 365, or CSE 443 are strongly recommended)		3
BIO/MBI 485/ CSE 456	Bioinformatics Principles	3
Total Credit Hours		19-20

Climate Accounting and Engineering Minor

The Climate Accounting and Engineering minor provides students with the knowledge and skills needed to help organizations, either as employees or external consultants, identify, reliably measure and faithfully represent the environmental impact of their direct and indirect activities. The accountancy courses included in the minor will provide students with an understanding of key concepts relating to the identification, measurement and reporting of information for decision-making along with an opportunity to apply those concepts in the context of organizations' environmental impact. The engineering courses included in the minor will provide students with the knowledge and skills needed to evaluate and design systems for reducing environmental impact and assess the impact of such systems in comparison to the best and reasonably available control technology standards (BACT, RACT).

Students majoring in Accountancy can count no more than 9 hours from their major towards this minor. Students minoring in Environmental Engineering can count no more than 9 hours from their minor to this minor.

Program Requirements

The minor will require 18 credit hours of coursework composed of 9 credit hours of accountancy courses (see accountancy course sequence below); and 9 credit hours of engineering courses (see engineering course sequence below). In addition, we intend to have an optional annual, firm/company sponsored case competition for which students potentially could earn one additional credit hour.

Accountancy majors will need to take 9 credit hours of CPB courses that do not overlap with the Accountancy major. Environmental Engineering minors will need to take 9 credit hours of ACC courses that do not overlap with the minor.

Code	Title	Credit Hours
Select the following:		
ACC 221	Introduction to Financial Accounting	3
ACC 333	Managerial Accounting	3
ACC 453	Financial Statement Auditing	3
CPB 244	Introduction to Environmental Engineering	3
Select two of the following:		6
CPB 405	Industrial Environmental Control	
CPB 441	Pollution Prevention in Environmental Management	
CPB 442	Air Pollution Control	
Total Credit Hours		18

Clinical Engineering Minor

The Clinical Engineering Minor provides the knowledge, skills and lab experience needed for a clinical engineer working in a medical device company or hospital/clinical setting. Students are introduced to hospital instrumentation, facilities, project management, and regulatory affairs for device approval. The minor provides students with a foundation in necessary skills and topics that are in demand by biomedical device companies, including startups, and hospitals around the country.

Students majoring in biomedical engineering can count no more than 8 hours from their major towards this minor. Students may not receive both the clinical engineering and regulatory affairs minors.

Program Requirements

Code	Title	Credit Hours
Required Courses		
CPB 448	Hospital Rotation	3
CPB 428	Engineering Principles in Medical Device Design	3
or CPB 445	Hospital Instrumentation	
CPB 402	Introduction to Clinical Engineering	3
CPB 328	Bioinstrumentation	3
or ECE 411	Sensors and Data Fusion with Robotics Applications	
or ECE 414	Design and Modeling of Robotic Systems	
or ECE 425	Digital Signal Processing	
or ECE 426	Biomedical Signal Analysis and Machine Learning	
or CSE 466	Bioinformatics Computing Skills	
or CSE 488	Image Processing & Computer Vision	
or CSE 432	Machine Learning	
CPB 452	Introduction to FDA Regulations and Medical Device Laws	3
or CPB 453	Medical Device Development and Regulatory Considerations	
CPB 435	Clinical Engineering Laboratory	2
Select one from the following:		
MGT 291	Introduction to Management & Leadership	3
MGT 295	Introduction to Operations and Supply Chain Management	
EGM 411	Leading and Managing Projects	
Total Credit Hours		20

Computer Science Minor

For information, contact the Department of Computer Science and Software Engineering, 205 Benton Hall, 513-529-0340.

This minor is for students in majors other than computer science or software engineering. The objective is to provide a cohesive program enabling students to learn the fundamentals of software design and development and a variety of other topics in computer science. In addition to gaining an understanding of the software design and development process, students will acquire problem solving and algorithm design skills. Electives in sub-fields of computer science

including computer networks, operating systems, database, software engineering, graphics, and computer architecture permit the student to study particular areas of interest.

According to University guidelines, all minor courses must be taken for a letter grade and you must earn an overall 2.00 GPA or higher in these courses.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Required courses		
CSE 174	Fundamentals of Programming and Problem Solving	3
CSE 271	Object-Oriented Programming	3
CSE 274	Data Abstraction and Data Structures	3
Electives		
Select a minimum of 9 hours of the following:		
CSE 102	Introduction to Computer Science and Software Engineering	
or CSE 251	Introduction to Game Programming	
or CSE 262	Technology, Ethics, and Global Society	
or CIT 262	Technology, Ethics, and Global Society	
or CSE 273	Optimization Modeling	
or CSE 372	Stochastic Modeling	
CSE 201	Introduction to Software Engineering	
CSE 302	Software Construction	3
CSE 212	Software Engineering for User Interface and User Experience Design	
CSE 252	Web Application Programming	
or ISA 403	Building Web and Mobile Business Applications	
CSE 270	Special Topics	
CSE 278	Systems I: Introduction to Systems Programming	
CSE 301	Software Architecture and Design	
CSE 401	Software Quality Assurance and Testing	3
CSE 202	Software Requirements	3
CSE 374	Algorithms I	
CSE 381	Systems 2: OS, Concurrency, Virtualization, and Security	
CSE 383	Web Application Programming	
CSE 385	Database Systems	
CSE 386	Foundations of Computer Graphics and Games	
CSE 411	Introduction to Model-Driven Software Engineering	
CSE 432	Machine Learning	
CSE 443	High Performance Computing & Parallel Programming	
CSE 451	Web Services and Service Oriented Architectures	
CSE 456	Bioinformatic Principles	
CSE 465	Comparative Programming Languages	

CSE 466	Bioinformatics Computing Skills
CSE 467	Computer and Network Security
CSE 473	Automata, Formal Languages, and Computability
CSE 474	Compiler Design
CSE 477	Independent Studies
CSE 484	Algorithms II
CSE 485	Advanced Database Systems
CSE 486	Introduction to Artificial Intelligence
CSE 488	Image Processing & Computer Vision
CSE 489	Advanced Graphics and Game Engine Design
CSE 491	Undergraduate Research

Total Credit Hours **27**

Electrical Engineering Minor

For information, contact the Department of Electrical and Computer Engineering, 260 Garland Hall, 513-529-0740.

This minor is not open to students majoring in computer engineering, electrical engineering, robotics engineering, or engineering management with concentration in electronics and computing. This minor provides fundamentals of electrical and electronic engineering, which includes a variety of industrial applications involving electrical/electronic circuits and microprocessor systems. It combines a strong base in engineering science with project-based laboratory and design experience.

A minimum cumulative GPA of 2.00 is required for all courses in the minor. None of these courses may be taken on a credit/no-credit basis.

Program Requirements

(20 semester hours)

Code	Title	Credit Hours
Students are responsible for meeting the prerequisites of all courses in the minor.		
Required courses		
ECE 205	Electric Circuit Analysis I	4
ECE 287	Digital Systems Design	4
Elective courses		
Select at least four of the following (for a minimum of 12 hours):		12
CPB 328	Bioinstrumentation	
or MME 305	Measurements and Instrumentation	
ECE 289	Computer Organization	
ECE 291	Energy Systems Engineering	
ECE 301	Advanced Circuits and Fundamentals of Renewable Energy	
ECE 302	MATLAB and its engineering applications	
ECE 304	Electronics	
ECE 306	Signals and Systems	
ECE 314	Elements of Robotics	

ECE 317	Industrial Robotics
ECE 325	Applied Electromagnetics
ECE 345	Introduction to Probability, Statistics, and Random Processes
ECE 388	Introduction to Smartphone Technologies
ECE 395	Undergraduate Research Immersion Project
ECE 411	Sensors and Data Fusion with Robotics Applications
ECE 414	Design and Modeling of Robotic Systems
ECE 425	Digital Signal Processing
ECE 426	Biomedical Signal Analysis and Machine Learning
ECE 427	Radar Signal Processing
ECE 429	Digital Image Processing
ECE 430	Electromagnetics in Wireless Sensing and Communications
ECE/MME 436	Control of Dynamic Systems
ECE 453	Communication Systems
ECE 461	Network Performance Analysis
ECE 484	Embedded Systems Design
ECE 487	Computer Aided Design Tools for Computer Engineering
ECE 491	Power Systems Engineering
ECE 493	Power Electronics
ECE 497	Electric Vehicle Technology

Total Credit Hours **20**

Environmental Engineering Minor

For information, contact the Department of Chemical, Paper and Biomedical Engineering, 64 Engineering Building, 513-529-0760.

The Environmental Engineering minor provides an understanding of basic chemical and environmental engineering principles, concepts, and methodologies and how they are applied to the design and performance of unit operations and processes for energy generation and pollution treatment and control. Students studying the Environmental Engineering minor will apply the concepts of chemistry, biochemistry, physics and mathematics to solve problems related to energy and the environment. For example, students will gain an understanding of the fate and transport of pollutants in the environment; they will identify and understand the design concepts in unit operations involved in drinking water and wastewater treatment processes; they will understand how to apply mass and energy balances to assess opportunities for pollution prevention in industrial processes; and they will gain the perspective of sustainability from three viewpoints: economic, environmental, and social. In addition, students will become familiar with many of the U.S. Environmental laws and regulations as well as global environmental issues, including greenhouse gases and climate change, ozone depletion, acid rain, and urban haze, among others.

Program Requirements

(21 semester hours)

Code	Title	Credit Hours
Students are responsible for meeting the prerequisites of all courses in the minor.		
Required courses:		
CPB 314 or MME 314	Engineering Thermodynamics	3
CPB 219 or MME 211	Statics and Mechanics of Materials Static Modeling of Mechanical Systems	3
CPB 311	Transport Phenomena Laboratory	2
CPB 318 or CPB 418 or CPB 313 or MME 313	Transport Phenomena I Biological Transport Phenomena Fluid Mechanics Fluid Mechanics	4
Select three of the following:		9
CPB 244	Introduction to Environmental Engineering	
ECE 291	Energy Systems Engineering	
CPB 405	Industrial Environmental Control	
CPB 441	Pollution Prevention in Environmental Management	
CPB 442	Air Pollution Control	
MME 451	Sustainability Considerations in Design and Development	
Total Credit Hours		21

Humanitarian Engineering and Computing Minor

The Humanitarian Engineering and Computing Minor at Miami University is designed to graduate engineers and computer scientists who are globally-aware, culturally-sensitive, and socially conscious. Students and graduates use their expertise to design solutions that enhance the lives of, and opportunities for, people on a local, national, or international level. Students select coursework from four broad categories of interest, engage in service/humanitarian-focused activity or research, and complete a humanitarian-focused capstone project in CPB, CSE, ECE or MME.

This minor is only open to students with a major in the College of Engineering and Computing.

Program Requirements

(18 credit hours minimum)

Code	Title	Credit Hours
Service or Humanitarian Focused Activity or Research		
Select one of the following course options for a minimum of two credit hours:		2
Service Learning designated course from an elective list or use the Service Learning Extra Credit Option ¹		
Miami Study Abroad course with a service component		

Independent Study course with a project approved by the HE&C Steering Committee, such as: a project with the Miami University Center for Assistive Technology, Engineers without Borders, Kode2Learn, or Girls Who Code; a social entrepreneurship or K-12 outreach project; or a research project with faculty. ²

Related Coursework

Select one of the following: 3

ATH 175	Global Cultural Diversity ³
ATH 185	Cultural Diversity in the U.S. ³
ATH/ITS 301	Intercultural Relations ³
CEC 222	Socio-Environmental Responsibility in Engineering and Computing ³

Select nine hours from the courses below. There is no minimum required hours per category. ^{4,5} 9

Diversity, Social Responsibility and Cultural Awareness courses:

AMS 205	Introduction to American Cultures
ATH 175	Global Cultural Diversity ³
ATH 185	Cultural Diversity in the U.S. ³
ATH/ITS 301	Intercultural Relations ³
BUS 371	International Business
CEC 222	Socio-Environmental Responsibility in Engineering and Computing ³
CRE 151	Introduction to Critical Race and Ethnic Studies
GEO 101	Global Forces, Local Diversity
GEO 201	Geography of Urban Diversity
GEO 211	Global Sustainable Futures
IDS 159	Strength Through Cultural Diversity
ITS 201	Introduction to International Studies
ITS 302	Issues in the Global South
SJS/SOC 165	Social Justice Perspectives
SJS/SOC 323	Social Justice and Change
SOC 153	Sociology in a Global Context
SOC 201	Social Problems
SOC/EDP/DST 272	Introduction to Disability Studies

Energy, Environment and Sustainability courses:

ARC 413	Environmental Systems I
BUS/IES 494	Sustainability Perspectives in Resources and Business
CPB 244	Introduction to Environmental Engineering
ECE 291	Energy Systems Engineering
ECO 406	Environmental Economics
IES 211	Energy and Policy
IES 274	Introduction to Environment and Sustainability
IES 275	Principles of Environmental Science
IES/ENG/JRN 429	Environmental Communication
IES 450	Environmental Law
IES 474	Sustainability in Practice

MME 451	Sustainability Considerations in Design and Development	
SJS/IES 419	Environment, Society & Justice	
Economic, Political and Global Issues courses:		
ARC 107	Global Design	
ARC 188	Ideas in Architecture	
ATH 358	Travelers, Migrants, and Refugees: Transnational Migration and Diasporic Communities	
ECO 347	Economic Development	
ECO 356	Poverty and Income Distribution	
ESP 331	Social Entrepreneurship	
GEO 475	Global Periphery's Urbanization	
GEO 476	Global Poverty	
ITS 333	Global Development and Inequality	
POL 271	World Politics	
POL 381	Global Governance	
Health-related courses:		
ATH 348	Introduction to Medical Anthropology	
ATH 378	Doctors, Clinics, and Epidemics	
ATH 448	Developing Solutions in Global Health	
CPB 421	Bioethics	
CRE/HST/LAS 385	Race, Science, and Disease in the Americas	
GHS 101	Introduction to Global Health	
GTY/SOC 357	Medical Sociology	
HST 236	Medicine and Disease in Modern Society	
KNH 321	National and Global Health Policy	
KNH/IES 441	Environmental Public Health	
PHL 375	Medical Ethics	
Capstone project in CEC		
Complete a capstone sequence in CEC (CPB 471 & CPB 472 or CSE 448 and CSE 449 or ECE 448 and ECE 449 or MME 448 and MME 449) with a humanitarian engineering and computing focus. APPROVAL OF HUMANITARIAN ENGINEERING & COMPUTING ADVISOR IS REQUIRED PRIOR TO ENROLLING IN THE CAPSTONE.	4	
Total Credit Hours		18

- ¹ Cannot count toward Related Coursework.
- ² Credit earned for CEC 277 or similar.
- ³ Course will only count once toward Related Coursework.
- ⁴ Only one course can be from the College of Engineering and Computing (CPB, ECE, or MME course).
- ⁵ Students may also petition (with justification) to the H E&C Steering Committee to allow other courses to meet this requirement.

Mechanical Engineering Minor

For information, contact the Department of Mechanical and Manufacturing Engineering, 56 Garland Hall, 513-529-0710.

This minor is for students not majoring in manufacturing engineering or mechanical engineering. This minor provides fundamentals of mechanical engineering, including a variety of industrial applications

involving product design, experimental analysis, and engineering modeling techniques. It combines a strong base in engineering science with project-based laboratory and design experience.

A minimum cumulative GPA of 2.00 is required for all courses in the minor. None of these courses may be taken on credit/no-credit basis.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Students are responsible for meeting the prerequisites of all courses in the minor.		
Required courses		
MME 202	Numerical Methods in Engineering	3
MME 211	Static Modeling of Mechanical Systems (Numerical Methods in Engineering)	3
Elective Courses (take any of the following for a total of 12 credit hours)		12
MME 223	Engineering Materials	
MME 231	Manufacturing Processes	
MME 311	Dynamic Modeling of Mechanical Systems	
MME 312	Mechanics of Materials	
MME/CPB 313	Fluid Mechanics	
MME/CPB 314	Engineering Thermodynamics	
Total Credit Hours		18

Paper Engineering Minor

For information, contact the Department of Chemical, Paper and Biomedical Engineering, 64 Engineering Building, 513-529-0760.

The minor introduces the science and engineering of papermaking. The educational experience will prepare the student for a career as a project/process engineer in the paper and allied industries.

A minimum cumulative GPA of 2.00 is required for all courses in the minor. A minimum of 26 semester hours beyond the prerequisite courses are required. None of these courses may be taken on a credit/no credit basis.

Program Requirements

(26-29 semester hours)

Code	Title	Credit Hours
Required Courses		
CPB 201	Principles of Paper Science and Engineering	3
CPB 202	Pulp and Paper Physics	3
CPB 219	Statics and Mechanics of Materials	3
or MME 211	Static Modeling of Mechanical Systems	
CPB 301	Pulp and Paper Chemistry	3
or MME 305	Measurements and Instrumentation	
CPB/MME 313	Fluid Mechanics	3-4
or CPB 318	Transport Phenomena I	

or CPB 418	Biological Transport Phenomena	
CPB/MME 341	Engineering Economics	3
CPB 490	Special Topics in Paper and Chemical Engineering	1-3
or MME 334	Quality Planning and Control	
or MME 321	System Modeling, Analysis, & Control	
CPB 404	Papermaking	3
Select one of the following sequences:		4
CPB 471	Engineering Design I	
& CPB 472	and Engineering Design II	
MME 448	Senior Design Project	
& MME 449	and Senior Design Project ¹	

Total Credit Hours **26-29**

¹ Students whose major is Mechanical Engineering are advised to select MME 448/MME 449; however, they must work on a paper engineering related project, supervised by a faculty member in CPB. In addition, students must have completed and participated in all the assessment elements required by MME 448/MME 449. Students must seek approval from their advisor in CPB and MME prior to registering for the course.

Note: Additional prerequisites may be required for specific courses in the minor. Please consult an advisor in the CPB department.

Paper Science Minor

For information, contact the Department of Chemical, Paper and Biomedical Engineering, 64 Engineering Building, 513-529-0760.

The minor introduces the materials science and manufacturing of pulp and paper to students majoring in Chemistry. The educational experience will prepare students for a career as a process chemist or field chemist in the pulp and paper or allied industries.

A minimum cumulative GPA of 2.00 is required for all courses in the minor. None of these courses may be taken on a credit/no credit basis. Students majoring in Chemical Engineering or pursuing the Paper Engineering minor are not eligible for this minor.

Code	Title	Credit Hours
CPB 201	Principles of Paper Science and Engineering	3
CPB 301	Pulp and Paper Chemistry	3
CPB 404	Papermaking	3
CPB 490	Special Topics in Paper and Chemical Engineering	1-5
CHM 451	Physical Chemistry for Chemistry Majors	3
or CHM 471	Biophysical Chemistry I	
CHM 454	Instrumental Analysis	3
CPB 202	Pulp and Paper Physics	3
or CHM 426	Spectroscopic Identification of Structure	
or CHM 417	Advanced Inorganic Chemistry	

Total Credit Hours **19-23**

Process Control Minor

The Process Control minor will allow students to gain education in the broad skill set required of a process control engineer. These skill sets include computer programming, electronics and circuits, signal analysis, instrumentation, process modeling, and logic as applied to the chemical and paper industries. The minimum cumulative gpa of 2.00 is required for all courses in the minor. A minimum of 19 semester hours are required. None of these courses may be taken on a credit/no credit basis.

Program Requirements

(19 credit hours minimum)

Code	Title	Credit Hours
Required courses		
CHM 142 & CHM 145	College Chemistry and College Chemistry Laboratory	5
CPB 204	Mass and Energy Balances I	2
Select one of the following:		3
CSE 174	Fundamentals of Programming and Problem Solving	
CPB 324	Chemical and Bio- Engineering Computation and Statistics	
MME 201 & MME 202	Modeling and Design in Engineering and Numerical Methods in Engineering	
Select one of the following:		4-7
ECE 205 & ECE 314	Electric Circuit Analysis I and Elements of Robotics	
ECE 205 & MME 305	Electric Circuit Analysis I and Measurements and Instrumentation	
PHY 292 & PHY 294	Electronic Instrumentation and Laboratory in Electronic Instrumentation	
Select one of the following:		3
CPB 482	Process Control	
ECE/MME 436	Control of Dynamic Systems	
Courses for Majors/Non-majors		2-3
CPB majors select:		
CPB 451	Unit Operations Laboratory	
CPB non-majors select:		
CPB 451 & CPB 477	Unit Operations Laboratory and Independent Studies ¹	
Total Credit Hours		19-23

¹ Concurrent enrollment in CPB 451 & CPB 477 with approval from CPB department.

Regulatory Affairs Minor

The Regulatory Affairs Minor covers FDA regulations, laws and regulatory document processes related to medical devices, medical device development, and project/facility management. The program provides students with an understanding of applications such

as obtaining approval for medical devices, pharmaceuticals, and biologics, and marketing and implementing medical devices in hospital/clinical settings. The minor prepares students particularly for careers in regulatory affairs, but also for the healthcare industry in general.

Students majoring in biomedical engineering can count no more than 9 hours from their major towards this minor. Students may not receive both the clinical engineering and regulatory affairs minors.

Program Requirements

Code	Title	Credit Hours
Required Courses		
CPB 448	Hospital Rotation	3
CPB 402	Introduction to Clinical Engineering	3
CPB 452	Introduction to FDA Regulations and Medical Device Laws	3
CPB 453	Medical Device Development and Regulatory Considerations	3
Select two from the following:		6-7
MGT 453	Quality Management Systems	
STA 308	Introduction to Programming and Scripting for Data Analytics	
STA 301 or STA 261	Applied Statistics Statistics	
CMR 224	Medical Terminology	
KNH 209	Medical Terminology for Health Professionals	
PHL 375	Medical Ethics	
NSG 343		
KNH 381	Biodynamics of Human Performance	
CIT 431	Health Information Technology I	
SOC 357	Medical Sociology	
NSG 435	Challenges in Health Care Delivery	
NSG 321	U. S. Health Care System and Culture	
CPB 428	Engineering Principles in Medical Device Design	
CPB 328	Bioinstrumentation	
ECE 411	Sensors and Data Fusion with Robotics Applications	
ECE 414	Design and Modeling of Robotic Systems	
ECE 425	Digital Signal Processing	
ECE 426	Biomedical Signal Analysis and Machine Learning	
ECE 429	Digital Image Processing	
CSE 432	Machine Learning	
CSE 466	Bioinformatics Computing Skills	
CSE 488	Image Processing & Computer Vision	
Select one from the following:		3
EGM 411	Leading and Managing Projects	
MGT 291	Introduction to Management & Leadership	

MGT 295	Introduction to Operations and Supply Chain Management
---------	--

Total Credit Hours

21-22

Advanced Manufacturing and Materials Evaluation Certificate

For information, contact: Department of Mechanical and Manufacturing Engineering, 56 Garland Hall, 513-529-0710.

This certificate program equips participants to remain at the forefront of advances in manufacturing technologies and material science. The program develops and enhances skills in analyzing, adopting and effectively utilizing advanced manufacturing methods and the interplay between manufacturing processes and material properties. Courses can be selected to suit areas of interest and/or job requirements. Coursework includes additive manufacturing, mechanical property characterization, wear analysis, nano-materials, statistical process control, etc. Selection of equipment and creation of a testing program to capture specific service conditions is undertaken. Manufacturing and material property interaction in metals and polymers is examined. Practicum courses can be taken for hands-on experiences in topics such as materials testing, process instrumentation, and automation.

Program Requirements

A total of twelve (12) credit hours from the two concentration areas must be completed for the certificate.

Advanced Materials Concentration

Code	Title	Credit Hours
MME 488A	Material Characterization Techniques	1.0
MME 488B	ASTM Codes	0.5
MME 488C	Sample Preparation Methods, Data Collection and Analysis	1.0
MME 488D	Practicum Material Testing and Sample Preparation	1.5
MME 488E	Dynamic Testing of Materials (DMA)	1.0
MME 488F	Dynamic Scanning Calorimetry (DSC)	0.5
MME 488G	Microscopy (AFM, SEM, TEM) Applied to Material Property and Failure Evaluation	1.0
MME 488I	Practicum Advanced Material Testing	1.5
MME 488J	Biomaterials	1.0
MME 488K	Composite Materials	1.0
MME 488N	Fundamentals of Tribology	1.0
MME 488O	Equipment and Testing Protocols for Wear of Materials	1.0

Total Credit Hours

12

Advanced Manufacturing Processes Concentration: Emerging Tools and Technologies

Code	Title	Credit Hours
MME 489A	Overview of Traditional Manufacturing Processes	2.0

MME 489B	Practicum Traditional Manufacturing Process	2.0
MME 489C	Design, Modeling and Simulation for Additive Manufacturing	1.0
MME 489D	Process Overview and Advances in 3D Printing of Polymers and Metals	1.0
MME 489E	Practicum: Additive Manufacturing	2.0
MME 489F	Overview of Advanced Manufacturing Processes	1.0
MME 489N	Fundamentals of Micro-manufacturing	0.5
MME 489O	Fundamentals of Nano-manufacturing	0.5
MME 489P	Quality, Metrology	1.0
MME 489Q	Practicum: Advanced Manufacturing Processes	1.0
Total Credit Hours		12

Leadership Certificate

For more information, contact the Lilly Leadership Institute:
bohonf@miamioh.edu or 513-529-0342.

Website: <https://miamioh.edu/cec/about/centers-institutes/leadership-institute/>.

The Leadership Certificate is a rigorous, cumulative, cohort-based, three-year leadership development program for undergraduate students. Students focus on personal leadership, people leadership, and strategic leadership. During this program, students are exposed to seasoned leaders from business and industry and create their own personal development plans. The Leadership Institute program is a platform for cultivating future leaders who will develop resiliency, inner strength, strategic thinking and collaborative spirit. Admission to the program is selective based on student application.

Program Requirements

(minimum 12 semester hours)

Code	Title	Credit Hours
CEC 291	Personal Leadership I	2
CEC 292	Personal Leadership II	2
CEC 391	People Leadership I	2
CEC 392	People Leadership II	2
CEC 491	Strategic Leadership I	2
CEC 492	Strategic Leadership II	2
Total Credit Hours		12

Additional Requirement

Students must be actively pursuing a bachelor's degree at Miami University to apply for the program and to receive the certificate.

Special Note: A student who cannot participate with their cohort in one of the courses above (other than CEC 291) for reasons such as an internship/coop experience or study abroad, should consult with the Executive Director of the Lilly Leadership Institute for an acceptable substitution. Substitutions also require approval of the Associate Dean for undergraduate curriculum of the division housing the student's primary major.

Farmer School of Business

Student Services Office

1022 Farmer School of Business

Phone: 513-529-1712

www.fsb.MiamiOH.edu

Mission Statement

To provide a premier business educational experience that prepares responsible and innovative leaders, and advances knowledge by optimizing the synergy among teaching, scholarship, and life-long learning. The principles that define, differentiate, and drive our culture include: Strategic Innovation and Informed Risk-Taking, Knowledge Creation and Business Education for Life, Engagement, Leadership for The Greater Good - "*Prodesse Quam Conspici*", and Inclusion.

General Information

The Farmer School of Business offers bachelor's and master's degree programs as well as undergraduate certificates. Master's degree programs are described in the Graduate Programs of Study section. Bachelor's degree majors are offered in the following areas: accountancy, business analytics, business economics, finance, human capital management and leadership, information and cybersecurity management, marketing, real estate and supply chain and operations management. Co-majors are offered in analytics and entrepreneurship. The flexibility of each program allows a student to pursue areas of special interests and needs. Minors are available in accountancy, arts management, business analytics, climate accounting and engineering, cybersecurity management, economics, entrepreneurship, finance, business, human capital management and leadership, information systems, international business, management, marketing, real estate, and supply chain management.

Accreditation

The Farmer School of Business has been accredited by the Association to Advance Collegiate Schools of Business at the undergraduate level since 1932 and at the graduate level since 1961. This association is the only agency recognized nationally to accredit in the area of professional education for business at the collegiate level. Its standards include an evaluation of faculty competence, library facilities, physical plant and equipment, financial support of the institution, and the content and breadth of both the professional and nonprofessional curricular requirements.

Advisory Committees

The Business Advisory Council is composed of nearly fifty leading business executives, many of whom are alumni of the School. The council meets with the dean, faculty, and students twice a year to provide counsel on the School's programs. The council is very helpful to the School's continuing efforts to maintain excellence in education for future business leaders.

The School also meets regularly with several other external councils who provide feedback on our various programs: Farmer Board of Visitors, Young Professionals Advisory Council, Center for Business Excellence Advisory Board, and departmental advisory boards.

The Business Student Advisory Council provides an excellent means of communication between students and faculty. Members of this committee include students from all programs and class years within the school and representatives from various business student organizations.

Divisional and Departmental Honors

The Farmer School of Business offers a divisional honors program for students who qualify and who desire more intensive work under the guidance of a faculty mentor(s). Students will have opportunity to apply to the Farmer School of Business (divisional) honors program in the spring of the first year (with entry decisions occurring that same semester). Additionally, the Department of Economics offers a separate departmental honors program.

Both divisional and departmental honors programs in the School of Business may be coordinated and integrated with the Honors College. A common project may serve divisional, departmental, and university honors.

For more information, contact the Student Services Office at the Farmer School of Business, 1022 FSB, 513-529-1712, or visit the website: <http://miamioh.edu/fsb/academics/honors/index.html>.

Honorary and Professional Organizations

The School seeks to improve the quality of its programs and provide educational development opportunities for its students through its honorary and professional organizations. Student organizations provide opportunities for students to lead teams, communicate with members, and problem-solve.

There are 3 honorary societies: Beta Alpha Psi, Beta Gamma Sigma, and Mu Kappa Tau. Beta Alpha Psi is a national accounting honorary that elects its members on the basis of scholastic achievement in accountancy courses. Beta Gamma Sigma, the national scholarship society founded in 1913 to encourage and reward scholarship and accomplishment among students of business administration, has an active chapter at Miami University. Eligibility for election is restricted to the upper 7 percent of the junior class and the upper 10 percent of the senior class. Mu Kappa Tau is a marketing honorary for seniors who rank among the top 20 percent of their class.

Students also are encouraged to participate in one of over 50 student professional organizations, which include: Accounting Association, Advancing Women in Entrepreneurship (AWE), Alpha Kappa Psi, Business Student Advisory Council (BSAC), China-America Business Organization (CABO), Commercial Banking Club, Delta Sigma Pi, Economics Club, Farmer School of Business Ambassadors (FSBA), First Miami University Student Credit Union (FMSCU), Foreign Exchange Club (FOREX), Futures in Retail, Global Business Brigades, Igoodea Creative Solutions, Information Systems and Analytics Organization, International Student Advisory Council (ISAC), Information Systems Audit and Control Association (ISACA), Miami Advertising Club (MAD), Miami Asset Management, Miami Business Consulting (MBC), Miami Business Enterprises (MBE), Miami Financial Analytics Club, Miami Finance Association, Miami Management & Leadership (MML), Miami Sports Marketing, Miami University Blockchain Club (MUBC), Miami University Center for Creativity & Innovation (MUCCI), Miami University Fashion & Design (MUF&D), Miami University Investment Banking Club, Miami University Private Equity Club, Miami University Real Estate Club, Miami University Women in Business (MUWIB), Miami Value Investing

Club (MVIC), Multicultural Business Association (MBA), National Association of Black Accountants (NABA), Nourish International, Phi Chi Theta, Phi Gamma Nu, Pi Sigma Epsilon, Redhawk Racing, Redhawk Ventures, Social Impact, Society for Human Resource Management, Supply Chain Management Association, TAMID, The Council of Social Entrepreneurship, Toastmasters International, Women in Accounting, Women in Business (WIB), Women in Economics, Women in Finance, Women in Social Entrepreneurship (WISE), Women Who Invest, and LIFE.

Advisors

Each academic department has a lead advisor who coordinates the advising procedures within a department and represents the department on the committee that hears student petitions, the Divisional Committee of Advisors. Divisional advisors advise all undergraduate business students and are also available to help business students with special problems. Advising assignments and information is available at the following website: <http://MiamiOH.edu/fsb/resources/advising>.

Special Admission Requirements

Admission to the Farmer School of Business is limited, and the criteria for admission are subject to change as enrollment demands vary.

Direct Admission

Admission to the Farmer School of Business

Admission to the Farmer School of Business generally takes place upon entry as a first-year student. The academic credentials required will vary during each admission cycle and are determined by the Office of Admission. The review process is holistic and comprehensive and considers many variables to establish the context of a student's achievements and demonstrated potential to be successful in the rigorous curriculum. Additional details are available on the Farmer School website: <http://MiamiOH.edu/fsb/admission/highschool/index.html>.

Transfer Admission

Students who were not previously offered direct admission, did not apply to the Farmer School of Business, or who may be transferring from other institutions may seek admission through a non-competitive process. Students must meet the following admission requirements:

Current Miami University students: To be admitted into the Farmer School of Business, a student must earn at least 30 graded credit hours at Miami University, hold a GPA of 3.50 or higher in the Miami Plan Foundation and business courses taken at Miami University, and complete MTH 141 or MTH 151 and ECO 201 (via AP, post-secondary or university courses). For more information, please contact the Student Services Office at 513-529-1712.

Transfer students from another college or university: To be admitted into the Farmer School of Business, a student must have earned at least 30 graded credit hours, have an overall GPA of 3.50 or higher, and have completed MTH 141 or MTH 151 and ECO 201 (via AP, post-secondary, or university courses). Questions can be directed to the FSB Student Services Office at 513-529-1712.

Credit Hour Limitations

Students may accelerate their programs by registering in excess of the average 16 hours per semester needed to complete the program in

eight semesters. Registrations of up to 20 hours are permitted in a regular semester or eight hours in a five- or six-week summer term. Course loads in excess of these limitations require permission from the Student Services office. Requests are normally only considered if the student earned a 3.50 grade point average or is a senior who earned a 3.00 grade point average.

Division Curriculum Requirements

In addition to the Miami Plan requirements, all business programs have a core of foundational courses in accounting, business analysis, business communication, business law, economics, entrepreneurship, finance, information systems, management and leadership, marketing, operations and supply chain management, statistics, and calculus. This core is described in detail later. The following requirements apply to all business majors:

Business Capstone Experience

In addition to completing a Miami Plan Capstone Experience, all business majors must complete a business Capstone Experience. You should complete the business core first. The business Capstones are senior level experiences which are writing and speaking intensive, provide for multiple skill development, and integrate the business course work you have already completed.

All business Capstones are also Miami Plan Capstones; you may fulfill both requirements with one course. A complete list is available on your DAR or in the advising office.

Business Diversity Requirement

You must complete at least one course that provides an understanding of business diversity perspectives. This course may be selected from any division and may overlap with other requirements. A list of approved courses is available from the academic advisor or the advising office in 1022 FSB or at the following website: <https://www.miamioh.edu/fsb/resources/advising/academics/programs/business-core/index.html>.

Communication Requirement

All business programs require BUS 284/ENG 284. In addition, each major incorporates communication across the curriculum so that writing and speaking skills are important characteristics of that program.

Credit/No-Credit

All business courses, MTH 141 or MTH 151, CSE 148, BUS 284/ENG 284 and any other specifically required course (except first-year English composition) or major requirement must be taken for a grade and **not credit/no-credit**.

Grade Point Average

A minimum 2.00 cumulative grade point average in business courses is required for graduation.

Mathematics Requirement

All business students must complete MTH 141 or MTH 151 or equivalent. Advanced placement credit for MTH 151 is accepted toward fulfillment of this requirement.

Non-Business Requirement

All business majors must complete at least 52 hours outside of the Farmer School of Business. All coursework offered by FSB departments will apply to business hours. All coursework offered by departments outside of the FSB will apply to non-business hours.

Residency Requirement

All business majors must complete at least 50 percent of their business courses required for their business degree at Miami University. These courses include the core business classes and the courses required for a primary major. These required courses include ISA 225, ECO 201 and ECO 202, but do not include CSE 148, ISA 125, MTH 151 or MTH 141.

The Department of Accountancy requires transfer students majoring in accountancy to complete at least four required junior or senior level accountancy courses at Miami University with at least a 2.00 grade point average.

The Department of Economics requires students to complete at least nine hours of advanced economics (above 300 level) at Miami including ECO 315 and ECO 317.

The Department of Finance requires students majoring in finance to complete at least 9 elective hours of finance (FIN) courses at Miami.

Statistics Requirement

You are expected to take ISA 125 and ISA 225. Any other introductory probability and statistics course is considered duplicate credit. Students with advanced placement or transferred hours in probability and statistics should consult with an academic advisor.

Transfer of Course Credit

All transferred course credits intended to apply to specific course requirements for any business program are subject to approval of the department. If credit hours earned are less than Miami's equivalent courses, they must be validated by the department. A department may require an examination or completion of a higher level course to validate transfer credit.

Curriculum Options

You are responsible for completing the curriculum that is in effect the date of your initial Miami enrollment. However, since programs offered by the Farmer School of Business change as new courses are added and programs are modified, you may opt to complete a revised program in its entirety; please consult with an academic advisor.

Double Majors

A student who has earned 60 or more semester hours with a 3.20 or higher GPA on the combination of Miami Plan and business core course work is eligible to apply for a second major in business. Some majors may require a higher GPA due to enrollment limits. In all cases, approval of the second major by the academic department is required.

Basic Requirements: Bachelor of Science in Business

To graduate from Miami University with a Bachelor of Science in Business, you must:

- Earn a minimum of 124 semester hours
- Complete the Miami Plan, the business core, and electives necessary to reach overall hours
- Complete the requirements of one major field
- Earn at least a 2.00 cumulative GPA in all business courses attempted
- Complete at least 52 semester hours of course work in non-business departments

Common Core of Business Courses

(60-61 semester hours)

Code	Title	Credit Hours
ACC 221	Introduction to Financial Accounting	3
ACC 222	Introduction to Managerial Accounting	3
BLS 342	Legal Environment of Business	3
BUS 101	Foundations of Business	2
BUS 102	Foundations of Business Communication	2
BUS 104	Introduction to Computational Thinking for Business (Computational Thinking)	2
CSE 148	Business Computing	3
BUS/ENG 284	Professional Communication for Business	3
ECO 201	Principles of Microeconomics	3
ECO 202	Principles of Macroeconomics	3
ESP 103	Creativity, Innovation and Entrepreneurial Thinking	2
FIN 301	Introduction to Business Finance	3
ISA/STA 125	Introduction to Business Statistics	3
ISA 225	Principles of Business Analytics	3
ISA 235	Information Technology and the Intelligent Enterprise	3
MGT 291	Introduction to Management & Leadership	3
MGT 295	Introduction to Operations and Supply Chain Management	3
MKT 291	Principles of Marketing	3
Select one of the following:		4-5
MTH 141	Business Calculus	
MTH 151	Calculus I	
MTH 249	Calculus II	
MTH 251	Calculus II	
FSB Senior Capstone Experience		3-4
Diversity requirement		3-4
Total Credit Hours		60-63

Suggested Course Pattern

Typically, coursework at the 100- and 200-level will be scheduled during the first and second years, 300-level courses will be taken in the second and third years and 400-level courses will be taken in the senior year. You will work with your advisors to schedule your coursework appropriate with your preparation and academic goals.

Other Electives

You are encouraged to use the remaining hours in your program to broaden your educational base with courses from other divisions of the university and/or to supplement your business programs with additional business courses beyond your major requirements. Students enrolled in a four-year bachelor's degree program in business may apply a maximum of 12 credit hours earned in business technology/commerce courses to the degree. Business technology/commerce courses, however, do not qualify as professional electives and may not apply to the 52 hours of non-business course work.

Bachelor of Science in Business

- Accountancy
- Business Analytics
- Business Economics
- Finance
- Human Capital Management and Leadership
- Information and Cybersecurity Management
- Marketing
- Real Estate
- Supply Chain and Operations Management

Co-major

- Analytics
- Entrepreneurship

Minors

The programs described below are optional minors in business areas. A minor is a domain specific program designed to complement your major, expand your skill set and potentially increase your career opportunities. More information about minors is in the Other Requirements chapter.

Admission to most Farmer School of Business minors is limited and the respective departments are responsible for managing their enrollments. **Students may enroll in a maximum of two Farmer School of Business minors.** Some minors are available to students on a first-come, first-served basis while others have entry restrictions or requirements. Therefore, to increase the likelihood of gaining entry into a FSB minor, interested students should contact the department offering the minor as early as possible in their academic careers. Completion of a FSB minor may require taking coursework during summer and winter terms and/or online.

Questions can be addressed to the Student Services Office, 1022 FSB, 513-529-1712.

The following minors are open only to non-business majors: finance, business, and management.

Several minors are available to both business majors and non-business majors: accountancy, arts management, business analytics, climate accounting and engineering, cybersecurity management, economics, entrepreneurship, human capital management and leadership, information systems, international business, marketing, and supply chain management.

A notation about your completed minor will be on your final grade transcript if you indicate your minor when you apply for graduation.

- Accountancy
- Arts Management
- Business
- Business Analytics
- Climate Accounting and Engineering
- Cybersecurity Management
- Economics
- Entrepreneurship
- Finance
- Human Capital Management and Leadership
- Information Systems
- International Business
- Management
- Marketing
- Real Estate
- Supply Chain Management

Certificate Programs

- Business in the Global Market
- Creativity Entrepreneurship
- Cybersecurity Management for Accountancy
- Deals
- Foundations of Business Analytics
- Healthcare Sales
- Social Entrepreneurship
- Startup Entrepreneurship

Accountancy- Bachelor of Science in Business

For information, contact the Department of Accountancy, 3094 FSB, 513-529-6200.

Miami University's Accountancy program develops students into high integrity, adaptive business leaders. Our program not only provides students with accountancy expertise, but also with the types of critical thinking, communications, and data analysis skills necessary to meaningfully contribute to the global community. Students engage with outstanding faculty members whose scholarship informs their teaching and who positively impact the profession, university, and community. The Department of Accountancy has been accredited by the Association to Advance Collegiate Schools of Business International (AACSB) since 1984.

Our undergraduate accountancy curriculum equips students with the knowledge, skills, and abilities necessary to succeed in an increasingly dynamic business environment. Our master's curriculum further develops knowledge, skills, and abilities so that graduates can be successful in a wide range of careers in a variety of industries. Both programs are designed to adapt to the changing needs of students and the demands of the workplaces they will enter.

Combined Degree Option

Some states require that students have 150 hours of education, with at least a bachelor's degree, to take the CPA exam. All states require

150 hours of education, or a master's degree, to obtain licensure. This requires additional education beyond the requirements for a bachelor's degree from Miami.

Students have the option to complete a four-year combined degree program in which they can earn both a bachelor's degree and a master's degree in accountancy within four years. After completing the program, they are qualified to sit for the CPA examination in the state of Ohio and most other states that have adopted the 150-hour education requirement.

Special Curriculum Requirements

Students must earn at least a cumulative 2.00 GPA in all accountancy courses attempted at Miami. Students must also complete at least four required junior or senior-level accountancy courses at Miami.

Program Requirements

Code	Title	Credit Hours
Required courses		
ACC 256	Accountancy Career Exploration and Planning	1
ACC 321	Intermediate Financial Accounting	3
ACC 333	Managerial Accounting	3
ACC 343	Federal Income Tax Accounting	3
ACC 361	Modeling Business Processes in Accounting Information Systems	3
ACC 422/522	Financial Accounting Research	3
ACC 453/553	Financial Statement Auditing	3
Professional electives		
Select at least three semester hours at the 200 level or above		3
Total Credit Hours		22

Analytics Co-Major

For information, contact the Department of Statistics, 311 UPH, 513-529-7828, or the Department of Information Systems and Analytics, 3095 FSB, 513-529-4826.

Analytics describes the extensive use of data to guide evidence-based decision-making. This field has emerged during a time when massively large data sets are being collected throughout society. Analytics lives at the junction between numerous traditional disciplines including information systems and statistics. This program will provide a framework for thinking about the collection and use of so-called "big data" and students will develop skills for handling structured and unstructured data sets and for developing models to predict behavior in data-rich environments.

The term "co-major" is unique and indicates that students must be concurrently enrolled in and must complete another major at Miami University. The co-major complements this primary major, which provides significant depth and breadth in an academic discipline. There is no specific degree designation for the co-major; students receive the degree designation of their primary major. Students may earn either the Business Analytics Minor or the Analytics Co-Major.

Program requirements

Complete a major in one of the divisions of the university.

Code	Title	Credit Hours
CORE coursework to be satisfied by all co-majors (18-19 hours)		
Data Description and Summarization:		
Select one of the following:		3-4
ISA 225	Principles of Business Analytics	
STA 261	Statistics	
STA 301	Applied Statistics	
Data Management - Structured:		
Select one of the following:		9-12
CSE 148 & ISA 235 & ISA 245	Business Computing and Information Technology and the Intelligent Enterprise and Database Systems and Data Warehousing	
CSE 174 & CSE 271 & CSE 274 & CSE 385	Fundamentals of Programming and Problem Solving and Object-Oriented Programming and Data Abstraction and Data Structures and Database Systems	
Regression Models:		
Select one of the following:		3-4
ECO 311	Examining Economic Data and Models	
ISA 291	Applied Regression Analysis in Business	
STA 363	Introduction to Statistical Modeling	
STA 463	Regression Analysis	
Visualizing Data and Digital Dashboards:		
STA 404	Advanced Data Visualization	3
Track		
Select a track of study ¹		15
TRACK 1: BUSINESS ANALYTICS		
Note: For Information and Cybersecurity Management majors, Information Systems majors, or Information Systems and Analytics majors with Information Systems track, 18 hours must not double count in the ICM major, IS major, or ISA major with IS track and Analytics Co-Major or business core.		
Note: For STA majors, at least 18 hours must be courses not double counted toward the STA major.		
Note that ISA 291 must be taken as the core option for this track.		
Note: For Information Systems Minors, 9 hours must not double count for the minor.		
Required Courses		
ISA 401	Business Intelligence and Data Visualization	
ISA 414	Managing Big Data	
ISA 491	Introduction to Data Mining in Business	
Select two of the following:		

ISA 281	Concepts in Business Programming
ISA 321	Quantitative Analysis of Business Problems
ISA/STA 333	Nonparametric Statistics
ISA/STA 365	Statistical Monitoring and Design of Experiments
ISA 444	Business Forecasting
ISA 480	Topics in Business Analytics
ISA 496	Business Analytics Practicum
STA 402	Statistical Programming
STA 427	Introduction to Bayesian Statistics
STA 432	Survey Sampling in Business

TRACK 2: PREDICTIVE ANALYTICS

Required Courses

STA 402	Statistical Programming
STA 467	Statistical Learning

Select two of the following:

ISA 414	Managing Big Data
STA 427	Introduction to Bayesian Statistics
STA 483	Analysis of Forecasting Systems

Select one of the following:

CSE 273	Optimization Modeling
MTH 435	Mathematical Modeling Seminar
ISA 321	Quantitative Analysis of Business Problems
MTH 432	Optimization
CSE 372	Stochastic Modeling

TRACK 3: GEOSPATIAL ANALYTICS

Note: Students who wish to also earn the GISci Certificate must take an additional 6 appropriate credit hours beyond the Analytics Co-Major requirements.

Required Courses

GEO 441	Geographic Information Systems
GEO 442	Advanced Geographic Information Systems
GEO 460	Advanced Systematic Geography

Select six hours of the following:

GEO 443	Python Programming for Geospatial Applications
GEO 444	GIScience Techniques in Landscape Ecology
GEO 448	Techniques and Applications of Remote Sensing
GEO 460G	Tools
IMS 461	Virtual Reality
ISA 414	Managing Big Data

Total Credit Hours**33-38**

¹ In addition to the common core, each co-major is required to complete a particular track of study. These tracks reflect a focus on a particular area of application of analytics or advanced methods.

Business Analytics- Bachelor of Science in Business

For information, contact the Department of Information Systems and Analytics, 3095 FSB, 513-529-4826.

The Business Analytics major provides the managerial and technical skills to leverage data for decision making in an organization. The major focuses on the use of data to guide evidence-based decision-making. Analytics combines numerous traditional disciplines including information systems and statistics. This major provides a framework for the collection and use of data; for analyzing structured and unstructured data; and for developing models to describe and predict behavior in data-rich environments.

Code	Title	Credit Hours
Required Courses		18
ISA 245	Database Systems and Data Warehousing	
ISA 281	Concepts in Business Programming	
ISA 291	Applied Regression Analysis in Business	
ISA 401	Business Intelligence and Data Visualization	
ISA 414	Managing Big Data	
ISA 491	Introduction to Data Mining in Business	
Select two of the following. At least one must be an ISA course.		6
ECO 411	Advanced Empirical Methods	
ISA 321	Quantitative Analysis of Business Problems	
ISA 365	Statistical Monitoring and Design of Experiments	
ISA 444	Business Forecasting	
ISA 496	Business Analytics Practicum	
STA 402	Statistical Programming	
STA 404	Advanced Data Visualization	
STA 432	Survey Sampling in Business	

Total Credit Hours**24**

Note: Information systems majors or information and cybersecurity management majors must take 18 hour beyond the business core not also counting in the Major.

Note: Students taking the Business Analytics Major may not take the Business Analytics Track in the Analytics Co-major

Business-Economics- Bachelor of Science in Business

For information, contact the Department of Economics, 2054 FSB, 513-529-2836.

This curriculum is for students primarily interested in economics but who also desire a broad background in business. It helps you understand objectives and functions of a private enterprise economy,

fundamentals of economic analysis, and how to integrate economic principles with various areas of business administration. The program also teaches how to use economic analysis as a major tool in reaching independent, well-considered judgments.

Course work involves both required theory courses and electives. Theory courses provide common analytical background of modern economics and serve to build analytical skills. The generous number of electives allows you to pursue different fields, depending on your interests and educational background.

Honors in Economics

For details on honors in economics please see the departmental website

Program Requirements

Code	Title	Credit Hours
Required courses		
ECO 311	Examining Economic Data and Models	3
ECO 315	Intermediate Microeconomic Theory	3
ECO 317	Intermediate Macroeconomic Theory	3
Electives		
	Select 15 hours in economics, at least six of those hours must be in courses that require ECO 315 and/or ECO 317 as prerequisite(s), which have a number of 410 or greater. ^{1,2}	15
Total Credit Hours		24

¹ ECO 315 and ECO 317 must be taken at Miami. At least three additional hours of economics numbered 300 must be taken at Miami. Up to three hours of Summer Scholar credit can be applied toward the 15 hours of economics. Exceptions must be approved by the director of undergraduate studies.

² Prerequisites for all 300- and 400-level courses include ECO 201 and ECO 202 unless otherwise stated.

GPA requirement

You must achieve at least a 2.00 GPA in all economics courses taken.

Entrepreneurship Co-Major

For information, contact the Page Center for Entrepreneurship, 2078 FSB, 513-529-1221.

Entrepreneurship and the ability to recognize opportunities to create viable, sustainable solutions are skills needed across all disciplines. The Entrepreneurship Co-Major exposes students to the mindset and behavior of successful entrepreneurs as well as the principles and concepts associated with entrepreneurship in startup, social, creative, and corporate ventures. The program complements majors in all of Miami's academic divisions and promotes the applications of entrepreneurial concepts in support of each student's passion, regardless of major. Entrepreneurship courses are for those interested in building a new business, adding value to an existing organization, or learning the skills necessary in every workforce. The Co-Major provides a framework for understanding entrepreneurship from a variety of disciplines and application of entrepreneurial skill sets to meet societal and workplace demands.

The Entrepreneurship Co-Major does not fulfill the Thematic Sequence requirement for business majors. The Entrepreneurship Co-Major requires an application for admission; a limited number of students will be admitted each year. The term "co-major" is unique and indicates that students must complete a primary major in any academic division at Miami University.

Program Requirements

Code	Title	Credit Hours
Select the following:		
ESP 101	Entrepreneurship Foundations	1
ESP 201	Introduction to Entrepreneurship and Business Models	3
ESP 251	Entrepreneurial Value Creation and Capture	3
ESP 252	Entrepreneurial Mindset: Creativity and Organization	3
ESP 394	Applied Entrepreneurship: Workforce Preparation	3
Select two of the following content courses:		6
ESP 321	Startup Entrepreneurship	
ESP 331	Social Entrepreneurship	
ESP 341	Corporate Entrepreneurship	
ESP 351	Creativity in Entrepreneurship	
Select 6 hours from the following:		6
ESP 102	Entrepreneurial Immersion: From Idea to Opportunity ¹	
ESP 321	Startup Entrepreneurship	
ESP 331	Social Entrepreneurship	
ESP 341	Corporate Entrepreneurship	
ESP 351	Creativity in Entrepreneurship	
ESP 432	Leading the Integration of Faith and Entrepreneurship (L.I.F.E.)	
ESP 444	Entrepreneurship: Venture Capital Immersion	
ESP 477	Independent Studies (maximum 3)	
ESP 481	Technology, Products & Ventures	
ESP 490	Special Topics in Entrepreneurship	
Capstone Experience: (Both Required)		
ESP 401	Entrepreneurship: New Ventures	3
ESP 461	Entrepreneurial Consulting	3
Total Credit Hours		31

¹ Maximum 1 hour of ESP 102

Finance- Bachelor of Science in Business

For information, contact the Department of Finance, 2053 FSB, 513-529-1560.

This major teaches theoretical and practical aspects of financial management. The general objectives are to teach the principles of finance, to explain how financial techniques can solve some of

society's most important problems, and to prepare you for future responsibilities in financial management.

Course offerings prepare you to work in the finance division of a business firm; to enter the securities field in either a brokerage or investment analysis capacity; to enter the real estate business in sales or appraisal; to enter the insurance business in the fields of financial planning, property, or casualty insurance; or to pursue a career in estate planning or trust administration. In addition, non-business students are offered service courses in personal finance and in law and the legal process.

Upon completion of the appropriate finance courses, and upon meeting specified non-academic requirements, you may qualify to sit for examinations for licensing and professional designations in the areas of insurance, investments, and real estate.

Special Curriculum Requirements

All students majoring in finance must complete at least 9 elective hours of advanced finance courses above FIN 301, FIN 381, and FIN 401/FIN 501. FIN 485 and all Capstone courses cannot be used as electives. You must achieve at least a 2.00 GPA in all finance courses taken.

The Department of Finance requires students majoring in finance to complete at least 9 elective hours of finance (FIN) courses at Miami.

Program Requirements

Code	Title	Credit Hours
Required courses		
ACC 321	Intermediate Financial Accounting	3
ECO 301	Money and Banking	3
FIN 303	Financial Principles and Introduction to Modeling with Excel	3
FIN 381	Intermediate Financial Management	3
FIN 401	Principles of Investments and Security Markets	3
Electives		
Select 9 semester hours of finance electives (exclusive of all Capstone Experience courses)		9
Total Credit Hours		24

Human Capital Management and Leadership- Bachelor of Science in Business

For information, contact the Department of Management, 3056 FSB, 513-529-4215.

The major in Human Capital Management and Leadership prepares graduates to understand how organizations attract, develop and lead their talent to create sustained competitive advantage. The curriculum highlights understanding and implementing evidence-based best practices associated with human capital consulting, leading organizations, change management, employee engagement and motivation, cross cultural management, talent acquisition, employment law, compensation, executive decision making and strategy, and human resource management. The diversified course

of study prepares graduates for positions in consulting, leadership rotational programs, employee development, management, human resources, and other related fields in both domestic and global business contexts.

Program Requirements

Code	Title	Credit Hours
Required courses		
MGT 303	Human Resource Management	3
MGT 304	Diversity and Cross-Cultural Management	3
MGT 415	Leadership and Learning	3
MGT 474	Human Capital Consulting	3
MGT 495	Executive Decision Making and Strategy	3
Electives		
Select three of the following. At least one must be an MGT course.		9
ESP 401	Entrepreneurship: New Ventures	
ESP 461	Entrepreneurial Consulting	
ISA 291	Applied Regression Analysis in Business	
MGT 402	Employment Law	
MGT 404	Compensation Management	
MGT 405	Negotiations and Conflict Management	
MGT 406	Talent Acquisition and Development	
MGT 414	Employee Engagement and Motivation	
MGT 416	Leading Organizational Change	
PSY 376	Psychology of Judgment, Decision Making, and Reasoning	
SOC 225	Work and Occupational Justice	
SOC 454	Formal Organization	
Total Credit Hours		24

Information and Cybersecurity Management - Bachelor of Science in Business

The Information and Cybersecurity Management Major provides managerial perspective and technical skills to create, control, protect, and leverage information and data resources of an organization. The major focuses on foundational theory and practice in content areas such as business process management, database, data communications, cybersecurity, systems analysis & development, information risk management, and project management. The major also addresses contemporary topics including cloud computing, mobile commerce, enterprise systems, business intelligence, data mining, and big data management. It emphasizes the application of technology, information and cyber risk management skills to solving business problems.

Program Requirements

Code	Title	Credit Hours
Required Courses		12
ISA 245	Database Systems and Data Warehousing	
ISA 281	Concepts in Business Programming	
ISA 301	Business Data Communications and Security	
ISA 387	Designing Business Systems	
Complete one of the following concentrations:		12
Information Systems Concentration		
Required Courses		
ISA 406	IT Project Management	
ISA 495	Managing the Intelligent Enterprise	
Elective Courses		
Select two of the following - one must be an ISA 400 level course:		
CSE 271	Object-Oriented Programming	
ISA 303	Enterprise Systems	
ISA 305	Information Technology Governance, Risk Management, Security and Audit	
ISA 335	Blockchain and Business Applications	
ISA 401	Business Intelligence and Data Visualization	
ISA 403	Building Web and Mobile Business Applications	
ISA 405	Information Security	
ISA 414	Managing Big Data	
ISA 424	Data Infrastructure for the Enterprise	
ISA 481	Topics in Information Systems	
Cybersecurity Management Concentration		
Required Courses		
ISA 305	Information Technology Governance, Risk Management, Security and Audit	
ISA 405	Information Security	
ISA 419	Data Driven Security	
Elective Courses		
Select one of the following:		
ISA 335	Blockchain and Business Applications	
ISA 401	Business Intelligence and Data Visualization	
ISA 403	Building Web and Mobile Business Applications	
ISA 406	IT Project Management	
ISA 414	Managing Big Data	
ISA 495	Managing the Intelligent Enterprise	
POL 437	Cyberlaw	
Total Credit Hours		24

Note: Students also taking the Business Analytics Major must take 18 hours beyond the business core not also counting in the Business Analytics Major.

Note: Students may not major in both concentrations. Students in either concentration may minor in the other sub-discipline but must take 9 hours beyond the business core not also counting for the major.

Marketing- Bachelor of Science in Business

For information, contact the Department of Marketing, 3057 FSB, 513-529-3270.

The modern global society is placing an increasing emphasis on marketing knowledge and related skills. Global and domestic corporations' manufacturing, distributing, buying, and selling significantly shape the standard of living and global economy. This is true for both products and services as well as for-profit and not-for-profit institutions and supply chains.

To prepare students for a career in marketing or as part of a business decision-making team, this program provides courses that examine: branding, promotion, supply chain management, consumer behavior, marketing research, sales management and personal selling, imagination and creativity, problem solving skills, creating customer value, global marketing, interactive media studies, and sustainable marketing.

Program Requirements

Code	Title	Credit Hours
MKT 315	Professional Selling	3
MKT 325	Developing Customer Insights	3
MKT 335	Analytical Research and Reasoning for Marketers	3
MKT 345	Building and Managing Strong Brands	3
MKT 395	Strategic Thinking and Decision-Making in Marketing	3
Select two of the following:		6
IMS/MKT 392	Content Marketing	
IMS/MKT 418	Social Media Marketing and Online Community Management	
MKT 404	Culturally Intelligent [CQ] Marketing	
MKT 412	Sustainable Marketing Management	
MKT 415	Marketing to Organizations	
MKT/IMS 419	Digital Branding	
MKT 425	Global Marketing	
MKT 461	Principles of Retailing	
MKT 490	Emerging Topics in Marketing	
Select one of the following capstones:		4
IMS 440	Emerging Technology Practicum	
MKT 442	Highwire Brand Studio	
MKT 495	Strategy Works	
Total Credit Hours		25

Real Estate - Bachelor of Science in Business

This major teaches theoretical and practical aspects of real estate, including development, investment, financing, and management. The general objectives are to teach the principles of real estate, to explain unique aspects of real estate as an asset class for ownership and investment, and to prepare you for future responsibilities in real estate.

Code	Title	Credit Hours
Required Courses		
BLS 443	Real Estate Law	3
FIN 303	Financial Principles and Introduction to Modeling with Excel	3
FIN 331	Real Estate Principles	3
FIN 431	Real Estate Investments and Finance	3
GEO 441	Geographic Information Systems	3
GEO 451	Urban and Regional Planning ¹	3
Select six hours of electives:		6
FIN 381	Intermediate Financial Management	
FIN 401	Principles of Investments and Security Markets	
FIN 403	Portfolio Management	
FIN 408	Commercial Bank Management	
FIN 461	Financial Analysis of Mergers, Buyouts, and Restructuring	
GEO 442	Advanced Geographic Information Systems	
GEO 454	Urban Geography	
GEO 459	Advanced Urban and Regional Planning	
Total Credit Hours		24

¹ GEO 201 is a prerequisite for GEO 451

The GEO 1 thematic sequence and the Urban and Regional Analysis Minor are not open to Real Estate majors.

Note: Students also completing the Finance major must take 18 hours of Real Estate coursework which will not apply to the Finance major. FIN 331 and FIN 431 may not be used as FIN electives for the Finance major if pursuing Finance and Real Estate.

Supply Chain and Operations Management- Bachelor of Science in Business

For information, contact the Department of Management, 3056 FSB, 513-529-4215.

In recent years companies have worked to connect the different areas of their businesses to achieve efficient movement of goods and services to the consumer. Supply chain and operations management fills the gap that exists between departments and connects trading

partners to create a smooth flow of information, services, and products through the supply chain.

The supply chain and operations management major combines courses in accountancy, decision sciences, operations management, marketing, logistics and purchasing. The integration of these disciplines allows supply chain and operations management students to understand the interaction among them and how to produce and move goods and services in the most economical way. Students learn practical industry applications with the aid of field trips, guest speakers, client-based projects, and simulations in the classroom.

Program Requirements

Code	Title	Credit Hours
Complete the following:		
MGT 431	Logistics Management	3
MGT 432	Global Strategic Sourcing	3
MGT 451	Operations Planning and Scheduling	3
MGT 453	Quality Management Systems	3
MGT 498	Supply Chain Management	3
Select two of the following:		6
ACC 333	Managerial Accounting	
ISA 303	Enterprise Systems	
ISA 321	Quantitative Analysis of Business Problems	
ISA 401	Business Intelligence and Data Visualization	
MGT 418	Sustainability and ESG in Business	
MKT 412	Sustainable Marketing Management	
MKT 415	Marketing to Organizations	
Capstone course:		
MGT 495	Executive Decision Making and Strategy	3
Total Credit Hours		24

Accountancy Minor

For information contact the Department of Accountancy, 3094 FSB, 513-529-6200.

For details regarding admission to FSB minors and availability of coursework, please refer to the information at the beginning of this section (under Farmer School of Business "Minors").

An Accountancy minor provides students with an understanding and appreciation of fundamental accounting concepts and of how accounting information and systems are developed and used within organizations, economies, and societies. The program may also serve as a thematic sequence for non-business majors and as a potential pathway for non-accounting majors to enter the Masters of Accountancy program (so priority may be given to students who wish to enter that program). Capacity may be limited each year.

Program Requirements

Code	Title	Credit Hours
Required:		
ACC 221	Introduction to Financial Accounting	3
ACC 222	Introduction to Managerial Accounting	3
Select four courses from the following:		12
All ACC 300 or ACC 400 subject to completion of course prerequisites.		
Total Credit Hours		18

Arts Management Minor

Given the challenges for artists and arts and cultural organizations to survive in an increasingly competitive business environment, the need for educated managers is increasing. The practice of Arts Management is a synthesis of art, creativity, innovation, management, and entrepreneurship. The minor will prepare students to balance aesthetic understanding with specialized skills in generating income, managing boards, stimulating public access, and sustaining the mission and vision of organizations whose primary purpose is the delivery, presentation, and preservation of arts and culture. These skills are applicable to arts councils, museums, community art centers, galleries, orchestras, theatres, and creative enterprises.

A minimum overall 2.00 GPA is required for successful completion of the minor. All courses, except the internship, must be taken for a grade (not credit/no-credit).

Program Requirements

(18 or 19 semester hours)

Code	Title	Credit Hours
Core Courses - 9 semester hours		
Select the following:		
CCA 201	Introduction to Arts Management	3
CCA 401	Strategic Innovation in the Arts	3
Select three hours of the following:		3
CCA 200	Arts Management Practicum	
CCA 202	Introduction to Music Business	
CCA 302	Arts Marketing & Engagement	
CCA 304	Financial Management & Development in the Arts	
CCA 306	Arts Entrepreneurship	
CCA 308	Policy & Advocacy in the Arts	
CCA 340	Internship	
Track - 9 or 10 semester hours		9-10
Choose one of four tracks. FSB Majors choose Track 4.		
Track 1 - General Business		
Select at least nine hours of the following:		
ACC 211	Accounting for the Non-Business Major	
ECO 201	Principles of Microeconomics	
ESP 101	Entrepreneurship Foundations	

ESP 201	Introduction to Entrepreneurship and Business Models (ESP 101 is pre-/co-requisite)
MGT 111	Introduction to Business
MGT 211	Introduction to Management for Non-business Majors
or MGT 291	Introduction to Management & Leadership
MKT 211	Business Concepts in Customer Engagement
or MKT 291	Principles of Marketing

Track 2 - Miami Prime Business Intensive

Select all three of the following:

BUS 301	Basics of Business I
BUS 302	Basics of Business II
BUS 303	Business Process Integration

Track 3 - Entrepreneurship

Select all four of the following:

ESP 101	Entrepreneurship Foundations
ESP 201	Introduction to Entrepreneurship and Business Models
ESP 251	Entrepreneurial Value Creation and Capture
ESP 252	Entrepreneurial Mindset: Creativity and Organization

Track 4 - Creative Arts

FSB majors must take this track. This track is not open to CCA majors.

Select nine hours from ARC, ART, MUS, THE, or CCA111, CCA222, or CCA232. Students may apply FAS or IMS courses with prior approval of the Director of Arts Management & Entrepreneurship.¹

Total Credit Hours **18-19**

¹ No more than two of the same music ensemble (MUS100A-MUS100Z) may count toward the minor.

Business Minor

The minor in Business, which is open to non-business majors only, offers students a broad introduction to the decision making process across the functional areas of business and also extends the stakeholder framework with an emphasis on the integrated nature of business processes. The minor provides students with the foundational knowledge necessary for understanding how businesses function; it also helps to develop a set of professional skills that will benefit students across a wide range of career paths (both within and outside of business).

Note: Due to the potential significant overlap in coursework, students who pursue the Business Minor will be restricted from also pursuing the Management minor.

Program Requirements

(18 hours)

Code	Title	Credit Hours
Option One:		
Select the following:		
MGT 111	Introduction to Business	3
Select five of the following: 15		
ACC 211	Accounting for the Non-Business Major	
BLS 342	Legal Environment of Business	
ECO 201	Principles of Microeconomics	
ECO 202	Principles of Macroeconomics	
ESP 201	Introduction to Entrepreneurship and Business Models <small>Pre-/Co-requisite: ESP 101.</small>	
FIN 211	Financial Capital	
ISA 211	Information Technology and Data Driven Decision Making in Business	
MGT 291	Introduction to Management & Leadership	
or MGT 211	Introduction to Management for Non-business Majors	
MGT 295	Introduction to Operations and Supply Chain Management	
MGT 303	Human Resource Management	
MKT 211	Business Concepts in Customer Engagement	
Option Two:		
Miami PRIME - take all of the following:		
BUS 301	Basics of Business I	3
BUS 302	Basics of Business II	3
BUS 303	Business Process Integration	3
Select three of the following: 9		
ACC 211	Accounting for the Non-Business Major	
BLS 342	Legal Environment of Business	
ECO 201	Principles of Microeconomics	
ECO 202	Principles of Macroeconomics	
ESP 201	Introduction to Entrepreneurship and Business Models <small>Pre-/Co-requisite: ESP 101.</small>	
FIN 211	Financial Capital	
ISA 211	Information Technology and Data Driven Decision Making in Business	
MGT 291	Introduction to Management & Leadership	
or MGT 211	Introduction to Management for Non-business Majors	
MGT 295	Introduction to Operations and Supply Chain Management	
MGT 303	Human Resource Management	
MKT 211	Business Concepts in Customer Engagement	
FSB Study abroad programs may satisfy 6 credit hours of requirements for the Business Minor. See Minor advisor for information.		
Total Credit Hours		18

Note: Business Minor not open to students in the B.S. in Commerce.

Business Analytics Minor

For information, contact the Department of Information Systems and Analytics, 3095 FSB, 513-529-4826.

The business analytics minor complements many majors (including all business majors) by providing the managerial, analytical, and technical skills needed to gather data in real-time, store and organize the data, analyze the data using quantitative methods, and use the resulting information to make decisions that will allow an organization to gain competitive advantage. Coursework includes fundamental information technology and statistical concepts, database management and data warehouses, regression analysis in business, optimization of business systems using management science models, analysis of large data sets using data mining and business intelligence techniques.

For details regarding admission to FSB minors and availability of coursework, please refer to the information at the beginning of this section (under Farmer School of Business "Minors"). Students may earn either the Business Analytics Minor or the Analytics Co-Major.

Note: For information systems majors or information and cybersecurity management majors at least 9 credit hours beyond the business core must be courses not double counted toward the major.

Note: For statistics majors at least 12 credit hours must be courses taught by Farmer School Faculty.

Program Requirements for the Business Analytics Minor

(21 semester hours)

Code	Title	Credit Hours
Analytics Core Courses		
ISA 225	Principles of Business Analytics	3
ISA 235	Information Technology and the Intelligent Enterprise	3
ISA 245	Database Systems and Data Warehousing	3
ISA 291	Applied Regression Analysis in Business ¹	3
or ECO 311	Examining Economic Data and Models	
or STA 463	Regression Analysis	
ISA 401	Business Intelligence and Data Visualization	3
Choose one: 3		
STA 404	Advanced Data Visualization	
ISA 321	Quantitative Analysis of Business Problems	
ISA 365	Statistical Monitoring and Design of Experiments	
ISA 444	Business Forecasting	
ISA 480	Topics in Business Analytics	

ISA 491	Introduction to Data Mining in Business	
ISA 496	Business Analytics Practicum	
STA 402	Statistical Programming	
STA 483	Analysis of Forecasting Systems	
Choose one: (must differ from first choice)		3
ECO 411	Advanced Empirical Methods	
STA 404	Advanced Data Visualization	
ISA 281	Concepts in Business Programming	
ISA 321	Quantitative Analysis of Business Problems	
ISA 365	Statistical Monitoring and Design of Experiments	
ISA 414	Managing Big Data	
ISA 444	Business Forecasting	
ISA 480	Topics in Business Analytics	
ISA 491	Introduction to Data Mining in Business	
ISA 496	Business Analytics Practicum	
STA 402	Statistical Programming	
STA 483	Analysis of Forecasting Systems	
Total Credit Hours		21

Climate Accounting and Engineering Minor

The Climate Accounting and Engineering minor provides students with the knowledge and skills needed to help organizations, either as employees or external consultants, identify, reliably measure and faithfully represent the environmental impact of their direct and indirect activities. The accountancy courses included in the minor will provide students with an understanding of key concepts relating to the identification, measurement and reporting of information for decision-making along with an opportunity to apply those concepts in the context of organizations' environmental impact. The engineering courses included in the minor will provide students with the knowledge and skills needed to evaluate and design systems for reducing environmental impact and assess the impact of such systems in comparison to the best and reasonably available control technology standards (BACT, RACT).

Students majoring in Accountancy can count no more than 9 hours from their major towards this minor. Students minoring in Environmental Engineering can count no more than 9 hours from their minor to this minor.

Program Requirements

The minor will require 18 credit hours of coursework composed of 9 credit hours of accountancy courses (see accountancy course sequence below); and 9 credit hours of engineering courses (see engineering course sequence below). In addition, we intend to have an optional annual, firm/company sponsored case competition for which students potentially could earn one additional credit hour.

Accountancy majors will need to take 9 credit hours of CPB courses that do not overlap with the Accountancy major. Environmental

Engineering minors will need to take 9 credit hours of ACC courses that do not overlap with the minor.

Code	Title	Credit Hours
Select the following:		
ACC 221	Introduction to Financial Accounting	3
ACC 333	Managerial Accounting	3
ACC 453	Financial Statement Auditing	3
CPB 244	Introduction to Environmental Engineering	3
Select two of the following:		6
CPB 405	Industrial Environmental Control	
CPB 441	Pollution Prevention in Environmental Management	
CPB 442	Air Pollution Control	
Total Credit Hours		18

Cybersecurity Management Minor

Companies in virtually every industry are spending increasing amounts of resources addressing information security in the new networked world in which they now do business. There is a rapidly growing need for both managerial and technical expertise in the information security realm. The Cybersecurity Management Minor, open to all university students, offers students from any major the managerial and basic technical skills critical for understanding, and addressing information security concerns within organizations.

The minor provides students with an applied/managerial perspective on the information security issues faced by organizations, an understanding of how organizations address those issues both culturally and administratively, as well as insight and experience with some of the leading as well as emerging technologies applied in the information security realm.

Program Requirements

Note: For Information and Cybersecurity Management majors in the Information Systems track or Information Systems minors, at least 9 credit hours beyond the business core must be courses not double counted toward the major or minor. This minor is not available for students in the Information and Cybersecurity Management major in the Cybersecurity Management track.

Code	Title	Credit Hours
Required		
ISA 235	Information Technology and the Intelligent Enterprise	3
CSE 262	Technology, Ethics, and Global Society	3
ISA 301	Business Data Communications and Security	3
ISA 305	Information Technology Governance, Risk Management, Security and Audit	3
ISA 405	Information Security	3
Electives - Take 3 hours		3

CSE 174	Fundamentals of Programming and Problem Solving
ISA 281	Concepts in Business Programming
ISA 335	Blockchain and Business Applications
ISA 419	Data Driven Security
ISA 481	Topics in Information Systems (Only approved 3 credit hour security courses apply)
POL 437	Cyberlaw

Total Credit Hours **18**

Economics Minor

For information, contact the Department of Economics, 2054 FSB, 513-529-2836. The economics minor is open to all university students.

This minor is designed for students who are interested in exploring how their major area of specialization connects to the wider world of the workplace and the economy. Students who are preparing for law school or a master's degree in business administration (M.B.A.) program will find this minor valuable.

The 18 hours of economics must be completed with at least a 2.00 GPA. Either ECO 315 or ECO 317 must be taken at Miami.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
Required Courses		
ECO 201	Principles of Microeconomics	3
ECO 202	Principles of Macroeconomics	3
ECO 315 or ECO 317	Intermediate Microeconomic Theory Intermediate Macroeconomic Theory	3
Electives		
Select nine hours of advanced economics at the 300 level or above, which may include the other intermediate theory course. ¹		9
Total Credit Hours		18

¹ Prerequisites for all 300- and 400-level courses include ECO 201 and ECO 202 unless otherwise stated.

Entrepreneurship Minor

For information, contact the Page Center for Entrepreneurship, 2078 FSB, 513-529-1221.

Entrepreneurship and the ability to recognize opportunities to create viable, sustainable solutions are skills needed across all disciplines. The interdisciplinary minor exposes students to the mindset and behavior of successful entrepreneurs as well as the principles and concepts associated with entrepreneurship in startup, social, creative, and corporate ventures. The program complements majors in all of Miami's academic divisions and promotes the applications of entrepreneurial concepts in support of each student's passion, regardless of major. Entrepreneurship courses are for those interested in building a new business, adding value to an existing

organization, or learning the skills necessary in the entrepreneurial workforce. Students complete the minor by taking courses as a core curriculum followed by one of four specific tracks: startup, social, corporate and creativity. The minor will provide a framework for understanding entrepreneurship from a variety of disciplines and application of entrepreneurial skill sets to meet societal and workplace demands.

The entrepreneurship minor is open to all university students and can be used to satisfy a Thematic Sequence by non-business majors.

For details regarding admission to FSB minors and availability of coursework, please refer to the information at the beginning of this section (under Farmer School of Business "Minors").

Program Requirements

(19 semester hours)

Code	Title	Credit Hours
Select the following:		
ESP 101	Entrepreneurship Foundations	1
ESP 201	Introduction to Entrepreneurship and Business Models	3
ESP 251	Entrepreneurial Value Creation and Capture	3
ESP 252	Entrepreneurial Mindset: Creativity and Organization	3
Select one of the following:		3
ESP 321	Startup Entrepreneurship	
ESP 331	Social Entrepreneurship	
ESP 341	Corporate Entrepreneurship	
ESP 351	Creativity in Entrepreneurship	
Select the following:		
ESP 401	Entrepreneurship: New Ventures	3
ESP 461	Entrepreneurial Consulting	3
Total Credit Hours		19

Finance Minor

For information, contact the Department of Finance, 2053 FSB, 513-529-1560.

This minor, open to non-business majors only, provides in-depth study of financial management and introduces financial topics of current importance. **Enrollment is limited; seats in this minor are allocated on a first-come, first-served basis by class year.** The courses provide financial management tools and techniques relevant both to corporate finance and investments. This minor allows you to develop and integrate numerous skills and techniques relevant to modern finance.

All 18 semester hours must be taken at Miami University. A minimum 2.00 GPA is required for all courses in the minor.

For details regarding admission to FSB minors and availability of coursework, please refer to the information at the beginning of this section (under Farmer School of Business "Minors").

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
ACC 221	Introduction to Financial Accounting	3
ECO 301	Money and Banking	3
FIN 301	Introduction to Business Finance	3
FIN 303	Financial Principles and Introduction to Modeling with Excel	3
FIN 401	Principles of Investments and Security Markets	3
Select three hours of the following:		3
FIN 381	Intermediate Financial Management	
FIN 402	Fixed-Income Portfolio Management	
FIN 403	Portfolio Management	
FIN 408	Commercial Bank Management	
FIN 417	International Business Finance	
Total Credit Hours		18

Note: Additional prerequisites may be required for specific courses in the minor.

Human Capital Management and Leadership Minor

For information, contact the Department of Management, 3056 FSB, 513-529-4215.

For details regarding admission to FSB minors and availability of coursework, please refer to the information at the beginning of this section (under Farmer School of Business "Minors").

Management of people and organizations is a broadly transferable skill which will help any major supervise others, integrate diverse individuals and diverse functions, and develop successful individuals and teams to meet organizational goals.

To be assured of enrollment into the required courses for this minor, students should formally declare the minor by obtaining the appropriate signature from the Department of Management. In order to guarantee that all declared minors have access to the courses, the minor has an enrollment limit; therefore **early declaration** is advised.

Program Requirements

(18 semester hours)

Code	Title	Credit Hours
MGT 111 or BUS 101 & BUS 102	Introduction to Business Foundations of Business and Foundations of Business Communication	3-4
MGT 291 or MGT 211	Introduction to Management & Leadership Introduction to Management for Non-business Majors	3
MGT 303	Human Resource Management	3

Select three of the following. At least two must be MGT courses. 9

MGT 304	Diversity and Cross-Cultural Management
MGT 402	Employment Law
MGT 404	Compensation Management
MGT 405	Negotiations and Conflict Management
MGT 406	Talent Acquisition and Development
MGT 414	Employee Engagement and Motivation
MGT 415	Leadership and Learning
MGT 416	Leading Organizational Change
PSY 376	Psychology of Judgment, Decision Making, and Reasoning
SOC 225	Work and Occupational Justice
SOC 454	Formal Organization

Total Credit Hours **18-19**

Information Systems Minor

For information, contact the Department of Information Systems and Analytics, 3095 FSB, 513-529-4826.

The information systems minor, open to all university students, provides students with other majors the managerial and technical skills critical to understanding, using, and applying information technology within organizations. The IS minor gives students a strong background in information and communications technologies, database theory and application, and enterprise systems. Additional coursework may focus on programming and development skills, project management, E-commerce and web development, or other current topics such as data and wireless communications. Emphasis is on structuring and solving business problems by appropriately applying technological resources.

A minimum 2.00 GPA is required for all courses in the minor. You must contact an information systems advisor in the department to have the minor noted on your grade transcript when applying for graduation.

For details regarding admission to FSB minors and availability of coursework, please refer to the information at the beginning of this section (under Farmer School of Business "Minors").

Note: For Information Systems Majors with the Cybersecurity Management Track, at least 9 credit hours beyond the business core must be courses not double counted toward the major. This minor is not open to students in the Information Systems Major with Information Management Track.

Program Requirements

(18 semester hours)

Note: For Business Analytics majors, at least 9 credit hours beyond the business core must be courses not double counted toward the Business Analytics major.

Note: For Cybersecurity Management Minors at least nine hours past the business core must be courses not counted toward that minor.

Code	Title	Credit Hours
Required courses		
ISA 235	Information Technology and the Intelligent Enterprise	3
ISA 245	Database Systems and Data Warehousing	3
ISA 303 or ISA 401	Enterprise Systems Business Intelligence and Data Visualization	3
Select two courses of the following: ¹		6
ISA 281	Concepts in Business Programming	
ISA 301	Business Data Communications and Security	
ISA 303	Enterprise Systems	
ISA 305	Information Technology Governance, Risk Management, Security and Audit	
ISA 335	Blockchain and Business Applications	
ISA 387	Designing Business Systems	
ISA 401	Business Intelligence and Data Visualization	
ISA 403	Building Web and Mobile Business Applications	
ISA 405	Information Security	
ISA 406	IT Project Management	
ISA 414	Managing Big Data	
ISA 481	Topics in Information Systems (Must be 3 Hrs)	
ISA 495	Managing the Intelligent Enterprise	
Select one of the following: ¹		3
ACC 361	Modeling Business Processes in Accounting Information Systems	
CSE 174	Fundamentals of Programming and Problem Solving	
ENG 313	Technical Writing	
GEO 441	Geographic Information Systems	
IMS 440	Emerging Technology Practicum	
ISA 281	Concepts in Business Programming	
ISA 301	Business Data Communications and Security	
ISA 303	Enterprise Systems	
ISA 305	Information Technology Governance, Risk Management, Security and Audit	
ISA 335	Blockchain and Business Applications	
ISA 387	Designing Business Systems	
ISA 401	Business Intelligence and Data Visualization	
ISA 403	Building Web and Mobile Business Applications	
ISA 405	Information Security	
ISA 406	IT Project Management	
ISA 414	Managing Big Data	
ISA 481	Topics in Information Systems (Must be 3 Hrs)	
ISA 495	Managing the Intelligent Enterprise	

MGT 416	Leading Organizational Change
MGT 474	Human Capital Consulting
MKT/IMS 419	Digital Branding
Total Credit Hours	18

¹ The courses chosen from this list must be different from those taken to fulfill any of the requirements above.

International Business Minor

For information, contact the Student Services Office, 1022 FSB, 513-529-1712.

This minor offers a concentration of courses that create a foundation for a career in the global business environment. A core and electives from the Farmer School of Business focus on international topics. This minor does not fulfill the thematic sequence requirement for business majors. However, courses that have been identified on the list of "Approved General Electives" for the International Business minor may either fully or partially satisfy a thematic sequence for business students. The minor would fulfill the thematic sequence requirement for non-business majors. A minimum of 21 hours, with at least a 2.00 average, is required.

Approved General Electives

International Business Minors are required to take a minimum of six hours of approved general electives. The six hours cannot be used to fulfill both the Miami Plan Perspectives and the International Business minor requirements. Courses must be 200-level or above.

Electives must be non-business courses; one may be an upper level language course that focuses on culture and literature. Language courses that stress conversation and grammar cannot be used as general electives. The suggested electives are recommended, but by no means comprise the extent of courses that would be useful preparation for international business. Non-business courses offered in approved study abroad programs may be used as electives with the approval of the FSB International Business Minor advisor.

Language Preparation

This minor requires foreign language skills through the 202 level or above. The College of Arts and Science provides courses for preparation in a variety of foreign languages. American Sign Language courses offered through the College of Arts and Science may not be used to fulfill this requirement.

Study Abroad

Students are encouraged to study abroad. Courses taken while abroad may apply. The Farmer School of Business offers international programs for short terms.

For details regarding admission to FSB minors and availability of coursework, please refer to the information at the beginning of this section (under Farmer School of Business "Minors").

Program Requirements

(21 semester hours)

Code	Title	Credit Hours
Required courses		
ECO 344	International Economic Relations	3
	Foreign language through 202 level	3
	Select six hours of approved general electives	6
	Select three of the following:	9
BLS 464	International Business Law	
BUS 371	International Business	
or BUS 373	International Business in Focus	
ECO 347	Economic Development	
ECO 442	International Monetary Relations	
FIN 417	International Business Finance	
MGT 304	Diversity and Cross-Cultural Management	
MGT 432	Global Strategic Sourcing	
MKT 412	Sustainable Marketing Management	
MKT 425	Global Marketing	
IMS/ENG 416	Writing for Global Audiences	
	And/or any business courses taken abroad and approved in advance by the FSB International Business Minor Advisor	
Total Credit Hours		21

¹ BUS 371 is typically offered abroad; BUS 373 is only offered on FSB study abroad programs.

Management Minor

For information, contact the Department of Management, 3056 FSB, 513-529-4215.

This minor is available to any non-business major, with the exception of Engineering Management and Bachelor of Science in Commerce, and focuses on the management of human and non-human resources. It is designed for majors in the College of Arts and Science, the College of Education, Health, and Society, and the College of Engineering and Computing. Students are required to take MGT 291 and MGT 295 during the summer or winter terms.

For details regarding admission to FSB minors and availability of coursework, please refer to the information at the beginning of this section (under Farmer School of Business "Minors").

Program Requirements

(18 or 19 semester hours)

Code	Title	Credit Hours
Select one of the following:		3-4
ISA/STA 125	Introduction to Business Statistics	
PSY 293	Introduction to Psychological Statistics	
STA 261	Statistics	
STA 301	Applied Statistics	
Select all of the following:		3
MGT 111	Introduction to Business	

MGT 291	Introduction to Management & Leadership	3
MGT 295	Introduction to Operations and Supply Chain Management	3
Select two of the following:		6
ECO 201	Principles of Microeconomics	
MGT 303	Human Resource Management	
MGT 304	Diversity and Cross-Cultural Management	
MGT 402	Employment Law	
MGT 404	Compensation Management	
MGT 405	Negotiations and Conflict Management	
MGT 406	Talent Acquisition and Development	
MGT 414	Employee Engagement and Motivation	
MGT 415	Leadership and Learning	
MGT 416	Leading Organizational Change	
MGT 432	Global Strategic Sourcing	
MGT 451	Operations Planning and Scheduling	
MGT 453	Quality Management Systems	
Total Credit Hours		18-19

Note: Management Minor not open to students in the Engineering Management major or B.S. in Commerce.

Marketing Minor

For information, contact the Department of Marketing, 3057 FSB, 513-529-3270.

This minor, open to all university students, prepares students for a career in marketing or as part of a business decision-making team. The modern global society is placing an increasing emphasis on marketing knowledge and related skills. The minor provides students with an understanding of marketing that goes beyond basic principles to developing specific marketing skills.

The Marketing Minor requires an application for admission. Students must apply fall semester of the sophomore year or within one year for transfer students. Contact the Department of Marketing for more information. For details regarding admission to FSB minors and availability of coursework, please refer to the information at the beginning of this section (under Farmer School of Business "Minors").

Program Requirements

(22 semester hours)

Code	Title	Credit Hours
Prerequisites		
ECO 201	Principles of Microeconomics	3
Select ONE of the following:		3-4
ISA 125	Introduction to Business Statistics	
ISA 225	Principles of Business Analytics	
STA 261	Statistics	
Required courses		
MKT 291	Principles of Marketing	3
EITHER		

ALL of the following courses:	12
MKT 315 Professional Selling	
MKT 325 Developing Customer Insights	
MKT 335 Analytical Research and Reasoning for Marketers	
MKT 345 Building and Managing Strong Brands	

OR

Select THREE of the following:	
MKT 315 Professional Selling	
MKT 325 Developing Customer Insights	
MKT 335 Analytical Research and Reasoning for Marketers	
MKT 345 Building and Managing Strong Brands	

AND

Select ONE of the following:	
MKT 412 Sustainable Marketing Management	
MKT 415 Marketing to Organizations	
MKT 419 Digital Branding	
or IMS 419 Digital Branding	
MKT 425 Global Marketing	
MKT 461 Principles of Retailing	
MKT 490 Emerging Topics in Marketing	

Total Credit Hours 21-22

Real Estate Minor

An introduction to the business of real estate investment and management. The minor emphasizes the management of real estate properties and the analysis of real estate investment assets. It is not open to Finance majors.

Program Requirements

Code	Title	Credit Hours
ACC 221	Introduction to Financial Accounting	3
FIN 301	Introduction to Business Finance	3
FIN 331	Real Estate Principles	3
BLS 443	Real Estate Law	3
or GEO 467	Land Use, Law and the State: Geographic Perspectives	
And 2 Electives from the following:		6
FIN 303	Financial Principles and Introduction to Modeling with Excel	
FIN 431	Real Estate Investments and Finance	
GEO 441	Geographic Information Systems	
GEO 451	Urban and Regional Planning	

Total Credit Hours 18

Supply Chain Management Minor

For information, contact the Department of Management, 3056 FSB, 513-529-4215.

A recent study cited supply chain management (SCM) as one of the three most important management practices for determining world class performance. This minor, open to all university students, provides an understanding of SCM as a key business strategy, and it develops tools for integrating key functions of procurement, production, marketing, logistics, accounting, and IS, leading to successful operation of the entire SCM process. You will be exposed to career opportunities in this field.

For details regarding admission to FSB minors and availability of coursework, please refer to the information at the beginning of this section (under Farmer School of Business "Minors").

Program Requirements

(21-22 semester hours)

Code	Title	Credit Hours
Required courses		
Select one of the following:		3-4
ISA/STA 125	Introduction to Business Statistics	
STA 261	Statistics	
STA 301	Applied Statistics	
Select all of the following:		
MGT 295	Introduction to Operations and Supply Chain Management	3
MGT 432	Global Strategic Sourcing	3
MGT 498	Supply Chain Management	3
MKT 291	Principles of Marketing	3
MGT 431	Logistics Management	3
Focus elective		
Select one of the following:		3
ISA 303	Enterprise Systems	
ISA 321	Quantitative Analysis of Business Problems	
MGT 418	Sustainability and ESG in Business	
MGT 451	Operations Planning and Scheduling	
MGT 453	Quality Management Systems	
MKT 412	Sustainable Marketing Management	
MKT 415	Marketing to Organizations	
Total Credit Hours		21-22

Business in the Global Market Certificate

The Business in the Global Market Certificate Program is designed to better prepare students for entry into an increasingly globalized workplace by developing an understanding of the culture and customs of a selected region of the world through language study, study abroad experience and associated coursework. The program will help develop students' critical thinking and contextual skills by encouraging students to study and see first-hand how their selected concentration contributes to the global economy. The program is designed for students who wish to pursue a career in business and who have a strong interest in working abroad. Students will select one concentration area from: Asia and Oceania, Africa and the Middle-East, Europe, or Central and South America.

Program Requirements

Asia and Oceania Concentration

Code	Title	Credit Hours
Language		3
Complete two years or more of Japanese, Chinese, or Korean ¹		
Cultural Experience		6
Completion of an approved and related thematic sequence, minor, or major. ²		
ATH 3 Thematic Sequence		
ATH 5 Thematic Sequence		
CHI 1 Thematic Sequence		
JPN 1 Thematic Sequence		
SDT 1 Self Designed Thematic Sequence		
Anthropology Minor		
Asian/American Studies Minor		
Chinese Minor		
East Asian Studies Minor		
Global Health Minor		
International Business Minor with approved and related electives		
Japanese Minor		
Overseas Experience		1
Select one of the following options:		
Option A:		
Semester of study abroad in Asia or Oceania		
Option B:		
Pre-Approved Internship in Asia or Oceania		
Option C:		
Pre-approved FSB International Faculty-Led Program		
Business coursework		
Completion of a B.S. in Business, a B.A. in Economics, or a B.S. in Quantitative Economics and completion of three hours of the following: ³		
BUS 241	Business in the Global Market (Concurrent enrollment with course from pick list)	1
BUS 373	International Business in Focus	3
or BUS 371	International Business	
or BUS 420	FSB International Studies Programs	
or ECO 344	International Economic Relations	
or ECO 442	International Monetary Relations	
or FIN 417	International Business Finance	
or MGT 304	Diversity and Cross-Cultural Management	
or MGT 431	Logistics Management	
or MGT 432	Global Strategic Sourcing	
or MKT 412	Sustainable Marketing Management	
or MKT 425	Global Marketing	
Total Credit Hours		14

Africa and the Middle-East Concentration

Code	Title	Credit Hours
Language		3
Complete two years or more of Arabic ¹		
Cultural Experience		6
Completion of an approved and related thematic sequence, minor, or major. ²		
ATH 3 Thematic Sequence		
ATH 5 Thematic Sequence		
BWS 1 Thematic Sequence		
SDT 1 Self Designed Thematic Sequence		
Anthropology Minor		
Arabic Minor		
Global Health Minor		
International Business Minor with approved and related electives		
Middle East, Islamic, and Jewish Studies Minor		
Overseas Experience		1
Select one of the following options:		
Option A:		
Semester of study abroad in Africa or the Middle-East		
Option B:		
Pre-Approved Internship in Africa or the Middle-East		
Option C:		
Pre-approved FSB International Faculty-Led Program		
Business coursework		
Completion of a B.S. in Business, a B.A. in Economics, or a B.S. in Quantitative Economics and completion of three hours of the following: ³		
BUS 241	Business in the Global Market (Concurrent enrollment with course from pick list)	1
BUS 373	International Business in Focus	3
or BUS 371	International Business	
or BUS 420	FSB International Studies Programs	
or ECO 344	International Economic Relations	
or ECO 442	International Monetary Relations	
or FIN 417	International Business Finance	
or MGT 304	Diversity and Cross-Cultural Management	
or MGT 431	Logistics Management	
or MGT 432	Global Strategic Sourcing	
or MKT 412	Sustainable Marketing Management	
or MKT 425	Global Marketing	
Total Credit Hours		14

Europe Concentration

Code	Title	Credit Hours
Language		3
Complete two years or more of French, German, Italian, Russian, or Spanish ¹		
Cultural Experience		6

Completion of an approved and related thematic sequence, minor, or major.²

ATH 3 Thematic Sequence

ATH 5 Thematic Sequence

FRE 3 Thematic Sequence

GER 3 Thematic Sequence

HST 3 Thematic Sequence

ITL 1 Thematic Sequence

SDT 1 Self Designed Thematic Sequence

SPN 1 Thematic Sequence

Anthropology Minor

French Minor

German Minor

Global Health Minor

International Business Minor with approved and related electives

Italian Minor

Russian Minor

Spanish Minor

Overseas Experience 1

Select one of the following options:

Option A:

Semester of study abroad in Europe

Option B:

Pre-Approved Internship in Europe

Option C:

Pre-approved FSB International Faculty-Led Program

Business coursework

Completion of a B.S. in Business, a B.A. in Economics, or a B.S. in Quantitative Economics and completion of three hours of the following:³

BUS 241	Business in the Global Market (Concurrent enrollment with course from pick list)	1
---------	---	---

BUS 373	International Business in Focus	3
or BUS 371	International Business	
or BUS 420	FSB International Studies Programs	
or ECO 344	International Economic Relations	
or ECO 442	International Monetary Relations	
or FIN 417	International Business Finance	
or MGT 304	Diversity and Cross-Cultural Management	
or MGT 431	Logistics Management	
or MGT 432	Global Strategic Sourcing	
or MKT 412	Sustainable Marketing Management	
or MKT 425	Global Marketing	

Total Credit Hours 14

South and Central America Concentration

Code	Title	Credit Hours
Language		3
Complete two years or more of Spanish ¹		
Cultural Experience		6

Completion of an approved and related thematic sequence, minor, or major.²

ATH 3 Thematic Sequence

ATH 5 Thematic Sequence

LAS 3 Thematic Sequence

SDT 1 Self Designed Thematic Sequence

SPN 1 Thematic Sequence

Anthropology Minor

Global Health Minor

International Business Minor with approved and related electives

Spanish Minor

Overseas Experience 1

Select one of the following options:

Option A:

Semester of study abroad in Central or South America

Option B:

Pre-Approved Internship in Central or South America

Option C:

Pre-approved FSB International Faculty-Led Program

Business coursework

Completion of a B.S. in Business, a B.A. in Economics, or a B.S. in Quantitative Economics and completion of three hours of the following:³

BUS 241	Business in the Global Market (Concurrent enrollment with course from pick list)	1
BUS 373	International Business in Focus	3
or BUS 371	International Business	
or BUS 420	FSB International Studies Programs	
or ECO 344	International Economic Relations	
or ECO 442	International Monetary Relations	
or FIN 417	International Business Finance	
or MGT 304	Diversity and Cross-Cultural Management	
or MGT 431	Logistics Management	
or MGT 432	Global Strategic Sourcing	
or MKT 412	Sustainable Marketing Management	
or MKT 425	Global Marketing	

Total Credit Hours 14

¹ Students must complete the 202-level and may choose to take higher levels.

² Consult with Advisor for alternative options.

³ Courses used in the Business sub-requirement may not apply to other components of the certificate program.

Creativity Entrepreneurship Certificate

For information, contact the Page Center for Entrepreneurship, 2078 FSB, 513-529-1221.

The Creativity Entrepreneurship Certificate is a multidisciplinary educational initiative that brings together students from all schools on campus to develop expertise on how Entrepreneurial

practices can relate to developing the creative person and using creativity in everyday life. It is a suite of tools, teachings, mindsets and experiences for understanding how Creativity & Innovation impact our world and what resources and business principles are needed to foster successful creativity & innovation practices. The Creativity Entrepreneurship Certificate is applied to problems and organizational models in every field. This certificate program builds qualifications for intrapreneurial or entrepreneurial employment and/or further study in Applied Creativity. It is for students interested in gaining knowledge and a level of expertise in entrepreneurial mindsets, creative problem solving and innovative solutions.

Program Requirements

Code	Title	Credit Hours
Complete the following class twice		2
ESP 102	Entrepreneurial Immersion: From Idea to Opportunity	
(Includes Fall ESP 102 StartUp Weekend, Spring ESP 102 Social Innovation Weekend and other ESP 102 offerings)		
Complete the following 3 classes		9
ESP 201	Introduction to Entrepreneurship and Business Models	
ESP 252	Entrepreneurial Mindset: Creativity and Organization	
ESP 351	Creativity in Entrepreneurship	
Complete the following class		3
ESP 461	Entrepreneurial Consulting ¹	
Total Credit Hours		14

¹ Recommended that students complete the ESP 461 Entrepreneurial Consulting in San Francisco in winter term.

Cybersecurity Management for Accountancy Certificate

The Cybersecurity Management for Accountancy Certificate addresses the growing need for Cybersecurity knowledge in the Accounting discipline. Students will be introduced to Cybersecurity Management fundamentals across several domains including Accounting Information Systems, Networking and Security Threats, IT Governance, Cyber Risk Management, and Audits. Students will also be introduced to important technologies in the security space, such as Blockchain and the growing business use cases of these technologies.

Program Requirements

Code	Title	Credit Hours
ACC 361	Modeling Business Processes in Accounting Information Systems	3
ISA 301	Business Data Communications and Security	3
ISA 305	Information Technology Governance, Risk Management, Security and Audit	3
ISA 335	Blockchain and Business Applications	3
Total Credit Hours		12

Deals Certificate

This certificate is designed for accountancy and finance majors who have an interest in pursuing careers in transaction advisory services, investment banking or mergers and acquisitions either upon graduation or as a next career move. The course sequence is designed to guide students through transaction basics using a multi-disciplinary lens incorporating accounting, finance, tax, business law, valuation, and due diligence.

Program Requirements

The certificate will require 12 credit hours of coursework composed of 9 credit hours of accountancy courses (selected from the courses listed below); and 3 credit hours of finance (FIN 461).

Accountancy majors may not count ACC 343 toward completion of this certificate as it is required as part of the Accountancy major. Therefore, Accountancy majors are required to complete 9 credits from the Accountancy courses listed below other than ACC 343.

Code	Title	Credit Hours
Required Course		
FIN 461	Financial Analysis of Mergers, Buyouts, and Restructuring	3
Select nine hours of the following:		9
ACC 343	Federal Income Tax Accounting	
ACC 446	Taxes and Business Strategy	
ACC 448	Information for Business Valuation and Decisions	
ACC 461	Accounting for Business Combinations	
ACC 462	Mergers & Acquisitions	
Total Credit Hours		12

Foundations of Business Analytics Certificate

The Foundation of Business Analytics certificate supplements any major to provide students with a fundamental skill set to use data to drive decision making in their undergraduate discipline. It also provides the base skills and knowledge for entry into Miami's Graduate Certificate in Analytics and Masters of Science in Analytics programs.

Program Requirements

Code	Title	Credit Hours
Required courses:		
ISA/STA 250	Basic Math for Analytics	3
ISA 225	Principles of Business Analytics	3
ISA 241	Database for Analytics	1.5
ISA 242	Programming for Analytics	1.5
ISA 291	Applied Regression Analysis in Business	3
Total Credit Hours		12

Healthcare Sales Certificate

Demand for healthcare services are on the rise. As a result, the demand for medical equipment, medical supplies, and pharmaceuticals has also increased. This certificate program is designed to prepare students for careers in healthcare sales, and includes both curricular and co-curricular experiences. The program is open to students across the university.

Program Requirements

Code	Title	Credit Hours
ECO 332	Health Economics	3
KNH 209	Medical Terminology for Health Professionals	3
MKT 315	Professional Selling	3
MKT 490	Emerging Topics in Marketing ¹	3
PMD 320	Topics in Healthcare ²	1
Total Credit Hours		13

¹ Students must select MKT 490C *Advanced Healthcare Sales &MKT*.

² Students must select PMD 320C *Healthcare Sales*.

Social Entrepreneurship Certificate

For information, contact the Page Center for Entrepreneurship, 2078 FSB, 513-529-1221.

Social Entrepreneurship and the ability to recognize opportunities to create viable, sustainable social solutions are skills needed in our volatile, uncertain, complex, ambiguous world. The Social Entrepreneurship Certificate is a multidisciplinary educational initiative bringing students together from all schools on campus to develop expertise on how Entrepreneurial practices can help build and sustain societal matters. It is a suite of tools, mindsets and experiences for understanding how social ventures impact our world and what resources and entrepreneurial principles are needed to foster successful social ventures. The Social Entrepreneurship Certificate is applied to problems in fields ranging from economic development, sustainable resources, crime, poverty and healthcare. This certificate program builds qualifications for employment and/or further study in Social Enterprise. The Certificate provides a framework for understanding entrepreneurship from a variety of disciplines and application of entrepreneurial skill sets to meet societal and workplace demands. It is for all students interested in gaining knowledge and a level of expertise in entrepreneurial mindsets, cultural awareness and collaborative problem-solving.

Program Requirements

Code	Title	Credit Hours
Complete the following class twice:		2
ESP 102	Entrepreneurial Immersion: From Idea to Opportunity	
(Includes Fall ESP 102 StartUp Weekend, Spring ESP 102 Social Innovation Weekend and other ESP 102 offerings)		
Complete the following courses:		

ESP 201	Introduction to Entrepreneurship and Business Models	3
ESP 252	Entrepreneurial Mindset: Creativity and Organization	3
ESP 331	Social Entrepreneurship	3
Complete one of the following courses:		3
ESP 401	Entrepreneurship: New Ventures	
ESP 461	Entrepreneurial Consulting	
Total Credit Hours		14

StartUp Entrepreneurship Certificate

For information, contact the Page Center for Entrepreneurship, 2078 FSB, 513-529-1221.

Startup entrepreneurship is all about overcoming challenges and solving problems. Startup businesses operate with limited resources and capacity. At the Institute for Entrepreneurship, we teach students by immersing them in experiences like this to better understand how to add value and make a difference in those communities. Whether you start a new venture, you constantly seek opportunities, or you want to add value in a fast-paced high impact environment, the StartUp Entrepreneurship Certificate is designed to build and train the growing entrepreneurial workforce.

Entrepreneurship and the ability to recognize opportunities to create viable, sustainable solutions are skills needed in our volatile, uncertain, complex, ambiguous world. The StartUp Entrepreneurship Certificate is a multidisciplinary educational initiative bringing students together from across campus to develop expertise on how Entrepreneurial practices can help build and sustain StartUp and rapidly growing organizations. The StartUp Certification Program provides a suite of tools, mindsets and experiences for understanding how to excel in the growing startup workforce. This certificate program builds qualifications for employment and/or further study in Entrepreneurship. The Certificate provides a framework for understanding entrepreneurship from a variety of disciplines and application of entrepreneurial skill sets to meet workplace demands.

Code	Title	Credit Hours
Complete the following course twice:		2
ESP 102	Entrepreneurial Immersion: From Idea to Opportunity	
(Includes Fall ESP 102 StartUp Weekend, Spring ESP 102 Social Innovation Weekend and other ESP 102 offerings)		
Complete the following courses:		
ESP 201	Introduction to Entrepreneurship and Business Models	3
ESP 251	Entrepreneurial Value Creation and Capture	3
ESP 321	Startup Entrepreneurship	3
Complete one of the following courses:		3
ESP 401	Entrepreneurship: New Ventures	
ESP 461	Entrepreneurial Consulting	
Total Credit Hours		14

College of Liberal Arts and Applied Science

Hamilton Campus

1601 University Blvd., OH 45011
Phone: 513-785-3000
www.regionals.MiamiOH.edu

Middletown Campus

4200 N. University Blvd., OH 45042
Phones: 513-727-3200, 1-866-426-4643
www.regionals.MiamiOH.edu

Voice of America Learning Center

7847 VOA Park Dr.
West Chester, OH 45069
Phone: 513-895-8862
www.regionals.MiamiOH.edu

General Information

Miami University Regionals are commuter campuses of Miami University, a highly-regarded public university with a national reputation. Regional locations include the Hamilton campus, the Middletown campus, and the Voice of America Learning Center (VOALC) in West Chester. The Hamilton and Middletown campuses are full-service campuses, with a range of student facilities and services.

Miami University Hamilton occupies about 75 acres on the east bank of the Great Miami River between Neilan and University boulevards in Hamilton. Classes began in 1968.

Miami University Middletown opened in 1966 on 142 wooded acres between University and Breiel boulevards in Middletown.

In 2009, Miami opened the Voice of America Learning Center in West Chester, midway between Cincinnati and Dayton and adjacent to I-75. VOALC serves as the hub for the Department of Commerce. Miami's nationally-ranked Professional MBA program is based at the Learning Center. In addition to the MBA program, area educators can take advantage of professional development, graduate courses, and degree programs through Miami's College of Education, Health and Society.

The College of Liberal Arts & Applied Science (CLAAS) is home to twelve academic departments offering micro-credentials, certificate, associate, and bachelor degrees, as well as select graduate degrees.

Students may begin most majors at the Miami Regional locations. CLAAS micro-credentials, certificates, associate, bachelor, and graduate degrees can be completed on the regional campuses. Students pursuing other Miami majors will need to complete their programs on the Oxford campus. In addition, students are able to complete many Miami Regional courses and CLAAS programs without traveling to a physical campus. As a pioneer in online learning, Miami Regionals have significant experience in cultivating rich learning experiences to meet the diverse needs of students. Online undergraduate programs include the following: Applied Business, Digital Commerce, English Studies, Health Communication, Health Information Technology, Hospitality Management, Prekindergarten Education, Psychological Science, Sales Management, and Small

Business Management. A Master of Science in Nursing and a Doctor of Nursing Practice are also available online.

Registration

Registration for new students takes place during the Student Orientation, Advising, and Registration program (SOAR) which occurs in June, July, and August for Fall Semester, and in December and January for Spring Semester. Continuing students may select coursework once registration opens, October for Spring Semester, April for the Fall semester, February for the Summer term, and May for the Winter term. Registration dates and times for new and continuing students may vary; consult the regional campus Calendar of Events and Advising & Registration Sessions (SOAR) schedule for specific information.

For More Information

Office of Admission

Hamilton Campus - Harry T. Wilks Conference Center

Middletown Campus - 114 Johnston Hall

MURAdmission@MiamiOH.edu

513-785-3111

Regional Students Seeking to Take Oxford Classes

Regional campus students may take coursework at any of the Miami University Regionals locations (Hamilton, Middletown, and Voice of America Learning Center). Bachelor degrees can be completed in the College of Liberal Arts and Applied Science on the regional campuses, in other divisions at the Oxford campus, or at other four-year institutions. Students seeking to complete Miami baccalaureate degrees on the Oxford campus must apply to change their campus, full or partial, when they need to take Oxford courses. Regional campus students may request approval to take a course(s) in Oxford, full or partial, after earning at least 16 hours of graded Miami University college-level coursework (not including credit/no credit, developmental 00_classes, CLEP, AP, and College Credit Plus credit), a 2.00 minimum cumulative grade point average, and an acceptable conduct record. At least one fall or spring semester must be completed on a regional campus. Regional campus students must submit the change of campus form, submit appropriate health forms, and meet with an appropriate Oxford divisional advisor prior to being allowed to register for Oxford courses. Change of campus requirements will be verified as of the start of the approved term by Regional Enrollment Operations and the Regional Advising Office. Students wishing to take courses in Oxford with exceptions to these requirements must submit their rationale within the change of campus form.

Bachelor of Arts

- Community Arts and Cultures
- English Studies
- Psychological Science

Bachelor of Science

- Applied Biology

Bachelor of Arts/Bachelor of Science

- Liberal Studies

Bachelor of Integrative Studies

- Integrative Studies

Bachelor of Arts in Applied Communication

- Communication Studies

Bachelor of Science in Applied Communication

- Health Communication

Bachelor of Science in Applied Science

- Engineering Technology with concentrations available in
 - Electrical & Computer Engineering Technology
 - Electro-Mechanical
 - Mechanical Engineering Technology
 - Robotics Engineering Technology

Bachelor of Science in Commerce

- Digital Commerce
- Hospitality Management
- Sales Management
- Small Business Management

Bachelor of Science in Criminal Justice

- Criminal Justice

Bachelor of Science in Information Technology

- Health Information Technology
- Information Technology

Bachelor of Science in Nursing

- BSN 4-Year

Minors

- Commerce
- Communication Studies
- Criminal Justice
- Cybersecurity Administration
- Data Intelligence through Information Technology
- Digital Commerce
- English Studies
- Forensic Investigation
- Hospitality Management
- Psychological Science
- Sales Management

Associate in Applied Science

- Computer and Information Technology
- Computer Technology
- Criminal Justice
- Electrical and Computer Engineering Technology
- Engineering Technology
- Mechanical Engineering Technology
- Prekindergarten Education

Associate in Arts

- General Studies

Associate of Applied Business

- Commerce

Associate of Technical Study

- Technical Study

Certificates

- Manufacturing Foundations

Fees and Expenses: Regional Locations

Note: All fees and charges are subject to change. For current information on tuition and fees, visit <https://miamioh.edu/onestop/your-money/tuition-fees/regional-campuses/index.html>

Refund of Charges

Questions about refunds should be directed to the One Stop for Student Success in Hamilton - 102 Mosler and Middletown - 114 Johnston Hall. Contact RegOneStop@MiamiOH.edu, 513-217-4111. The date when you withdraw or drop your last course is the date that you formally withdraw.

Applied Biology - Bachelor of Science

Biology is the study of all living organisms, from the microscopic to macroscopic. The biology faculty at the Regionals offer a wide range of courses that provide a solid background in two primary concentrations for the BS in Applied Biology: 1) Environmental Biology and 2) Human Biology & Health Sciences. Each concentration trains students in critical thinking, scientific inquiry, and the application of science to societal issues. The course of study for either concentration within Applied Biology will prepare students to formulate questions, make meaningful observations, analyze and interpret data, and arrive at conclusions. Development of these skills will enable students to recognize, address, and solve problems while gaining scientific literacy and a broad knowledge of biology. During their training as biologists students will learn how living organisms function, evolve, and interact with one another and their environment. Students majoring in Applied Biology may not major in Biology or Zoology.

Program Requirements

Environmental Biology Concentration

Code	Title	Credit Hours
Required Courses		
BIO 115	Biological Concepts: Ecology, Evolution, Genetics, and Diversity	4
BIO 116	Biological Concepts: Structure, Function, Cellular, and Molecular Biology	4
BIO 206	Evolutionary Biology	3
BIO 209	Fundamentals of Ecology	3
BIO 342	Genetics	3
BSC 292	Applied Biology Sophomore Seminar: Planning Your Future in Applied Biology (Seminar I)	1
BSC 492	Applied Biology Senior Seminar: Becoming a Professional Biologist (Seminar II)	1
Select three of the following:		12
BIO 205	Dendrology	
BIO 311	Vertebrate Zoology	
BIO 312	Invertebrate Zoology	
BIO 314	Plant Diversity	
BSC 313	Microbial Diversity	
Professional Courses		
Select two of the following: (1 required at the 400-level)		6-7
BIO 351	Environmental Education: Focus on Natural History	
BIO 467	Conservation Biology	
BSC 321	Research in Applied Biology ¹	
or BSC 340	Internship	
BSC 415	Approaches to Problem Solving and Research in Applied Biology Capstone	
BSC 475	Capstone in Environmental Biology	
Related Hours		
CHM 141	College Chemistry	3-4
or CHM 141R	College Chemistry	
CHM 142	College Chemistry	3
CHM 144	College Chemistry Laboratory	2
CHM 145	College Chemistry Laboratory	2
ECO 201	Principles of Microeconomics	3
or POL 241	American Political System	
GLG 115L	Understanding the Earth	1
GLG 121	Environmental Geology	3
GLG 244	Oceanography	3
or GLG 307	Water and Society	
STA 261	Statistics	4
or MTH 151	Calculus I	
Earn 1 Tool		18-21
Applied Social Research Minor		
Commerce Minor		
Data Intelligence Minor		

Forensic Investigation Minor

GIS Certificate

Psychological Science Minor

Self-Designed Tool (department approval required)

52 hours at the 200-level or above**Total Credit Hours****79-84**

¹ Limits of 3 hours total of BSC 321 or BSC 340 to count for the degree.

Human Biology and Health Sciences Concentration

Code	Title	Credit Hours
Required Courses		
BIO 115	Biological Concepts: Ecology, Evolution, Genetics, and Diversity	4
BIO 116	Biological Concepts: Structure, Function, Cellular, and Molecular Biology	4
BIO 201	Human Anatomy	4
BIO 203	Introduction to Cell Biology	3
BIO 206	Evolutionary Biology	3
or BIO 209	Fundamentals of Ecology	
BIO 305	Human Physiology	4
BIO 342	Genetics	3
BSC 292	Applied Biology Sophomore Seminar: Planning Your Future in Applied Biology (Seminar I)	1
BSC 492	Applied Biology Senior Seminar: Becoming a Professional Biologist (Seminar II)	1
Professional Courses		
Select three of the following: (1 required at the 400-level)		9
BIO 464	Laboratory in Cell and Molecular Biology	
BSC 313	Microbial Diversity	
BSC 321	Research in Applied Biology ¹	
or BSC 340	Internship	
BSC 415	Approaches to Problem Solving and Research in Applied Biology Capstone	
BSC 416	Applications of Biotechnology to Human Health: Concepts and Issues	
MBI 361	Fundamentals of Epidemiology	
Related Hours		
CHM 141	College Chemistry	4
or CHM 141R	College Chemistry	
CHM 142	College Chemistry	3
CHM 144	College Chemistry Laboratory	2
CHM 145	College Chemistry Laboratory	2
CHM 241	Organic Chemistry	4-10
& CHM 242	and Organic Chemistry	
& CHM 244	and Organic Chemistry Laboratory	
& CHM 245	and Organic Chemistry Laboratory	

or CHM 231	Fundamentals of Organic Chemistry	
CHM 332 & 332L	Outlines of Biochemistry and Outlines of Biochemistry Lab	4
MTH 151 or STA 261	Calculus I Statistics	4-5
PHY 161	Physics for the Life Sciences with Laboratory I	4

Earn 1 Tool	18-21
--------------------	--------------

Applied Social Research Minor
Commerce Minor
Data Intelligence Minor
Forensic Investigation Minor
GIS Certificate
Psychological Science Minor
Self-Designed Tool (department approval required)

52 hours at the 200-level or above

Total Credit Hours	81-91
---------------------------	--------------

¹ Limits of 3 hours total of BSC 321 or BSC 340 to count for the degree.

Communication Studies- Bachelor of Arts in Applied Communication

For information contact the Department of Interdisciplinary and Communication Studies at ICS@MiamiOH.edu or 513-785-3055.

Communication is broadly defined as the process people use to generate meaning through messages across a variety of different contexts, channels, and cultures. The Communication Studies major provides students with a strong core foundation in the study of communication, while also providing students advanced studies in particular communication contexts. As a communication studies graduate, students could pursue a wide variety of careers ranging from Training and Development Manager, Meeting and Event Planning, Advertising and Promotions Managers, or Sales Manager. The Communication Studies program emphasizes human identity and diversity, quantitative research competency, and 21st century communication skills.

Students with a major in Health Communication or the Department of Media, Journalism, and Film may not declare an additional major in Communication Studies.

Program Requirements

Code	Title	Credit Hours
Core Requirements		
APC 239	Theories of Communication	3
APC 339	Introduction to Organizational Communication	3
APC 363	Advanced Methods in Applied Communication	3
MJF 105	Media, Culture and You	3
STA 261	Statistics	4

STC 135	Principles of Public Speaking	3
STC 136	Introduction to Interpersonal Communication	3
STC 262	Research Methods	3
Intercultural		3

STC 236	Intercultural Communication
---------	-----------------------------

Or a 202-level language course

Communication Contexts (select five classes for 15 credit hours)	15
---	-----------

APC 201	Introduction to Health and Risk Communication
APC 231	Small Group Communication
APC 341	Methods of Rhetorical Criticism
APC 336	Advanced Interpersonal Communication
APC 428	Communication in Conflict Management
APC 438	Political Communication
MAC 325	Social Media Cultures
MAC 447	Senior Seminar in Applied Media Analysis

Advanced Electives (select two classes for 6 credit hours)	6
---	----------

APC 311	Science and Medicine in Public Communication
APC 312	Computer-mediated Communication and Social Media
APC 332	Argumentation and Debate
APC 340	Internship
APC 377	Independent Studies
APC 450	Topics in Applied Communication (maximum 9, if content changes)
BIS 315	Comic Books in American Culture
ENG 413	Grant and Proposal Writing
STC 431	Persuading Audiences
STC 437	Media, Advocacy & Social Change

Capstone

APC 401	Applied Communication Capstone	3
---------	--------------------------------	---

Total Credit Hours	52
---------------------------	-----------

Community Arts and Cultures - Bachelor of Arts

The Bachelor of Arts in Community Arts and Cultures degree prepares students for a variety of careers in the arts and related fields through its focus on critical thinking, creative problem solving, community involvement, collaborative enterprise, and practical methods for communicating aesthetic and cultural values. This interdisciplinary program develops skills vital to building community through the creation, organization, implementation, and funding of community-based projects and organizations. Open to students interested in art-making as well as those looking to creatively and collaboratively advocate for and address broader social, cultural, and community issues through visual, digital, and printed media.

Program Requirements

Code	Title	Credit Hours
Community Arts and Cultures Core		
CMA 101	Introduction to Community Arts	1
CMA 301	Community Arts Practicum (prerequisite NCS 202 Intro to non-profits and NGOs)	3
CMA 401	Capstone in Community Arts	3
NCS 202	Introduction to Nonprofits and NGOs (required, prerequisite for CMA 301)	3
Foundations (minimum 3 credit hours at 300 or 400 level)		18
Creative Practices I		
Select minimum 3 credit hours from the following:		
ART 111	Visual Fundamentals: Design and Composition	
ART 121	Observational Drawing	
ART 122	Drawing II: Drawing Projects	
ART 171	Visual Fundamentals: Narrative & Sequence	
Creative Practices II		
Select minimum 3 credit hours from the following:		
ART 221	Intermediate Drawing 1	
ART 222	Intermediate Drawing 2	
ART 231	Painting I	
ART 241	Printmaking I	
ART 271	Sculpture I	
ART 320	Thematic Studio	
ART 331	Painting II	
ART 341	Printmaking II	
ENG 226	Introduction to Creative Writing: Short Fiction and Poetry	
MJF 146	Foundations of Production	
THE 101	Introduction to Theatre: Drama and Analysis	
THE 123	Acting for the Non-Major: Text and Performance	
THE 191	Experiencing Theatre	
Cultural Contexts		
Select minimum 6 credit hours from the following:		
ART/AMS 183	Images of America	
ART 187	Art and Society: Prehistoric to Medieval	
ART 188	Art and Society: Renaissance to Modern	
ART 283	Modern America	
ART 389	The History of Photography	
CLS 121	Introduction to Classical Mythology	
CLS 235	Women in Antiquity	
CRE 338	African American Writing, 1946-Present	
DST 312	American Deaf Cultures	

ENG 338	African American Writing, 1946-Present	
FST 206	Diversity and Culture in American Film	
HST 111	Survey of American History to 1877	
HST 112	Survey of American History: From 1877 to the Present	
HST 197	World History to 1500	
HST 198	World History Since 1500	
HST 296	World History Since 1945: Conflict and Community	
MJF 105	Media, Culture and You	
MUS 135	Understanding Jazz, Its History and Context	
MUS 185	Multicultural Perspectives in Music	
MUS 189	Captivating Sounds: The Beauty of Western Music	
PHL 131	Introduction to Ethics	
SPA 312	American Deaf Cultures	
Communication and Organizations (minimum 3 credit hours at the 300 or 400 level)		
Select minimum 9 credit hours from the following:		9
APC 312	Computer-mediated Communication and Social Media	
APC 339	Introduction to Organizational Communication	
APC 428	Communication in Conflict Management	
ART 256	Design, Perception & Audience	
BIS 305	Integrative Writing in Global Contexts	
CMR 302	Financial Information for Managers	
CMR 401	Leadership Decision Skills	
EGS 215	Workplace Writing	
EGS 301	Writing and the Professions	
EGS 305	Integrative Writing in Global Contexts	
ENG/IMS 224	Professional Communication & Digital Rhetoric	
ENG 313	Technical Writing	
ENG 413	Grant and Proposal Writing	
MAC 212	Media, Representation, and Society	
MAC 325	Social Media Cultures	
STC 236	Intercultural Communication	

Total Credit Hours

37

Criminal Justice- Bachelor of Science in Criminal Justice

For more information about criminal justice, email JCS@MiamiOH.edu (criminaljustice@MiamiOH.edu) or call 513-785-7702.

The Bachelor of Science in criminal justice at Miami's Regional locations offers students a comprehensive and dynamic understanding of crime, justice, punishment and corrections, policing, and the legal system within the context of a liberal arts education. Advancing analytical and critical thinking, problem solving, oral and written communication, technology, quantitative literacy, ethics, application of learning in the field, civic learning, and an appreciation

of diversity and of the increasingly global world are core objectives of the program. The idea is to graduate students who possess the knowledge, experiences, and skills needed to lead a meaningful, reflective life, who will be productive and contributing citizens, who will be successful in their criminal justice careers, and who will be life-long learners.

Students majoring in criminal justice are not permitted to double major in forensic investigation.

Program Requirements

(124 semester hours)

Code	Title	Credit Hours
Core Requirements		
CJS 101	Introduction to the Criminal Justice Studies	3
CJS 125	Law and the Courts	3
CJS 211	Policing in America	3
CJS 220	Criminal Justice Field Experience	3
CJS 231	Criminal Procedure	3
CJS 271	Introduction to Criminal Behavior	3
CJS 281	Corrections in America	3
CJS 451	Comparative Justice Systems	3
CJS 461	Applied Research Methods in Criminal Justice	3
CJS 485	Capstone: Seminar in Criminal Justice	3
STA 261 or CMR 181	Statistics Computers and Business	3-4
Additional Courses		
Complete 15 hours or more criminal justice courses beyond the core requirements		15
Total Credit Hours		48-49

Digital Commerce - Bachelor of Science in Commerce

For information, contact the Department of Commerce at Voice of America Learning Center Room 117, (513) 785-7706.

Commerce is the broad system of organizations producing goods and services for their markets to satisfy their stakeholders. The Bachelor of Science in Commerce, Digital Commerce major includes courses that prepare students to work in Digital Commerce positions with a focus on the needs of small businesses. Students cannot double major in Digital Commerce and any other B.S. in Commerce majors.

Program Requirements

Code	Title	Credit Hours
Commerce Core		
CMR 101	Introduction to Accounting I	3
CMR 105	Introduction to Marketing	3
CMR 108	Introduction to Business Law	3
CMR 111	Introduction to Management I	3
CMR 207	Management Planning and Control	3

CMR 211	Economics for Commerce	3
CMR 244	Introduction to Global Business	3
CMR 282	Computer-Based Business Analysis	3
CMR 302	Financial Information for Managers	3
CMR 495	Strategic Management for Commerce	3
STA 261	Statistics	4
Digital Commerce Major		
CMR 242	Management of Small Business Operations	3
CMR 286	Digital Commerce	3
IMS 392 or CMR 281	Content Marketing Digital Media & Organizational Communication	3
IMS 414 or CMR 285	Web and Social Media Analytics Business Information Management	3
CMR 341	Internet Marketing	3
CMR 449	Senior Practicum in Digital Commerce	3
Total Credit Hours		52

Engineering Technology- Bachelor of Science in Applied Science

For more information please contact the Department of Engineering Technology in room 207 Phelps Hall, Hamilton campus, or by phone 513-785-1804.

This department offers Associate Degree programs in Electrical and Computer Engineering Technology and Mechanical Engineering Technology and baccalaureate completion degree programs. All programs are offered on the regional campuses in Hamilton and Middletown. The baccalaureate programs are only for students who have earned an associate degree. The associate degree programs are described in the Hamilton and Middletown chapter.

Educational Objectives

We consider program educational objectives as the general characteristics our graduates demonstrate to the workplace, graduate school, the military, or their endeavors after they leave Miami. We typically measure these characteristics initially at graduation by asking graduates if they feel that they have achieved these characteristics and then periodically thereafter through employer surveys, letters from graduates, advisory council, graduate school accomplishments, and surveys of graduates who have been out for a while. These characteristics should become most evident within the first few years after graduation.

The Engineering Technology Department's graduates are able to:

- apply math and physics principles to the solution of engineering technical problems.
- use applied skills to identify, evaluate, and solve complex technical problems.
- use engineering computer software to facilitate engineering problem solving.
- function effectively in team-oriented activities.
- demonstrate the knowledge of expected standards of ethical and professional conduct.

- verbally communicate ideas.
- prepare well-written technical reports.

In addition, our graduates will have the necessary fundamentals to pursue life-long learning.

Program-Specific Educational Objectives

Electrical and Computer Engineering Technology (B.S.)

The ECET BS concentration produces graduates who:

- Are able to analyze and design complex electrical and computer components and systems.
- Are able to effectively and efficiently manage electrical and computer engineering projects.
- Are able to set-up experimental testing procedures and selectively utilize data to reinforce electrical and computer engineering concepts.

Electro-Mechanical Engineering Technology (B.S. Completion Program)

The EMET program produces graduates who:

- possess the ability to apply theoretical knowledge to solve engineering technology problems associated with instrumentation and control systems.
- are knowledgeable of modern applications in process control systems.

Mechanical Engineering Technology (B.S.)

The MET program produces graduates who:

- are able to analyze and design complex mechanical components and systems.
- are able to set up experimental testing procedures and selectively utilize data to reinforce engineering concepts.
- have a basic understanding of modern manufacturing methods used to facilitate the production of consumer products.
- are able to effectively and efficiently manage engineering projects (B.S. only).

Robotics Engineering Technology (B.S. Completion Program)

- possess the ability to apply theoretical knowledge to solve engineering technology problems associated with robotics and automation systems.
- are able to analyze and design complex robotics systems and components.
- possess the ability to integrate mechanical, electrical and computer science skills to design and integrate robot platforms for solving real world industrial applications of robotics.
- are able to use communication skills in oral, written, visual and graphic modes within interpersonal, team, and group environments.

Credit/No Credit Policy

All required engineering technology courses and prerequisite mathematics and statistics courses should be taken for a grade.

Program Requirements

(124 semester hours)

Electrical and Computer Concentration

The Engineering Technology baccalaureate degree (Electrical and Computer concentration) is a completion program for graduates of associate degree programs in electrical/electronics, electrical and computer, or similar engineering technology programs and for computer information technology or similar programs. The objective of this program is to allow students who possess an associate degree in these areas to complete the bachelor's degree in approximately the equivalent of two years of full-time work.

Graduates are engineers prepared to fill industrial positions in areas directly related to product design, process control, testing, manufacturing, sales, and service. Typical Electrical and Computer Engineering jobs include Communications Engineering, Electronics Engineering, Biomedical Engineering, Sales Engineering, Service Engineering, Controls Engineering, Software Engineering, System Design Engineering, Applications Engineering and R&D Technologist.

This program requires the completion of an Associate Degree from an accredited college or university in Electrical/Electronic, Electrical and Computer, or similar engineering technology program; or computer information technology or similar program.

- The following General Education and Technical courses are expected to have been taken within the Associate Degree's with a minimum of 60 semester hours.
- If an equivalent to any of these courses has not been completed already, they must be taken at Miami University to bridge the Associate Degree and Bachelor completion.

Code	Title	Credit Hours
Foundation Requirements (60 semester hours minimum)		60
General Education Courses from Associate Degree or as a Bridge to a Bachelor's Completion.		
ECO 201 or ECO 202	Principles of Microeconomics Principles of Macroeconomics	
ENG 111	Composition and Rhetoric	
EGS 215 or ENG 313	Workplace Writing Technical Writing	
MTH 151	Calculus I	
PHY 161 or PHY 191	Physics for the Life Sciences with Laboratory I General Physics with Laboratory I	
PHY 162 or PHY 192	Physics for the Life Sciences with Laboratory II General Physics with Laboratory II	
STC 135 or STC 136	Principles of Public Speaking Introduction to Interpersonal Communication	

Technical Courses from Associate Degree or as a Bridge to a Bachelor's Completion

CSE 163	Introduction to Computer Concepts and Programming	
or CSE 153	Introduction to C/C++ Programming	
ENT 192	Circuit Analysis I	
ENT 193	Circuit Analysis II	
ENT 196	Electronics	
ENT 293	Digital Systems	
ENT 294	Local Area Networks	
ENT 295	Microprocessor Technology I	

Program Course Requirements
General Education Requirements
If Associate Degree is from Miami:

Global Citizenship Perspectives Area 4 Elective (Diversity, Equity, & Inclusion)	3
--	---

Arts and Humanities Perspective Area 3 Elective	3
---	---

Global Citizenship Perspectives Area 4 Elective (Global Inquiry)	3
--	---

If Associate Degree is not from Miami:

Ohio Transfer 36

OR

Miami Plan Completion
Engineering Technology Requirements

CHM 141	College Chemistry	3
CHM 144	College Chemistry Laboratory	2
ENT 271	Mechanics I: Statics	3
ENT 301	Dynamics	3
ENT 302	Fundamentals of Signals and Systems	3
ENT 303	Digital Signal Processing Technology	3
ENT 311	Process Control Interface Design	3
ENT 316	Project Management	3
ENT 387	Embedded Systems Technology	3
ENT 401	Computerized Instrumentation	3
ENT 402	Industrial Automation Lab	3
ENT 403	Wireless Communication and Networks	3
ENT 418	Electro-Mechanical Control Systems	3
ENT 497	Senior Design Project	2
ENT 498	Senior Design Project	2
MTH 222	Introduction to Linear Algebra	3
MTH 251	Calculus II	4
MTH 245	Differential Equations for Engineers	3
STA 301	Applied Statistics	3
or STA 261	Statistics	

Global Citizenship Perspectives Area 4 Elective - (Intercultural Consciousness or Global Inquiry)	3
--	---

General Education Courses from Associate Degree or as a Bridge to a Bachelor's Completion.

Total Credit Hours 127

Electro-Mechanical Engineering Technology (B.S. Completion Program)

The EMET program produces graduates who:

- possess the ability to apply theoretical knowledge to solve engineering technology problems associated with instrumentation and control systems.
- are knowledgeable of modern applications in process control systems.

The Electro-Mechanical Concentration is an Engineering Technology baccalaureate degree completion program for graduates of associate degree programs in electrical/electronics, mechanical, electro-mechanical or similar engineering technology programs. The objective of this program is to allow students who possess an associate degree in these areas to complete the bachelor degree in approximately the equivalent of two years of full-time work (64-70 semester hours). This program is accredited by the Engineering Technology Accreditation Commission of ABET (111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone, 410-347-7700, <http://www.abet.org/>).

Graduates are engineers prepared to fill industrial positions in areas directly related to industrial automation, scientific programming, product design, process control, testing, manufacturing, sales, and service. Typical Electro-Mechanical Engineering duties may include working in teams involved with product analysis/design, instrumentation and control, CAD/CAM product design, laboratory testing services, product sales and service, product application, and the design of systems that require a hardware/software interface.

This program requires the completion of an Associate Degree from an accredited college or university in Electrical, Mechanical, Electro-Mechanical or similar engineering technology program.

Code	Title	Credit Hours
Foundation Requirements (60 semester hours minimum)		60
General Education Courses from Associate Degree or as a Bridge to a Bachelor's Completion.		
ECO 201	Principles of Microeconomics	
or ECO 202	Principles of Macroeconomics	
ENG 111	Composition and Rhetoric	
EGS 215	Workplace Writing	
or ENG 313	Technical Writing	
MTH 151	Calculus I	
STC 135	Principles of Public Speaking	
or STC 136	Introduction to Interpersonal Communication	
Select one of the following:		
PHY 161	Physics for the Life Sciences with Laboratory I	
or PHY 191	General Physics with Laboratory I	
PHY 162	Physics for the Life Sciences with Laboratory II	
or PHY 192	General Physics with Laboratory II	
Technical Courses from Associate Degree or as a Bridge to a Bachelor's Completion.		
CSE 153	Introduction to C/C++ Programming	

or CSE 163	Introduction to Computer Concepts and Programming
ENT 135	Computer-Aided Drafting
ENT 151	Engineering Materials
ENT 192	Circuit Analysis I
ENT 193	Circuit Analysis II
ENT 196	Electronics
ENT 271	Mechanics I: Statics
ENT 272	Mechanics II: Strength of Materials
ENT 293	Digital Systems

Program Course Requirements**General Education Requirements**

If Associate Degree is from Miami:

Arts and Humanities Perspective Area 3 Elective 3

Global Citizenship Perspectives Area 4 Elective (Diversity, Equity, & Inclusion) 3

Global Citizenship Perspectives Area 4 Elective (Global Inquiry) 3

If Associate Degree is not from Miami:

Ohio Transfer 36

OR

Miami Plan Completion**Engineering Technology Requirements ¹**

CHM 141 College Chemistry 3

CHM 144 College Chemistry Laboratory 2

ENT 301 Dynamics 3

ENT 310 Fluid Mechanics 3

ENT 311 Process Control Interface Design 3

ENT 316 Project Management 3

ENT 401 Computerized Instrumentation 3

ENT 402 Industrial Automation Lab 3

ENT 407 Modern Manufacturing Systems 3

ENT 418 Electro-Mechanical Control Systems 3

ENT 497 Senior Design Project 2

ENT 498 Senior Design Project 2

MTH 251 Calculus II 4

MTH 245 Differential Equations for Engineers 3

STA 301 Applied Statistics 3

or STA 261 Statistics

Additional Bridge Courses ² 9

Global Citizenship Perspectives Area 4 (Intercultural Consciousness or Global Inquiry) Elective 3

Total Credit Hours 124¹ This electro-mechanical concentration of courses provides depth in mechanical, electrical, and software integration necessary for automation.² Students with an Associate Degree in Electrical and Computer Engineering Technology, or similar program, must take ENT 151, ENT 271, and ENT 272. Students with an Associate Degree in Mechanical Engineering Technology, or similar program, must take ENT 193, ENT 196, and ENT 293.

Mechanical Engineering Technology Concentration

The Engineering Technology baccalaureate degree (Mechanical Engineering Technology concentration) is a completion program for graduates of associate degree programs in mechanical engineering technology. The objective of this program is to allow students who possess an associate degree in this area to complete the bachelor degree in approximately the equivalent of two years of full-time work (64-70 semester hours). This program is accredited by the Engineering Technology Accreditation Commission of ABET (111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone, 410-347-7700, <http://www.abet.org/>).

Mechanical Engineering Technology focuses on the applied aspects of mechanical and thermal-fluid analysis of the components in mechanisms, machines, products, and systems. The program requires a thorough understanding of applied mathematics and the engineering sciences. Students will develop the essential skills needed to apply experimental and empirical techniques to the study of systems and the solution of problems. This knowledge is used to research concepts, apply modeling methods, simulate and test operating conditions and their impact on the designed systems, and synthesize different elements to obtain an optimum design of a specific product.

Industry is in need of qualified mechanical engineers who are familiar with measurement and test techniques in mechanical engineering, Computer Aided Engineering (CAE) including finite element analysis (FEA), computer-aided design (CAD), and analysis and the concepts of advanced mechanical design to the creation of sophisticated machines and systems.

The mechanical engineering technology concentration provides depth of study in mechanical and manufacturing engineering technology built on a solid foundation of mathematics, physics, and computer science. The program also provides breadth through required studies in economics, humanities, social science, global perspectives, and liberal arts.

Graduates will find employment opportunities in a diverse spectrum of professional fields. Many mechanical engineers work on team projects within manufacturing-related areas such as testing, analysis, design, and the development of products. Graduates may also continue their education at graduate engineering technology/ engineering levels.

This program requires the completion of an Associate Degree from an accredited college or university in Mechanical Engineering Technology, or similar engineering technology program.

- The following General Education and Technical courses are expected to have been taken within the Associate Degree's minimum 60 semester hours.
- If an equivalent to any of these courses has not been completed already, they must be taken at Miami University to bridge the Associate Degree and Bachelor completion.

Code	Title	Credit Hours
Foundation Requirements (60 semester hours minimum)		60
ECO 201	Principles of Microeconomics	

or ECO 202	Principles of Macroeconomics	
ENG 111	Composition and Rhetoric	
EGS 215	Workplace Writing	
or ENG 313	Technical Writing	
MTH 151	Calculus I	
PHY 161	Physics for the Life Sciences with Laboratory I	
or PHY 191	General Physics with Laboratory I	
STC 135	Principles of Public Speaking	
or STC 136	Introduction to Interpersonal Communication	
Technical Courses from Associate Degree		
CSE 163	Introduction to Computer Concepts and Programming	
ENT 135	Computer-Aided Drafting	
ENT 137	Introduction to Engineering Technology	
ENT 151	Engineering Materials	
ENT 152	Computer-Aided Manufacturing I	
ENT 192	Circuit Analysis I	
ENT 235	Computer-Aided Design	
ENT 252	Computer-Aided Manufacturing II	
ENT 271	Mechanics I: Statics	
ENT 272	Mechanics II: Strength of Materials	
ENT 278	Mechanics III: Analysis of Machine Components	

Program Course Requirements

General Education Requirements

If Associate Degree is from Miami:

Arts and Humanities Perspective Area 3 Elective	3
Global Citizenship Perspectives Area 4 Elective (Diversity, Equity, & Inclusion)	3
Global Citizenship Perspectives Area 4 Elective (Global Inquiry)	3

If Associate Degree is not from Miami:

Ohio Transfer 36

OR

Miami Plan Completion

Engineering Technology Required Courses

CHM 141	College Chemistry	3
CHM 144	College Chemistry Laboratory	2
ENT 301	Dynamics	3
ENT 310	Fluid Mechanics	3
ENT 312	Thermodynamics and Heat Power	3
ENT 314	Mechanisms for Machine Design	3
ENT 316	Project Management	3
ENT 355	Introduction to Finite Element Analysis	3
ENT 404	Experimentation Techniques	3
ENT 415	Heat Transfer with Applications	3
ENT 478	Product Development in Engineering	3
ENT 497	Senior Design Project	2
ENT 498	Senior Design Project	2
MTH 245	Differential Equations for Engineers	3
MTH 251	Calculus II	4

PHY 162	Physics for the Life Sciences with Laboratory II	4-5
or PHY 192	General Physics with Laboratory II	
STA 301	Applied Statistics	3-4
or STA 261	Statistics	
Select one of the following:		3
MTH 124	Trigonometry	
MTH 222	Introduction to Linear Algebra	
MTH 231	Elements of Discrete Mathematics	
Global Citizenship Perspectives Area 4 (Intercultural Consciousness or Global Inquiry)		3

Total Credit Hours

125-127

Robotics Engineering Technology (B.S. Completion Program)

The Robotics Engineering Technology Concentration is an Engineering Technology baccalaureate degree completion program for graduates of associate degree programs in electrical/electronics, mechanical, electro-mechanical or similar engineering technology programs. The objective of this program is to allow students who possess an associate degree in these areas to complete the bachelor's degree in approximately the equivalent of two years of full-time coursework (64-70 semester hours).

Due to the multidisciplinary nature of their background, graduates of the program have the necessary skills to design or manage systems resulting from the integration of diverse components and technologies. Engineers working in this field design solutions to address problems in areas such as factory automation, building automation, and motion control and robotics. Graduates are engineers prepared to fill industrial positions in areas directly related to design and development of robotics systems and robot platforms, robotics systems engineering, Factory automation, Building Automation, product design, Motion control and robotics, sales, and service.

This program requires the completion of an Associate Degree from an accredited college or university in Electrical, Mechanical, Electro-Mechanical, Robotics or similar engineering technology program.

Code	Title	Credit Hours
Foundation Requirements (60 semester hours minimum)		60
ECO 201	Principles of Microeconomics	
or ECO 202	Principles of Macroeconomics	
ENG 111	Composition and Rhetoric	
EGS 215	Workplace Writing	
or ENG 313	Technical Writing	
MTH 151	Calculus I	
STC 135	Principles of Public Speaking	
or STC 136	Introduction to Interpersonal Communication	
PHY 161	Physics for the Life Sciences with Laboratory I	
or PHY 191	General Physics with Laboratory I	
PHY 162	Physics for the Life Sciences with Laboratory II	
or PHY 192	General Physics with Laboratory II	

Technical Courses from Associate Degree or as a Bridge to a Bachelor's Completion.

CSE 153 or CSE 163	Introduction to C/C++ Programming Introduction to Computer Concepts and Programming	
ENT 135	Computer-Aided Drafting	
ENT 192	Circuit Analysis I	
ENT 193	Circuit Analysis II	
ENT 196	Electronics	
ENT 271	Mechanics I: Statics	
ENT 272	Mechanics II: Strength of Materials	
ENT 293	Digital Systems	

Program Course Requirements

General Education Requirements

If Associate Degree is from Miami:

Arts and Humanities Perspective Area 3 Elective	3
Global Citizenship Perspectives Area 4 Elective (Diversity, Equity, & Inclusion)	3
Global Citizenship Perspectives Area 4 Elective (Global Inquiry)	3

If Associate Degree is not from Miami:

Ohio Transfer 36

OR

Miami Plan Completion

Engineering Technology Requirements

CHM 141 & CHM 144	College Chemistry and College Chemistry Laboratory	5
ENT 296	Programmable Logic Controllers	3
ENT 301	Dynamics	3
ENT 311	Process Control Interface Design	3
ENT 313	Introduction to Robotics Systems	3
ENT 316	Project Management	3
ENT 401	Computerized Instrumentation	3
ENT 413	Industrial Robotics Lab	3
ENT 417	Integrated Robotics Systems Engineering	3
ENT 418	Electro-Mechanical Control Systems	3
ENT 497	Senior Design Project	2
ENT 498	Senior Design Project	2
MTH 251	Calculus II	4
MTH 245	Differential Equations for Engineers	3
STA 301 or STA 261	Applied Statistics Statistics	3
Global Citizenship Perspectives Area 4 (Intercultural Consciousness or Global Inquiry)		3
Additional Bridge Courses (Technical Electives Transferred from Associate Degree)		6

Total Credit Hours **124**

English Studies - Bachelor of Arts

For more information contact the department of Languages, Literatures, and Writing at LLW@MiamiOH.edu or 513-785-3232.

A Bachelor of Arts with a major in English Studies prepares students to be critical and creative readers, thinkers, and writers. The major will develop students' ability to acquire, analyze, evaluate, and communicate knowledge in multiple mediums. Students develop these powers of argument and analysis by working with diverse texts and examining the impact of gender, sexuality, race, ethnicity, nationality, class, and ability on the production and reception of texts. Graduates will possess the analytical and communication skills that are critical to long-term professional success in many career fields and to contribute to their communities as responsible, informed citizens. The BA in English Studies will reflect the rich and varied nature of the discipline, allowing students to draw on courses in literature, creative writing, professional writing and rhetoric, cultural studies, and linguistics.

Program Requirements

Code	Title	Credit Hours
Core Courses		
EGS 301	Writing and the Professions	3
EGS 495	Capstone in English Studies	3
ENG 298	Introduction to Literary and Cultural Studies	3
Distribution Requirements		
Readings in Literary History		
Select nine hours of the following: ¹		9
Survey Courses:		
ENG 221	Shakespeare and Film	
ENG 129	Books You Need To Read	
ENG 134	Introduction to Shakespeare	
ENG 163	Literature and Travel	
ENG 263	Literature and Medicine	
ENG 272	English Literature to 1660	
ENG 273	English Literature 1660-1900	
ENG 274	English Literature 1901 to Present	
ENG 275	American Literature to 1900	
ENG 276	American Literature 1900 to the Present	
ENG 327	Medieval Literature	
Genre Courses:		
ENG 122	Popular Literature	
ENG 123	Introduction to Poetry	
ENG 124	Introduction to Fiction	
ENG 125	Introduction to Drama	
ENG 220	Literature and Film	
ENG 231	The Short Story	
ENG 235	Classical Hollywood Cinema	
ENG 236	Experimental Film	
ENG 262	Children's Literature	

ENG 293	Contemporary American Fiction
ENG 350	Topics in Film
ENG 440	Major English and American Writers
Studies in Writing	
Select nine hours of the following: ² 9	
EGS 215	Workplace Writing
EGS/BIS 305	Integrative Writing in Global Contexts
EGS 319	Medical Writing
EGS 420	Topics in Writing
ENG 171	Humanities and Technology
ENG 223	Rhetorical Strategies for Writers
ENG 224	Professional Communication & Digital Rhetoric
ENG 225	Advanced Composition
ENG 226	Introduction to Creative Writing: Short Fiction and Poetry
ENG 313	Technical Writing
ENG 320	Intermediate Creative Writing: Fiction
ENG 323	Intermediate Creative Writing: Creative Nonfiction
ENG 330	Intermediate Creative Writing: Poetry
ENG 411	Visual Rhetoric
ENG 413	Grant and Proposal Writing
Multicultural and Linguistic Perspectives	
Select nine hours of the following: 9	
ENG 169	Disability and Literature
ENG 232	Women Writers
ENG 237	GLBTQ Literature
ENG 246	Native American Literature
ENG 248	Asian American Literature
ENG/FST 249	Asian & Asian American Cinema
ENG 254	Caribbean, Latin American and Latinx Literatures
ENG 336	African American Writing, 1746-1877
ENG 337	African American Writing, 1878-1945
ENG 338	African American Writing, 1946-Present
ENG 348	Ethnic American Literatures
LIN 201	Introduction to Linguistics
LIN 301	History of the English Language
LIN 302	Structure of Modern English
SPN 101	Beginner's Course
SPN 102	Beginner's Course
SPN 111	Intensive Basic Spanish
SPN 201	Second Year Spanish
SPN 202	Second Year Spanish
SPN 311	Grammar Review and Introductory Composition
SPA 101	Beginning ASL I
SPA 102	Beginning ASL II
SPA 201	Intermediate ASL I
SPA 202	Intermediate American Sign Language II

Advanced English Studies	
Select six hours of the following: 6	
EGS 320	Readings in Literatures and Cultures
EGS 390	Special Topics in English Studies
EGS 410	Readings in Multicultural Perspectives
EGS 420	Topics in Writing
EGS 421	Exploring Genre in Diverse Contexts
EGS 422	Creative Thinking, Reading, and Writing
EGS 460	Issues in Literary and Cultural Studies
Total Credit Hours	42

¹ At least one course must be a survey course and at least one course must focus on genre.

² At least one course must be at the 300 or 400 level.

Health Communication- Bachelor of Science in Applied Communication

For information contact the Department of Interdisciplinary and Communication Studies at ICS@MiamiOH.edu or 513-785-3055.

Health communication is the study and practice of using “communication strategies to inform and influence individual health related decisions that enhance health” (CDC). Ultimately, the goal of health communication is to improve quality of life and public health. Understanding the role of communication in influencing individual health decisions and overall health outcomes is a crucial skill that prepares you for a variety of careers. As a health communication graduate, you could pursue a career as a community health campaign worker, patient advocate, peer health promoter, public relations and health communication specialist within hospitals and other medical organizations, or you could pursue graduate study in communication, public health, or related disciplines. Grounded in an integrative understanding of the relationship between theory and praxis, the program emphasizes human identity and diversity, quantitative and qualitative research competency, 21st century communication skills, and public advocacy. In addition to core courses in Applied Communication, students will take courses in English, Statistics, and Nursing with the option to customize curricular options.

Students with a major in Communication Studies or the Department of Media, Journalism, and Film may not declare an additional major in Health Communication.

Program Requirements

Code	Title	Credit Hours
Core Requirements		
APC 201	Introduction to Health and Risk Communication	3
APC 363	Advanced Methods in Applied Communication	3
APC 401	Applied Communication Capstone	3
ENG 313	Technical Writing	3
NSG 321	U. S. Health Care System and Culture	3

STA 261	Statistics	4
STC 262	Research Methods	3

Ethics Course

Select one of the following: 3

PHL 131 Introduction to Ethics

Introductory Communication Course

Select one of the following: 3

APC 239 Theories of Communication

STC 136 Introduction to Interpersonal Communication

Additional Writing or Technological Course

Select one of the following: 3

APC 312 Computer-mediated Communication and Social Media

BIS/EGS 305 Integrative Writing in Global Contexts

CIT 201 Advanced Spreadsheets and Analytics

CIT 205 Agile Launchpad I

CIT 431 Health Information Technology I

EGS 319 Medical Writing

ENG 223 Rhetorical Strategies for Writers

ENG/IMS 224 Professional Communication & Digital Rhetoric

ENG 413 Grant and Proposal Writing

Intercultural Competence Course

Select one of the following: 3

ATH 175 Global Cultural Diversity

ATH 185 Cultural Diversity in the U.S.

CIT 448 Global and Strategic Issues in Information Technology

CRE 151 Introduction to Critical Race and Ethnic Studies

IDS 159 Strength Through Cultural Diversity

STC 236 Intercultural Communication

Health Electives

Select one of the following: 3

APC 311 Science and Medicine in Public Communication

CMR 224 Medical Terminology

FSW/SOC/WGS 221 Sexualities

PHL 375 Medical Ethics

SOC 357 Medical Sociology

SOC 358 The Sociology of Mental Disorders

Advanced Electives

Select one of the following: 3

APC 336 Advanced Interpersonal Communication

APC 339 Introduction to Organizational Communication

APC 340 Internship

APC 341 Methods of Rhetorical Criticism

APC 428 Communication in Conflict Management

APC 438 Political Communication

APC 450 Topics in Applied Communication

MAC 447 Senior Seminar in Applied Media Analysis

Total Credit Hours**40**

Health Information Technology- Bachelor of Science in Information Technology

For information, contact the CIT Department Office on the Hamilton campus at 301 Mosler Hall, 513-785-3132.

The Bachelor of Science in Information Technology with a major in Health Information Technology addresses the technology and processes used by health care providers and related organizations. The program includes instruction in the technology used to acquire and direct the flow of information between the clinical, administrative, and financial systems in the healthcare industry as well as general principles of information technology. Students who complete the program will obtain a strong background in technology including database, problem-solving, systems analysis, and project management skills as well as a foundation in the culture of the healthcare system. This program prepares students for graduate studies and/or jobs that integrate healthcare and technology in the evolving U.S. healthcare system. Students who graduate from this program will have a strong skill set that includes data analytics, data visualization, and agile practices including ICAgile professional certification(s).

Curriculum Requirements

Students must earn a minimum cumulative GPA of 2.00 for all program requirements.

Program Requirements

(98 Semester hours)

Code	Title	Credit Hours
Core Courses		
BIO 161	Principles of Human Physiology	4
BIO 232	Human Heredity	3
BIO 325	Pathophysiology	4
CIT 101	Computing Skills (S) ¹	1
CIT 168	Information Technology Tools and Techniques for Organizations	4
CIT 201	Advanced Spreadsheets and Analytics	3
CIT 205	Agile Launchpad I (ICAgile)	3
CIT 214	Database Design and Development	3
CIT 231	Healthcare Information Technology Around the World	3
CIT 258	Introduction to Global Cybersecurity	3
CIT/CSE 262	Technology, Ethics, and Global Society	3
CIT 268	Introduction to Human-Computer Interaction	3
CIT 273	Web Application Development	3
CIT 331	Healthcare Workflow and Process Improvement	3

CIT 338	Business Intelligence Tools	3
CIT 348	Information Management and Retrieval	3
CIT 357	Current Practices in Information Technology	3
CIT 376	IT for Organizations	3
CIT 431	Health Information Technology I	3
CIT 448	Global and Strategic Issues in Information Technology	3
CMR 224	Medical Terminology	3
CSE 163	Introduction to Computer Concepts and Programming	3
ENG 111	Composition and Rhetoric	3
EGS 215	Workplace Writing	3
or EGS 305	Integrative Writing in Global Contexts	
ENG 313	Technical Writing	3
or EGS 215	Workplace Writing	
MTH 122	College Algebra (or higher)	3
NSG 321	U. S. Health Care System and Culture	3
STA 261	Statistics	3-4
or STA 301	Applied Statistics	
or STA 125	Introduction to Business Statistics	
STC 135	Principles of Public Speaking	3
or STC 136	Introduction to Interpersonal Communication	
Senior Capstone		
CIT 468	Health Information Technology Project Lifecycle	4
Technical Electives		
Select 6 hours of the following: ²		6
CIT 225	Fundamentals of DevOps [ICAgile]	
CIT 253	Contemporary Programming Languages	
CIT 263	Advanced Topics in Programming	
CIT 270	Special Topics in Computer and Information Technology	
CIT 281	Enterprise Network Infrastructure	
CIT 284	Enterprise Server Installation and Configuration	
CIT 286	Designing and Deploying Secure Enterprise Networks	
CIT 306	Agile: Business Value Analysis (ICAgile)	
CIT 307	Agile: Project Management (ICAgile)	
CIT 358	Information Technology Assurance and Security	
CIT 432	Health Information Technology II	
CSE 153	Introduction to C/C++ Programming	
CSE 174	Fundamentals of Programming and Problem Solving	
CSE 271	Object-Oriented Programming	
CSE 274	Data Abstraction and Data Structures	
CSE 283	Data Communication and Networks	

Total Credit Hours **98-99**

¹ Students must take CIT 101S *Computing Skills: Spreadsheets*.

² May not select courses used to meet other program requirements. Other technical electives must be pre-approved.

Hospitality Management - Bachelor of Science in Commerce

For information, contact the Department of Commerce at Voice of America Learning Center Room 117, 513-785-7706.

Commerce is the broad system of organizations producing goods and services for their markets to satisfy their stakeholders. The Bachelor of Science in Commerce Hospitality Management major draws courses from a variety of disciplines to prepare students to work in hospitality management as well as other organizations in managerial and staff capacities. Students are allowed only one CMR major. Double CMR majors are not permitted.

Program Requirements

Code	Title	Credit Hours
Commerce Core		
CMR 101	Introduction to Accounting I	3
CMR 105	Introduction to Marketing	3
CMR 108	Introduction to Business Law	3
CMR 111	Introduction to Management I	3
CMR 207	Management Planning and Control	3
CMR 211	Economics for Commerce	3
CMR 244	Introduction to Global Business	3
CMR 282	Computer-Based Business Analysis	3
CMR 302	Financial Information for Managers	3
CMR 495	Strategic Management for Commerce	3
STA 261	Statistics	4
Hospitality Management Major		
CMR 151	Introduction to Hospitality Management	3
CMR 252	Sanitation & Safety Principles	3
CMR 261	Customer Service & Satisfaction	3
CMR 351	Controlling Food & Beverage Labor Costs	3
CMR 352	Food Service Management	3
CMR 451	Special Events Planning & Management	3
Total Credit Hours		52

Information Technology- Bachelor of Science in Information Technology

For information, contact the CIT Department Office on the Hamilton campus at 301 Mosler Hall, 513-785-3132.

The Bachelor of Science in Information Technology with a major in Information Technology (BSIT) is a broad program of study that prepares students to support the computing infrastructures and

needs of individuals and organizations across a variety of domains. Information Technology professionals apply their skills and knowledge to provide technological solutions for those using systems to produce, store, retrieve, analyze and send information. The BSIT program provides a broad foundation of knowledge in IT problem solving, web applications, ethics, databases, human computer interaction, and a deeper area of specialization including agile management, cybersecurity, software development, or a self designed option (approval required). Students who graduate from this program will have a strong skill set that includes agile practices and ICAgile professional certification(s). Following completion of foundation courses, students select an area of specialization of their choice. The program culminates with a two-course capstone sequence where students will design and complete a significant IT project in their area of specialization.

Curriculum Requirements

Students must earn a minimum cumulative GPA of 2.00 for all program requirements.

Program Requirements

(86 semester hours)

Code	Title	Credit Hours
Core Courses		
Select the following:		
CIT 101	Computing Skills ¹	1
CIT 167	Information Technology People and Practices	2
CIT 168	Information Technology Tools and Techniques for Organizations	4
CIT 205	Agile Launchpad I (ICAgile)	3
CIT 225	Fundamentals of DevOps [ICAgile]	3
CIT 258	Introduction to Global Cybersecurity	3
CIT 214	Database Design and Development	3
CIT/CSE 262	Technology, Ethics, and Global Society	3
CIT 268	Introduction to Human-Computer Interaction	3
CIT 273	Web Application Development	3
CIT 348	Information Management and Retrieval	3
CIT 357	Current Practices in Information Technology	3
CIT 376	IT for Organizations	3
CIT 448	Global and Strategic Issues in Information Technology	3
CSE 163	Introduction to Computer Concepts and Programming	3
Foundation Concentration		
Select one group:		12
Group A		
CIT 281	Enterprise Network Infrastructure	
CIT 284	Enterprise Server Installation and Configuration	
CIT 358	Information Technology Assurance and Security	

CIT 386	Designing/Deploying Secure Networks	
Group B		
CIT 263 or CIT 253	Advanced Topics in Programming Contemporary Programming Languages	
CSE 174	Fundamentals of Programming and Problem Solving	
CSE 271	Object-Oriented Programming	
CSE 274	Data Abstraction and Data Structures	
Group C		
Students must take 1 set of programming courses.		
CSE 174 or CSE 153	Fundamentals of Programming and Problem Solving Introduction to C/C++ Programming	
CSE 271 or CIT 253 or CIT 263	Object-Oriented Programming Contemporary Programming Languages Advanced Topics in Programming	
CIT 306	Agile: Business Value Analysis (ICAgile)	
CIT 307	Agile: Project Management (ICAgile)	
Group D		
Self-Design, petition required		
Senior Capstone		
CIT 457	IT Project Lifecycle I: Requirements and Design	3
CIT 458	IT Project Lifecycle II: Implementation and Deployment	4
Technical Electives		
Select 6 hours of the following: ²		6
CIT 201	Advanced Spreadsheets and Analytics	
CIT 253	Contemporary Programming Languages	
CIT 263	Advanced Topics in Programming	
CIT 270	Special Topics in Computer and Information Technology	
CIT 281	Enterprise Network Infrastructure	
CIT 284	Enterprise Server Installation and Configuration	
CIT 306	Agile: Business Value Analysis	
CIT 307	Agile: Project Management	
CIT 338	Business Intelligence Tools	
CIT 386	Designing/Deploying Secure Networks	
CSE 153	Introduction to C/C++ Programming	
CIT 358	Information Technology Assurance and Security	
CSE 174	Fundamentals of Programming and Problem Solving	
CSE 253	Programming Languages	
CSE 271	Object-Oriented Programming	
CSE 274	Data Abstraction and Data Structures	
CSE 283	Data Communication and Networks	
Additional Courses		
EGS 305	Integrative Writing in Global Contexts	3
ENG 111	Composition and Rhetoric	3
ENG 313 or EGS 215	Technical Writing Workplace Writing	3

MTH 122	College Algebra	3
STA 261	Statistics	3-4
or STA 301	Applied Statistics	
or STA 125	Introduction to Business Statistics	
STC 135	Principles of Public Speaking	3
or STC 136	Introduction to Interpersonal Communication	
Total Credit Hours		86-87

¹ Students must take CIT 101S *Computing Skills: Spreadsheets*.

² May not select courses used to meet other program requirements. Other technical electives must be pre-approved.

Integrative Studies- Bachelor of Integrative Studies

For information, contact the Department of Interdisciplinary and Communication Studies at ICS@MiamiOH.edu or 513-785-3055.

Integrative learning is a process by which students connect knowledge and skills from multiple sources and experiences, apply knowledge and skills in varied settings, analyze diverse points of view, and understand issues contextually. Students in Integrative Studies build a Bachelor's degree that works best for them, by making connections among fields of study that fit their educational, career, and personal goals. Unlike a general studies degree, the BIS incorporates a set of three seminars designed to help students reflect upon their educational options and purposefully design a degree that can work for them now and in the future. The Bachelor of Integrative Studies (BIS) degree program is offered exclusively through Miami University's regional system in Hamilton, Middletown and the Voice of America Learning Center in West Chester.

Special Curriculum Requirements

- Students must complete the entire Miami Plan for Liberal Education or Ohio Transfer 36.
- Students must complete at least 56 hours at the 200-level and above, including at least 21 hours at the 300-level and above.

Program Requirements

- Students must attain a cumulative GPA of 2.00 in courses in the major. Courses in the major include: The BIS core seminars (BIS 201, BIS 301, BIS 401: 9 credits in total).
- Must earn at least a C- in BIS 201 and BIS 301.
- Courses in the student's chosen concentrations (minimum 15 credits for Concentration I & 15 credits for Concentration II).

Code	Title	Credit Hours
Integrative seminars		
BIS 201	Introduction to Integrative Studies	3
BIS 301	Integrative Studies Seminar II	3
BIS 401	Senior Integrative Seminar	3
Concentrations		
Select and complete fifteen hours in one concentration and fifteen hours in another.		30

No more than 5 courses from 1 discipline.

No departmental overlap allowed with Thematic Sequence and concentrations.

A minor may be used in place of concentration 2.

Total Credit Hours **39**

Liberal Studies- Bachelor of Arts/Bachelor of Science

For information, contact the Department of Interdisciplinary and Communication Studies at ICS@MiamiOH.edu or 513-785-3055.

The Bachelor of Arts/Bachelor of Science in Liberal Studies program extends students' breadth of learning across multiple disciplines and develops their competencies in critical thinking, written and oral communication, problem solving, and collaboration. Through the selection of two cognate areas and the completion of two advanced Liberal Studies courses, students marshal their breadth of learning and competencies to address real-world challenges.

Program Requirements

(42 semester hours)

Liberal Studies majors will choose two Cognate areas. The Cognate that the student chooses for Cognate 1, which has a greater number of hours than Cognate 2, will determine whether the student pursues a Bachelor of Arts or Bachelor of Science degree.

Cognate 1

(21 credit hours)

Take a minimum of 21 credit hours in at least two separate disciplines (with different subject codes) within the cognate.

At least 12 credit hours must be at the 300-level or above.

Courses cannot double count in Cognate 1 and 2.

Course cannot double count in Cognates and the Miami Plan.

Some service courses and physical education courses do not count toward Cognates.

Cognate 2

(15 credit hours)

Take a minimum of 15 credit hours in at least two separate disciplines (with different subject codes) within the cognate.

At least 6 credit hours must be at the 300-level or above.

Courses cannot double count in Cognate 1 and 2.

Course cannot double count in Cognates and the Miami Plan.

Some service courses and physical education courses do not count toward Cognates.

Bachelor of Arts

Students completing one of the following primary cognates will earn a Bachelor of Arts:

- **Creative Arts**

- Humanities
- Natural Sciences and Mathematics
- Social Sciences

Code	Title	Credit Hours
Required Courses		
LST 302	Principles of Liberal Studies	3
LST 402	Capstone in Liberal Studies	3
Total Credit Hours		6

Bachelor of Science

Students completing one of the following primary cognates will earn a Bachelor of Science:

- Business
- Engineering and Computing
- Education, Health and Society
- Professional Studies and Applied Sciences

Code	Title	Credit Hours
Required Courses		
LST 302	Principles of Liberal Studies	3
LST 402	Capstone in Liberal Studies	3
Total Credit Hours		6

Nursing- Bachelor of Science in Nursing

Miami University offers a Bachelor of Science in Nursing, which is accredited by the Commission on Collegiate Nursing Education (CCNE), 655 K Street, NW, Suite 750, Washington, DC 20001, 202-887-6791.

For more information, contact the Department of Nursing at 513-785-7752 or email nsginfo@miamioh.edu.

Nursing- Bachelor of Science in Nursing (4 year)

This program provides a balance of liberal arts and professional nursing courses. Emphasis is on the nursing process as it pertains to health promotion and health restoration for clients, families, and populations in communities and in acute care settings. Students receive an introduction to clinicals at the end of the sophomore year and participate in off-campus clinicals two days per week during the junior and senior years. Once admitted, BSN students are expected to progress through the nursing curriculum in an uninterrupted schedule.

Special Admission Requirements for Miami Oxford Nursing

Miami University offers a competitive, selective direct admit program for Nursing on the Oxford campus to qualified high school applicants who seek a residential college experience. Admission to Miami is

test optional through spring 2024, but admission to nursing remains competitive. The minimum GPA is 3.00, and for students who provide test scores, the expectation is 23+ on the ACT or 1060+ on the SAT. Students must apply to Miami University using the CommonApp and must select "Nursing" as the intended major by the established priority consideration deadline. Meeting minimum qualifications does not guarantee acceptance to the nursing program. It is not possible for current Miami students to change their major to nursing on the Oxford campus. All admitted students must provide their own transportation to clinicals, beginning spring of Sophomore year. All admitted students are required to have access to a personal laptop (not a Chromebook) for standardized testing.

Program Progression

In order to progress to sophomore year, students must earn a cumulative G.P.A. of 2.70 and must earn a grade of "C" or higher in all of the following courses: BIO 171, BIO 172; CHM 131; and MBI 111/123.

One grade below "C" in any program requirement could delay graduation by a full year.

Two grades below "C" in program requirements, even if courses are taken before admission and even if courses are repeated for a higher grade, will result in ineligibility or dismissal.

Progression to junior year requires completion of all sophomore level program requirements including nursing courses, PSY 111, BIO 325, and MBI 361 with a "C" or higher and a 2.0 cumulative G.P.A.

Progression to senior year requires completion of all junior level program requirements with a "C" or higher and a 2.0 G.P.A.

In addition to year by year progression requirements, there are semester by semester requirements since content is progressive in nature.

Special Admission Requirements for Miami Regionals Nursing

The nursing program at Miami Regionals offers a competitive, selective program to qualified high school applicants and to qualified college-level students. Pre-requisites may be taken at any Miami location. However, the nursing curriculum is offered only on the Hamilton campus. All admitted students must provide their own transportation to clinicals, beginning spring semester of Sophomore year. All admitted students are required to have access to a personal laptop (not a Chromebook) for standardized testing. To be considered for admission, students must meet the following minimum criteria:

High School Students

High school applicants must have a cumulative GPA of 3.00. Admission to Miami is test optional through spring 2024, but admission to nursing remains competitive. For students who provide test scores, the expectation is 23+ on the ACT or 1060+ on the SAT. Applications are accepted online via the Regionals BSN Application through December 1 each year. Meeting minimum qualifications does not guarantee acceptance to the nursing program.

Program Progression

In order to progress to sophomore year, students must earn a cumulative G.P.A. of 2.70 and must earn a grade of "C" or higher in all of the following courses: BIO 171, BIO 172; CHM 131; and MBI 161.

One grade below "C" in any program requirement could delay graduation by a full year.

Two grades below "C" in program requirements, even if courses are taken before admission and even if courses are repeated for a higher grade, will result in ineligibility or dismissal.

Progression to junior year requires completion of all sophomore level program requirements including nursing courses, PSY 111, BIO 325, and MBI 361 with a "C" or higher and a 2.0 cumulative G.P.A.

Progression to senior year requires completion of all junior level program requirements with a "C" or higher and a 2.0 G.P.A.

In addition to year by year progression requirements, there are semester by semester requirements since content is progressive in nature.

Current Miami Students

Current Miami students must submit a separate nursing application online via the Regionals BSN Application. To apply, students must have completed 12 semester hours (100 level or higher) with a cumulative GPA of 2.70 and a grade of "C" or higher in two of the following courses: BIO 171, BIO 172; CHM 131; or MBI 161.

Program Progression

If accepted, students must earn a cumulative G.P.A. of 2.70 and must have completed all four sciences: BIO 171, BIO 172; CHM 131; and MBI 161 with a "C" or higher to progress to the sophomore year.

One grade below "C" in any program requirement could delay graduation by a full year.

Two grades below "C" in program requirements, even if courses are taken before admission and even if courses are repeated for a higher grade, will result in ineligibility or dismissal.

Progression to junior year requires completion of all sophomore level program requirements including nursing courses, PSY 111, BIO 325, and MBI 361 with a "C" or higher and a 2.0 cumulative G.P.A.

Progression to senior year requires completion of all junior level program requirements with a "C" or higher and a 2.0 G.P.A.

In addition to year by year progression requirements, there are semester by semester requirements since content is progressive in nature.

Transfer Students

In addition to applying to Miami Regionals, a separate nursing application must be submitted online via the Regionals BSN Application by December 1. Students must have a grade of "C" or higher in two of the following courses: BIO 171, BIO 172; CHM 131; or MBI 161 to be eligible to apply. Students must have a grade of "C" or higher from an accredited baccalaureate nursing program in comparable content for transfer of nursing credit to be considered. Decisions about transfer credit for nursing courses and military credits are made on a case by case basis. Transcripts must be received by January 1 to complete the application. Meeting minimum qualifications does not guarantee acceptance into the nursing program. If accepted, transfer students must meet with a nursing adviser to have potential transfer credits evaluated.

Program Progression

If accepted, students must earn a cumulative G.P.A. of 2.70 and must have completed all four sciences: BIO 171, BIO 172; CHM 131; and MBI 161 with a "C" or higher to progress to the sophomore year.

One grade below "C" in any program requirement could delay graduation by a full year.

Two grades below "C" in program requirements, even if courses are taken before admission and even if courses are repeated for a higher grade, will result in ineligibility or dismissal.

Progression to junior year requires completion of all sophomore level program requirements including nursing courses, PSY 111, BIO 325, and MBI 361 with a "C" or higher and a 2.0 cumulative G.P.A.

Progression to senior year requires completion of all junior level program requirements with a "C" or higher and a 2.0 G.P.A.

In addition to year by year progression requirements, there are semester by semester requirements since content is progressive in nature.

Notes: A felony conviction may prohibit participation in required clinicals, may impact a student's ability to progress through required courses, and may therefore lead to dismissal from the nursing program. Students with a felony conviction may not be permitted to take the National Council Licensure Examination. The Department of Nursing requires urine drug screening for all admitted nursing students to meet standards of clinical placement in our partnering agencies. If a student does not pass a urine drug screen, they may not be permitted to participate in clinicals and will therefore be unable to progress in the program. COVID immunizations, testing, and exemption consideration is at the discretion of our clinical agencies. In order to attend clinicals, students are required to comply with site standards.

Program Requirements

(124 semester hours)

Code	Title	Credit Hours
Core Requirements		
BIO 171	Human Anatomy and Physiology	4
BIO 172	Human Anatomy and Physiology	4
BIO 325	Pathophysiology	4
ENG 111	Composition and Rhetoric	3
PSY 111	Introduction to Psychology	3
Select one of the following:		4-5
CHM 131	Chemistry of Life Processes	
CHM 141 & CHM 144	College Chemistry and College Chemistry Laboratory	
Select one of the following:		4
MBI 161	Elementary Medical Microbiology	
MBI 111 & MBI 123	Microorganisms and Human Disease and Experimenting with Microbes	
Required Major Courses		
NSG 251	Therapeutic Communication in Nursing	2
NSG 252	Foundations of Professional Nursing	3

NSG 261	Health and Physical Assessment Theory	3
NSG 261L	Health and Physical Assessment Lab	1
NSG 262	Fundamentals of Professional Nursing Practice	3
NSG 262L	Fundamentals of Professional Nursing Practice--Lab	1
NSG 265	Fundamentals of Professional Nursing Practice--Clinical	1
NSG 263	Community Health Nursing	3
NSG 349	Introduction to Principles of Pharmacology in Nursing Practice	3
NSG 351	Nursing of Childbearing Family	3
NSG 352	Childbearing Family Clinical	2
NSG 353	Nursing Care of Adult Clients with Health Alterations I	3
NSG 354	Nursing Care of Adult Clients with Health Alterations I-Clinical	3
NSG 361	Nursing Care of Adult Clients with Health Alterations II	3
NSG 362	Nursing Care of Adult Clients with Health Alterations II-Clinical	3
NSG 363	Nursing Care of Children	3
NSG 364	Nursing Care of Children-Clinical	2
NSG 365	Nursing Research	3
NSG 402	The Professional Nurse Leader	3
NSG 432	Population Focused Nursing Care-Clinical	2
NSG 435	Challenges in Health Care Delivery	3
NSG 451	Nursing Care of Clients Experiencing Mental Health Disorders and Their Families	3
NSG 452	Nursing Care of Clients Experiencing Mental Health Disorders and Their Families-Clinical	2
NSG 461	Nursing Care of Older Adults	3
NSG 463	Nursing Care of Clients Experiencing Multi-System Health Alterations	3
NSG 464	Nursing Care of Clients Experiencing Multi-System Health Alterations-Clinical	5
NSG 465	Nursing Senior Seminar	2

Total Credit Hours **97-98**

Psychological Science- Bachelor of Arts

Psychological Science uses empirical evidence to understand how and why people act, think, feel, and behave. As humans are complex beings, psychological science evaluates behavior and mental function across multiple domains to include biological, behavioral, cognitive, cultural, social, individual, and developmental influences. Psychological Science majors can expect to gain an in-depth understanding of how to design, conduct, and interpret empirical research as they are developing a broad understanding of current knowledge regarding the contributions of each of these areas

of human functioning. Upper-division courses allow majors to gain applied knowledge across multiple subfields of interest. This broad training prepares graduates well for employment opportunities in human resources, public relations, consulting, career counseling, marketing, management, mental health, substance abuse, child development, gerontology, and more, as well as for advanced study in fields of psychology, sociology, education, medicine, law, and more.

The Psychological Science major is open to all majors except Psychology.

Program Requirements

Code	Title	Credit Hours
Select all of the following:		
PSY 111	Introduction to Psychology	3
PSY 112	Foundational Experiences in Psychology	1
STA 261	Statistics	4
PSS 211	College and Career Development in Psychological Science	3
PSS 302	Introduction to Research Design and Analysis	4
Select at least one course from each of the following groups:		15
Biopsychology:		
PSY 251	Introduction to Biopsychology	
Cognitive:		
PSY 271	Survey of Perception, Action, and Cognition	
Developmental:		
PSY 231	Developmental Psychology	
Individual:		
PSY 241	Personality	
or PSY 242	Abnormal Psychology	
Social:		
PSY 210	Psychology Across Cultures	
or PSY 221	Social Psychology	
Select 2 courses from the following (max one PSY course):		6
PSS 310	Introduction to Industrial and Organizational Psychology	
PSS 312	Drugs and Behavior	
PSS 315	Learning, Memory, and Behavior	
PSS 320	Special Topics in Psychological Science	
PSS 350	Introduction to Counseling Methods	
Capstone (Required--Select One):		3
PSY 401	Capstone in Psychological Science	
PSS 402	Advanced Research Design and Analysis Capstone	
Select one additional course from the following:		3
PSS 420	Advanced Topics in Psychological Science	
PSY 485	History and Systems of Psychology	
Total Credit Hours		42

Note: Additional requirements for the Psychological Science degree include - Foreign language proficiency through the 102 level and an additional Global course beyond the Miami Plan requirements. At least 9 upper-division credit hours must be taken in PSS.

Sales Management - Bachelor of Science in Commerce

For information, contact the Department of Commerce at Voice of America Learning Center Room 117, 513-785-7706.

Commerce is the broad system of organizations producing goods and services for their markets to satisfy their stakeholders. The Bachelor of Science in Commerce and Sales Management major draws courses from a variety of disciplines to prepare students to work in sales/sales management as well as other organizations in managerial and staff capacities. Students are allowed only one CMR major. Double CMR majors are not permitted.

Program Requirements

Code	Title	Credit Hours
Commerce Core		
CMR 101	Introduction to Accounting I	3
CMR 105	Introduction to Marketing	3
CMR 108	Introduction to Business Law	3
CMR 111	Introduction to Management I	3
CMR 207	Management Planning and Control	3
CMR 211	Economics for Commerce	3
CMR 244	Introduction to Global Business	3
CMR 282	Computer-Based Business Analysis	3
CMR 302	Financial Information for Managers	3
CMR 495	Strategic Management for Commerce	3
STA 261	Statistics	4
Sales Management Major		
CMR 261	Customer Service & Satisfaction	3
CMR 263	Sales and Promotions	3
CMR 301	Personal Organizational Skills	3
CMR 362	Business to Business Marketing	3
CMR 363	Personal Selling	3
CMR 461	Sales Management	3
Total Credit Hours		52

Students are allowed only one CMR major. Double CMR majors are not permitted.

Small Business Management- Bachelor of Science in Commerce

For information, contact the Department of Commerce in Room 117, VOALC Campus, 513-785-7706

Commerce is the broad system of organizations producing goods and services for their markets to satisfy their stakeholders. The Bachelor of Science in Commerce and the Small Business Management major draws courses from a variety of disciplines to prepare students to

work in small businesses and other organizations in managerial and staff capacities.

Students are allowed only one CMR major. Double CMR majors are not permitted.

Program Requirements

(53 semester hours)

Code	Title	Credit Hours
Commerce Core		
CMR 101	Introduction to Accounting I	3
CMR 105	Introduction to Marketing	3
CMR 108	Introduction to Business Law	3
CMR 111	Introduction to Management I	3
CMR 207	Management Planning and Control	3
CMR 211	Economics for Commerce	3
CMR 244	Introduction to Global Business	3
CMR 282	Computer-Based Business Analysis	3
CMR 302	Financial Information for Managers	3
CMR 495	Strategic Management for Commerce	3
STA 261	Statistics	4
Small Business Management Major		
CMR 242	Management of Small Business Operations	3
CMR 263	Sales and Promotions	3
CMR 301	Personal Organizational Skills	3
CMR 361	Marketing for the Small Business	3
CMR 401	Leadership Decision Skills	4
CMR 442	Current Issues and Innovation in Small Business	3
Total Credit Hours		53

Computer and Information Technology- Associate in Applied Science

For more information, contact the CIT Department Office on the Hamilton campus at 301 Mosler Hall, 513-785-3132.

Computer and Information Technology focuses on the development and support of computing and networked systems. Computing knowledge and skills are vital for professional success in any field and there will always be a need for technically skilled professionals. The Computer and Information Technology Associate Degree program provides two concentrations essential to contemporary computing, both leading to an Associate Degree in Applied Science with a major in Computer and Information Technology.

The Cybersecurity & Networking concentration prepares students to design, install, troubleshoot, and support secure computer networks. The Software Development and Support concentration prepares students to design and create software in a variety of current programming languages and to support application programs and systems. Both concentrations provide a foundation of critical analysis, problem solving, and technical and interpersonal

communication skills, all of which are critical for success in any technical position.

Curriculum Requirement

Students must earn a minimum cumulative GPA of 2.00 for all program requirements.

Program Requirements

(62 Semester hours)

Code	Title	Credit Hours
Foundation Requirements		
Select the following:		
CIT 167	Information Technology People and Practices	2
CIT 168	Information Technology Tools and Techniques for Organizations	4
CIT 205	Agile Launchpad I	3
CIT 214	Database Design and Development	3
CIT 262	Technology, Ethics, and Global Society	3
CIT 268	Introduction to Human-Computer Interaction	3
CIT 273	Web Application Development	3
CSE 163	Introduction to Computer Concepts and Programming	3
ENG 111	Composition and Rhetoric	3
or ENG 109	Composition and Rhetoric for Second-Language Writers	
ENG 112	Composition and Literature	3
or EGS 215	Workplace Writing	
MTH 119	Quantitative Reasoning	4
STA 261	Statistics	4
or STA 301	Applied Statistics	
STC 135	Principles of Public Speaking	3
or STC 136	Introduction to Interpersonal Communication	
	Miami Plan Global Perspectives elective	3
	Miami Plan IIA or Miami Plan IV elective	3
Foundation Concentration		
Select one group:		
Cybersecurity & Networking		
CIT 258	Introduction to Global Cybersecurity	
CIT 281	Enterprise Network Infrastructure	
CIT 284	Enterprise Server Installation and Configuration	
Software Development and Support		
CSE 174	Fundamentals of Programming and Problem Solving	
CSE 271	Object-Oriented Programming	
CIT 263	Advanced Topics in Programming	
or CIT 253	Contemporary Programming Languages	
Self design - see advisor		
Technical Electives		
Select three hours of the following: ¹		

CIT 201	Advanced Spreadsheets and Analytics	
CIT 225	Fundamentals of DevOps [ICAgile]	
CIT 258	Introduction to Global Cybersecurity	
CIT 281	Enterprise Network Infrastructure	
CIT 284	Enterprise Server Installation and Configuration	
CSE 174	Fundamentals of Programming and Problem Solving	
CSE 271	Object-Oriented Programming	
CIT 253	Contemporary Programming Languages	
CIT 263	Advanced Topics in Programming	
CIT 270	Special Topics in Computer and Information Technology	
CSE 153	Introduction to C/C++ Programming	
CSE 283	Data Communication and Networks	
Free Electives		3
Total Credit Hours		62

¹ May not select courses used to meet other program requirements. Other technical electives must be pre-approved.

Computer Technology- Associate in Applied Science

For more information contact the regional campus coordinator for computing programs: on the Hamilton campus at 301 Mosler Hall, 513-785-3132.

The computer technology major continuation option is designed for students who wish to earn an associate degree at the regional campuses and ultimately obtain a bachelor's degree in one of three computing programs that can be completed at the Oxford campus. It allows students to complete an Associate Degree in Applied Science by taking approximately half of the courses for a bachelor's degree in one of the following majors: Computer Science, Software Engineering, or Computer Engineering. After completing the associate degree, students may relocate to the Oxford campus and continue with junior standing. Students who wish to find employment after completing this associate degree are prepared for positions such as computer programmers, system support personnel and other technical computing positions.

Program Requirements

(62 Semester hours)

Code	Title	Credit Hours
Foundation Requirements		
Select the following:		
CEC 101	Computing, Engineering & Society	1
CSE 174	Fundamentals of Programming and Problem Solving	3
CSE 262	Technology, Ethics, and Global Society	3
CSE 271	Object-Oriented Programming	3
ECO 201	Principles of Microeconomics	3
ENG 111	Composition and Rhetoric	3

MTH 151	Calculus I	4
MTH 251	Calculus II	4
STC 135 or APC 231	Principles of Public Speaking Small Group Communication	3
Miami Plan Natural Science:		
PHY 191	General Physics with Laboratory I	5
PHY 192	General Physics with Laboratory II	5
Remaining Miami Plan or electives ¹		13
Major Courses		
Select one set of the following courses (depending on major)		12
Computer Science		
MTH 231	Elements of Discrete Mathematics	
Select three of the following:		
CSE 201	Introduction to Software Engineering ²	
CSE 274	Data Abstraction and Data Structures	
CSE 278	Systems I: Introduction to Systems Programming ²	
CSE 283	Data Communication and Networks	
Software Engineering		
CEC 102	Problem Solving and Design	
CSE 274	Data Abstraction and Data Structures	
MTH 231	Elements of Discrete Mathematics	
Select one of the following:		
CSE 201	Introduction to Software Engineering ²	
CSE 302	Software Construction	
CSE 278	Systems I: Introduction to Systems Programming ²	
Computer Engineering		
CEC 102	Problem Solving and Design	
CSE 278	Systems I: Introduction to Systems Programming ²	
Select 6 hours for the Computer Engineering major (with advisor approval)		
Total Credit Hours		62

¹ Miami Plan elective courses are intended to represent any other course requirements as needed to fulfill Miami's Liberal Education requirements and graduation requirements and should be selected consistent with current requirements, as indicated in each student's DAR.

² Course may be offered only at the Oxford campus.

Restriction on courses that can be taken Credit/No Credit: All computer science and software engineering courses (CSE), all required mathematics, and the courses that comprise the student's year of science (for this major, all physics courses) must be taken for a grade.

Criminal Justice- Associate in Applied Science

For more information about criminal justice, email JCS@MiamiOH.edu or call 513-785-7702.

Criminal Justice is the study of law enforcement, courts, and corrections. Graduates are employed as law enforcement officers; probation and parole officers; corrections officers; and may work within private security agencies. Courses required within this program may be applied to bachelor degree programs in Criminal Justice and related fields.

Program Requirements

(minimum of 62 semester hours)

Code	Title	Credit Hours
Criminal Justice Courses		
CJS 101	Introduction to the Criminal Justice Studies	3
CJS 125	Law and the Courts	3
CJS 211	Policing in America	3
CJS 220	Criminal Justice Field Experience	3
CJS 231	Criminal Procedure	3
CJS 271	Introduction to Criminal Behavior	3
CJS 281	Corrections in America	3
9 additional hours of CJS courses (chosen in consultation with advisor)		9
Non-Criminal Justice Courses		
ENG 111	Composition and Rhetoric (Non-Criminal Justice Courses)	3
POL 142 or CRE 151	American Politics and Diversity Introduction to Critical Race and Ethnic Studies	3
STA 261	Statistics	4
Any Miami Plan Creative Arts course		3
Any Miami Plan Humanities course		3
Any Miami Plan Global Inquiry course		3
Any Miami Plan Natural Science courses		6
Any Miami Plan science lab		1
Additional electives as needed to reach 62 credit hours		6
Total Credit Hours		62

Electrical and Computer Engineering Technology- Associate in Applied Science

This program includes course work in both electrical and electronic and computer fields. It provides depth and breadth in the fundamentals as well as in the advanced technology found in modern electrical/electronic and computing systems. Hands-on labs are used to reinforce concepts taught in the classroom. Students develop the ability to analyze, synthesize, and solve technical problems. Topics of study include AC and DC circuit analysis, analog and digital electronics, programmable logic controllers, microprocessors, local area networks (LAN), and C++ and assembly language programming. This program is accredited by the Engineering Technology Accreditation Commission of ABET (111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone 410-347-7700, <http://www.abet.org/>.)

Graduates work as electronic technicians, electrical maintenance technicians, computer maintenance and network technicians,

engineering assistants, computer and PLC programmers, and many other related paraprofessional positions. Graduates may also choose to continue their education toward a Bachelor of Applied Science degree.

Program Requirements

(Minimum of 62 semester hours required to qualify for graduation)

Code	Title	Credit Hours
CSE 163	Introduction to Computer Concepts and Programming	3
or CSE 153	Introduction to C/C++ Programming	
ECO 201	Principles of Microeconomics	3
or ECO 202	Principles of Macroeconomics	
EGS 215	Workplace Writing	3
or ENG 313	Technical Writing	
ENG 111	Composition and Rhetoric	3
ENT 135	Computer-Aided Drafting	3
ENT 137	Introduction to Engineering Technology	1
ENT 192 & ENT 193	Circuit Analysis I and Circuit Analysis II	6
ENT 196	Electronics	3
ENT 291	Industrial Electronics	3
ENT 293	Digital Systems	3
ENT 294	Local Area Networks	3
ENT 295	Microprocessor Technology I	3
ENT 296	Programmable Logic Controllers	3
MTH 124	Trigonometry	3
MTH 151	Calculus I	4
PHY 161	Physics for the Life Sciences with Laboratory I	4-5
or PHY 191	General Physics with Laboratory I	
PHY 162	Physics for the Life Sciences with Laboratory II	4-5
or PHY 192	General Physics with Laboratory II	
STC 135	Principles of Public Speaking	3
or STC 136	Introduction to Interpersonal Communication	
Miami Plan Electives as needed		
Total Credit Hours		58-60

Engineering Technology- Associate in Applied Science

For information contact the Department of Engineering Technology at 513-758-1804. Offices are located in Hamilton - 207 Phelps Hall or Middletown - 205MJ Thesken Hall

This department offers associate degree programs in electrical and computer engineering technology and mechanical engineering technology. They also offer bachelor completion programs with concentrations in Electrical and Computer Engineering Technology, Electro-Mechanical Technology, Mechanical Engineering Technology, and Robotics Engineering Technology.

Students are strongly encouraged to participate in engineering technology internships. Internship information is available through the Regional Office of Career Services and Professional Development: 513-227-3390, miamiregionalscareer@MiamiOH.edu.

Department Educational Objectives

We consider program educational objectives as the general characteristics our graduates demonstrate to the workplace, graduate school, the military, or their endeavors after they leave Miami. We typically measure these characteristics initially at graduation by asking graduates if they feel that they have achieved these characteristics and then periodically thereafter through employer surveys, letters from graduates, advisory council, graduate school accomplishments, and surveys of graduates who have been out for a while. These characteristics should become most evident within the first few years after graduation.

The Engineering Technology Department's graduates are able to:

- apply math and physics principles to the solution of engineering technical problems.
- use applied skills to identify, evaluate, and solve complex technical problems.
- use engineering computer software to facilitate engineering problem solving.
- function effectively in team-oriented activities.
- demonstrate the knowledge of expected standards of ethical and professional conduct.
- verbally communicate ideas.
- prepare well-written technical reports.

In addition, our graduates will have the necessary fundamentals to pursue life-long learning.

Program-Specific Educational Objectives

Electrical and Computer Engineering Technology (A.A.S.)

The ECET program produces graduates who:

- analyze digital and analog electrical and electronic circuits, identify problem areas, and maintain these systems.
- function effectively as electrical and computer engineering technicians in state and regional industries.

Mechanical Engineering Technology (A.A.S.)

The MET program produces graduates who:

- are able to analyze and design complex mechanical components and systems
- are able to set up experimental testing procedures and selectively utilize data to reinforce engineering concepts.
- have a basic understanding of modern manufacturing methods used to facilitate the production of consumer products
- are able to effectively and efficiently manage engineering projects (B.S. only).

Mechanical Engineering Technology- Associate in Applied Science

This program emphasizes courses in computer-aided drafting (CAD), computer-aided engineering analysis and design, computer-aided manufacturing (CAM), computer numerical control programming (CNC), and engineering mechanics. Courses include laboratory experiences working with modern materials-testing equipment; microcomputer-based engineering analysis software; CAD/CAM hardware and software; microprocessor-controlled robots; and a variety of engineering support software. Students develop the ability to analyze, synthesize, and solve technical problems. This program is accredited by the Engineering Technology Accreditation Commission of ABET (111 Market Place, Suite 1050, Baltimore, MD 21202-4012, telephone, 410-347-7700, <http://www.abet.org/>).

Graduates work as CAD operators, CAD/CAM operators, CNC programmers, quality assurance technicians, laboratory test technicians, engineering assistants, and many other related paraprofessional positions. Graduates may also choose to continue their education toward a Bachelor of Science in Applied Science.

Program Requirements

(62 semester hours)

Code	Title	Credit Hours
CSE 163	Introduction to Computer Concepts and Programming	3
or CSE 153	Introduction to C/C++ Programming	
ECO 201	Principles of Microeconomics	3
ENG 111	Composition and Rhetoric	3
EGS 215	Workplace Writing	3
or ENG 313	Technical Writing	
ENT 135	Computer-Aided Drafting	3
ENT 137	Introduction to Engineering Technology	1
ENT 151	Engineering Materials	3
ENT 152	Computer-Aided Manufacturing I	3
ENT 192	Circuit Analysis I	3
ENT 235	Computer-Aided Design	3
ENT 252	Computer-Aided Manufacturing II	3
ENT 271	Mechanics I: Statics	3
ENT 272	Mechanics II: Strength of Materials	3
ENT 278	Mechanics III: Analysis of Machine Components	3
MTH 124	Trigonometry	3
MTH 151	Calculus I	4
PHY 161	Physics for the Life Sciences with Laboratory I	4
STC 135	Principles of Public Speaking	3
or STC 136	Introduction to Interpersonal Communication	
PHY 162	Physics for the Life Sciences with Laboratory II	4

Miami Plan Electives as needed	4
Total Credit Hours	62

Prekindergarten Education- Associate in Applied Science

For information, contact the Coordinator for Prekindergarten at 513-727-3289.

This program prepares students to provide education and care for children up to five years of age who are not yet in kindergarten. Graduates may be employed in public, corporate, or private care centers, preschools, or Head Start facilities, either as teachers or in administration.

Successful completion of the Prekindergarten Program meets the Ohio Department of Education academic requirements for the Initial Five-Year Professional Licensure in Prekindergarten Education. The degree can be applied to the Bachelor of Integrative Studies and a majority of the required hours may be applied to the Bachelor of Science in Education, Primary Education PK-5, if program admission requirements are met.

Program Requirements

(62 semester hours)

First Year		Credit Hours
EDP 201	Human Development and Learning in Social and Educational Contexts ^{1,2}	3
EDP 256	Psychology of the Exceptional Learner	3
ENG 111	Composition and Rhetoric ¹	3
FSW 207 or KNH 207	Serving and Supporting Children, Youth, and Families I or Serving and Supporting Children, Youth, and Families I	4
FSW 283	Introduction to Child Care Administration	3
FSW 382	Infant and Toddler Caregiving and Supervision	3
KNH 245	Issues of Health & Wellness for the Young Child	3
TCE 191	Threshold Concepts of Teaching, Curriculum, and Educational Inquiry ^{1,2}	3
TCE 273	Prekindergarten Integrated Curriculum I	3
TCE 274	Prekindergarten Integrated Curriculum II	3
Credit Hours		31
Second Year		
EDL 204	Sociocultural Studies in Education	3
FSW 225 or TCE 225	Family School and Community Connections ² or Family School and Community Connections	3

FSW 293	Field Placement: Infant/Toddler Setting	3
FSW 294	Field Placement - Preschool Setting	3
TCE 246P	Foundations of Reading, Language, and Literacy	3
TCE 272P	Introduction of Childhood Development and Education	3
TCE 315P	Children's Literature for PK-5 Classrooms	3
MTH 115	Mathematics for Teachers of Grades P-6	4
Natural Science: Physical or Biological Science (Miami Plan Perspective) ¹		3-4
Elective		3
Credit Hours		31-32
Total Credit Hours		62-63

¹ Course can apply (40-41 total credit hours) to Bachelor of Science Degree in Early Childhood Education

² TAG course required by the state of Ohio Department of Education.

General Studies- Associate in Arts

This program is available to students enrolled at any campus of Miami University who have not completed the requirements for a Bachelor's degree.

Students completing Miami's Associate in Arts degree are required to complete 36 semester hours of Ohio Transfer 36 approved coursework in the Miami Plan Perspectives Areas.

Students select a 12 semester hour concentration area, as described below, to complete within the required 62 semester hours of the degree.

Program Requirements

(62 semester hours)

Code	Title	Credit Hours
Miami Plan Perspectives Areas:¹		
Formal Reasoning and Communication		
	Miami Plan Mathematics and Formal Reasoning	3
	Miami Plan English Composition	3
	Miami Plan Advanced Writing	3
Science and Society		
	Miami Plan Social Sciences	6
	Miami Plan Natural Sciences	6
Arts and Humanities		
	Miami Plan Creative Arts	3
	Miami Plan Humanities	3
Global Citizenship		
	Diversity, Equity, & Inclusion	3
	Intercultural Consciousness	3

Global Inquiry	3
Additional Intercultural Consciousness or Global Inquiry	3
Select 12 semester hours in addition to those above in one of these areas of emphasis:	12
Humanities	
Natural Science and Mathematics ²	
Social Science	
Business	
Education, Health and Society	
Engineering and Computing	
Creative Arts	
Liberal Arts and Applied Science	
Electives ³	11
Total Credit Hours	62

¹ Students must select Perspective Areas courses that satisfy Ohio Transfer 36.

² Students with natural science and mathematics emphasis cannot apply MTH 101 and MTH 102 to this degree.

³ Select 30 semester hours taken at Miami University and the final 9 credit hours must be from Miami University. No more than five semester hours of SLM 110-SLM 170B

Minimum 2.00 cumulative GPA

Commerce- Associate of Applied Business

For information, contact the Department of Commerce in Room 117, 513-785-7706, on VOALC Campus.

The associate of applied business degree is for those who want to enter business fields and those who want to improve their career opportunities. The Associate of Applied Business degree requires 62 semester hours.

Associate's degree programs emphasize the development of practical business skills. Students are strongly encouraged to participate in Commerce internships. Internship information is available through the Regional Office of Career Services and Professional Development: 513-227-3390, miamiregionalscareer@MiamiOH.edu. Graduates without extensive work experience typically start in entry-level, management-support positions and advance to more responsible positions with experience, motivation, and ability.

Associate Degree Program Requirements

The degree consists of:

1. A set of required courses (total of 55 credit hours)
2. A set of electives (minimum of 7 credit hours).

Specific information on each of these two requirements follows.

Code	Title	Credit Hours
Requirements for Associate Degree Program		
CMR 101	Introduction to Accounting I	3

CMR 105	Introduction to Marketing	3
CMR 106	Introduction to Business and the Economy	3
CMR 108	Introduction to Business Law	3
CMR 111	Introduction to Management I	3
CMR 181	Computers and Business	3
CMR 207	Management Planning and Control	3
CMR 241	Management of Business Operations	3
CMR 242	Management of Small Business Operations	3
CMR 244	Introduction to Global Business	3
CMR 282	Computer-Based Business Analysis	3
CMR 301	Personal Organizational Skills	3
ENG 111	Composition and Rhetoric	3
EGS 215	Workplace Writing	3
MTH 119 or STA 261	Quantitative Reasoning Statistics	4
STC 136	Introduction to Interpersonal Communication	3
Electives ¹		6
Approved Electives for All Programs		
Select any CMR or approved electives ²		7
Total Credit Hours		62

¹ Students are encouraged to complete elective credits with the remaining Miami Plan perspective requirements. Consult your CMR faculty advisor for the correct selection.

² Students pursuing the Miami Bachelor of Science in Commerce degree are encouraged to consult with their CMR faculty advisor to discuss additional Miami Plan and major requirements.

Technical Study- Associate of Technical Study

For information, contact the department of Engineering Technology, or general advising. Departmental contact information is as follows: Engineering Technology in 301 Mosler Hall - Hamilton Campus, 513-785-1804. Regional Academic Advising: 513-727-3440 .

This technically-oriented program is offered through the combined disciplines of commerce, computer information technology, health technology, services technology, and engineering technology. Students work with a university advisor to develop an interdisciplinary plan of study with an area of concentration and a well-rounded program. Through this program, you have the flexibility to tailor an associate degree to your specific needs. Students can choose a concentration out of the following: Building and Industrial Technology; Commerce; Health and Allied Health Technology; Information Technology; and Services Technology.

Program Requirements

(62 semester hours)

Code	Title	Credit Hours
Nontechnical Courses		
ENG 111	Composition and Rhetoric	3

EGS 215	Workplace Writing	3
Select one of the following:		3
APC 231	Small Group Communication	
STC 135	Principles of Public Speaking	
STC 136	Introduction to Interpersonal Communication	

Basic program support courses

Select at least 3 hours in each category: Math, science, and computing courses 9

Other MP Perspectives courses (Note: Nontechnical and basic program support courses must include at least 12 semester hours of the Miami Plan Perspectives areas in at least 2 of the four Miami Plan Perspectives areas) 8

Technical Subject Areas 30

Approved course work in building and industrial technology, information technology, commerce, health and allied health technology, or services technology as approved by the Associate of Technical Studies Review Committee as constituting a well-defined, coherent program leading to marketable, technical job skills.

Remaining Miami Plan Foundation or Electives 6

Total Credit Hours 62

Commerce Minor

For information, contact the Department of Commerce, Room 117, VOALC Campus, Commerce@MiamiOH.edu, 513-785-7706.

The Commerce minor provides students a broad overview of the operations of businesses and organizations with courses providing foundational content in finance, management and marketing as well as the opportunity to select additional content.

Note: Commerce majors are not permitted to declare any Commerce minor.

Program Requirements

Code	Title	Credit Hours
Required courses:		
CMR 105	Introduction to Marketing	3
CMR 111	Introduction to Management I	3
CMR 302	Financial Information for Managers	3
Select three of the following:		9
CMR 101	Introduction to Accounting I	
CMR 108	Introduction to Business Law	
CMR 207	Management Planning and Control	
CMR 211	Economics for Commerce	
CMR 244	Introduction to Global Business	
CMR 282	Computer-Based Business Analysis	
CMR 495	Strategic Management for Commerce	
Total Credit Hours		18

Communication Studies Minor

The Communication Studies minor allows students to develop verbal and interpersonal communication skills, while also examining seminal

communication theories. The minor also provides students the opportunity to study a variety of communication contexts in more depth. The Communication Studies minor will equip students with the skills and knowledge needed to work effectively in an increasingly complex and interconnected world.

Note: The Communication Studies minor is open to all majors except Communication Studies, Health Communication, Media and Communication, or Strategic Communication.

Program Requirements

Code	Title	Credit Hours
Required Courses:		
APC 239	Theories of Communication	3
STC 135	Principles of Public Speaking	3
STC 136	Introduction to Interpersonal Communication	3
Select remaining (9 hours) from the following context courses:		9
APC 201	Introduction to Health and Risk Communication	
APC 231	Small Group Communication	
APC 311	Science and Medicine in Public Communication	
APC 312	Computer-mediated Communication and Social Media	
APC 336	Advanced Interpersonal Communication	
APC 339	Introduction to Organizational Communication	
APC 341	Methods of Rhetorical Criticism	
APC 428	Communication in Conflict Management	
APC 438	Political Communication	
STC 236	Intercultural Communication	
Total Credit Hours		18

Criminal Justice Minor

For more information, email JCS@MiamiOH.edu (criminaljustice@MiamiOH.edu) or call 513-785-7702.

The minor in criminal justice provides students with an introduction to the major systems and institutions that are involved in the investigation, prosecution, adjudication, and punishment of crimes and delinquency, as well as an introduction to the fundamental rights that apply in constitutional law.

Open to all majors except Criminal Justice.

Program Requirements

Code	Title	Credit Hours
CJS 101	Introduction to the Criminal Justice Studies	3
CJS 125	Law and the Courts	3
CJS 211	Policing in America	3

CJS 231	Criminal Procedure	3
CJS 281	Corrections in America	3
CJS 271	Introduction to Criminal Behavior	3
Total Credit Hours		18

Cybersecurity Administration Minor

Cybersecurity is one of the most pressing problems in the world today. At the heart of the cybersecurity crisis is the misconfiguration of infrastructure, servers and endpoints that connect, store and display the world's information. The Cybersecurity Administration minor provides students in all degree programs with an introduction to the threats and vulnerabilities that exist in the networked economy as well as how to evaluate, monitor, and harden assets against cyber threats. In addition, students will use red team/blue team techniques for penetration testing and will take courses to prepare them for a wide range of today's most sought after security certifications. Students in other majors who also have a deep knowledge of networked security will be important players in their respective careers.

Program Requirements

Code	Title	Credit Hours
CIT 168	Information Technology Tools and Techniques for Organizations	4
CIT 258	Introduction to Global Cybersecurity	3
CIT 281	Enterprise Network Infrastructure	3
CIT 284	Enterprise Server Installation and Configuration	3
CIT 358	Information Technology Assurance and Security	3
CIT 386	Designing/Deploying Secure Networks	3
Total Credit Hours		19

Data Intelligence through Information Technology Minor

For information, contact the CIT Department Office on the Hamilton campus at 301 Mosler Hall, 513-785-3132.

How to store, manage, and use data is a crucial component in almost any current domain or industry. In addition, understanding how data is transformed into information enriches the skills that a student can provide to any organization. This minor will provide students with the opportunity to use tools and techniques across all parts of the data lifecycle, including storage, management, analysis, use, and presentation.

Note: This minor is not open to Farmer School of Business majors.

Program Requirements

Code	Title	Credit Hours
CIT 168	Information Technology Tools and Techniques for Organizations	4
CIT 201	Advanced Spreadsheets and Analytics	3

or CMR 282	Computer-Based Business Analysis	
CIT 214	Database Design and Development	3
CIT 338	Business Intelligence Tools	3
CIT 348	Information Management and Retrieval	3
STA 261	Statistics	4
Total Credit Hours		20

Digital Commerce Minor

The Digital Commerce minor prepares students with the skills needed to support digital commerce operations including content management, data analytics, and internet marketing as well as problem solving skills.

Note: Commerce majors are not permitted to declare any Commerce minor.

Program Requirements

Code	Title	Credit Hours
CMR 105	Introduction to Marketing	3
CMR 281	Digital Media & Organizational Communication	3
CMR 285	Business Information Management	3
CMR 286	Digital Commerce	3
CMR 341	Internet Marketing	3
CMR 442	Current Issues and Innovation in Small Business	3
Total Credit Hours		18

English Studies Minor

For more information contact the department of Languages, Literatures, and Writing at LLW@MiamiOH.edu or 513-785-3232.

The English Studies minor prepares students to be critical and creative readers, thinkers, and writers. The minor can help students strengthen their degree and enhance their career opportunities.

Note: The EGS minor is open to all majors except English Studies, English: Creative Writing, Professional Writing, English: Literature, and Linguistics.

Program Requirements

Code	Title	Credit Hours
Core course		
EGS 301	Writing and the Professions	3
Choose two of the following:		6
EGS 215	Workplace Writing	
EGS/BIS 305	Integrative Writing in Global Contexts	
EGS 319	Medical Writing	
EGS 320	Readings in Literatures and Cultures	
EGS 390	Special Topics in English Studies	
EGS 410	Readings in Multicultural Perspectives	

EGS 420	Topics in Writing	
EGS 460	Issues in Literary and Cultural Studies	
EGS 495	Capstone in English Studies	
EGS 421	Exploring Genre in Diverse Contexts	
EGS 422	Creative Thinking, Reading, and Writing	
Choose three additional ENG or EGS classes (beyond ENG 111):		9
Total Credit Hours		18

Forensic Investigation Minor

For more information, email JCS@MiamiOH.edu (forensicinvestigation@MiamiOH.edu) or call 513-785-7702.

The minor in forensic investigation provides students with an overview of forensic investigation and science. Students are introduced to the American criminal justice system and how forensic science and techniques of forensic investigation relate to the detection and prosecution of criminal offenses.

A minimum of a 2.00 GPA must be earned in all the courses completed for the minor. Open to all majors except Criminal Justice, Forensic Science, and Forensic Investigation.

Program Requirements

Code	Title	Credit Hours
CJS 101	Introduction to the Criminal Justice Studies	3
CHM 121	Introduction to Forensic Chemistry	4
CJS 231	Criminal Procedure	3
CJS 235	Forensic Science Survey	3
CJS 272	Forensic and Crime Scene Evidence	3
CJS 411	Evidence Law and Expert Testimony	3
Total Credit Hours		19

Hospitality Management Minor

For information contact the Commerce Department. Room 117 VOALC Campus, Commerce@miamioh.edu, 513-785-7706.

The Hospitality Management minor presents students a broad overview of the hospitality industry with courses in controlling food & beverage costs, customer service, food service & management, sanitation & safety principles, and special event planning. Commerce majors are not permitted to select any Commerce minor.

Note: Commerce majors are not permitted to declare any Commerce minor

Program Requirements

Code	Title	Credit Hours
CMR 151	Introduction to Hospitality Management	3
CMR 252	Sanitation & Safety Principles	3
CMR 261	Customer Service & Satisfaction	3

CMR 351	Controlling Food & Beverage Labor Costs	3
CMR 352	Food Service Management	3
CMR 451	Special Events Planning & Management	3

Total Credit Hours **18**

Psychological Science Minor

Psychological Science minors can expect to use empirical evidence to understand how and why people act, think, feel, and behave. The PSS minor will gain an in-depth understanding of how to design, conduct, and interpret empirical research as they are developing a broad understanding of current knowledge regarding the contributions of each of these areas of human functioning.

Note: The PSS minor is open to all majors except Psychological Science and Psychology.

Program Requirements

Code	Title	Credit Hours
Required courses:		
PSY 111 or EDP 101	Introduction to Psychology Psychology Of The Learner	3
PSY 112	Foundational Experiences in Psychology	1
PSS 211	College and Career Development in Psychological Science	3
PSS 302	Introduction to Research Design and Analysis	4
STA 261	Statistics	4
Select TWO courses from the following:		6
PSY 210 or PSY 221	Psychology Across Cultures Social Psychology	
PSY 231	Developmental Psychology	
PSY 241 or PSY 242	Personality Abnormal Psychology	
PSY 251	Introduction to Biopsychology	
PSY 271	Survey of Perception, Action, and Cognition	
Select ONE course from the following:		3
PSS 310	Introduction to Industrial and Organizational Psychology	
PSS 312	Drugs and Behavior (PSY 251 Prerequisite)	
PSS 315	Learning, Memory, and Behavior (PSY 271 Prerequisite)	
PSS 320	Special Topics in Psychological Science	
PSS 350	Introduction to Counseling Methods	
PSS 401	Capstone in Psychological Science	
PSS 402	Advanced Research Design and Analysis Capstone	
PSS 420	Advanced Topics in Psychological Science	
PSY 326	Psychology of Gender	

PSY 485 History and Systems of Psychology

Total Credit Hours **24**

Sales Management Minor

Everyone has to Sell. Sell themselves, sell their ideas, sell their organization, sell their services or products. Researchers and developers should sell their findings, not just present them. Legislators should sell their bills and ideas, not just propose them. Health care professionals should sell care, not just deliver it. Entrepreneurs and innovators have many stakeholders they must sell to bring their concepts to successful fruition.

The Sales Management Minor at Miami University will benefit all students, regardless of their chosen majors or careers. The six course curriculum is built around current and future perspectives and experience-based processes. It integrates learnings and develops skills in selling, interpersonal communications, customer perspectives, marketing integration, planning and organization, resource management and leadership.

Note: Commerce majors are not permitted to declare any Commerce minor.

Program Requirements

Code	Title	Credit Hours
CMR 105	Introduction to Marketing	3
CMR 261	Customer Service & Satisfaction	3
CMR 263	Sales and Promotions	3
CMR 362	Business to Business Marketing	3
CMR 363	Personal Selling	3
CMR 461	Sales Management	3
Total Credit Hours		18

Manufacturing Foundations Certificate

The Miami University Manufacturing Foundations Certificate is a state-wide program that prepares students for entry-level positions in the high demand field of Manufacturing. Upon completion of the program, students will be able to: use a commercially available CAD system to create meaningful engineering drawings including dimensions and tolerances; multiple views and projections; assemblies and bill of materials; and 3D models. Students will also learn methods to apply fundamental knowledge of engineering materials and why they are utilized in an industrial application.

The Manufacturing Foundations Certificate is supported by the Ohio Engineering Technology Educators Association and the Ohio Manufacturers' Association. All credits earned in this certificate apply seamlessly toward the Miami University's Mechanical Engineering Technology associate degree.

Program Requirements

Code	Title	Credit Hours
EGS 215	Workplace Writing	3
MTH 125	Precalculus	5

ENT 135	Computer-Aided Drafting	3
ENT 151	Engineering Materials	3
ENT 152	Computer-Aided Manufacturing I	3
ENT 340	Internship	1-3
Total Credit Hours		18-20

The Graduate School

Graduate School

102 Roudebush Hall

Phone: 513-529-3734

<http://www.miami.MiamiOH.edu/graduate-school/>

gradschool@MiamiOH.edu (gradschool@miamioh.edu)

General Information

Miami offers graduate study leading to master's, Specialist in Education, and doctoral degrees. Certificate programs are also available.

Information on admission, graduate assistantships, courses, and requirements is online (<http://www.MiamiOH.edu/graduate-school/>).

Departments Offering Graduate Study

Graduate degrees and certificates offered by each division are listed below. The master's in Environmental Science; Cell, Molecular and Structural Biology; and Ecology, Evolution; Transformative Education; and Environmental Biology are interdisciplinary programs.

Ph.D. program applicants may apply for a special interdisciplinary degree, subject to the approval of the admitting Ph.D. department and the Graduate School. Please contact the Director of Graduate Study in the appropriate department for more information.

All departments offering graduate study have information available about requirements and courses.

College of Arts and Science

Biology: Master of Arts (Biology & Botany); Master of Science (Biology & Botany); Master of Arts in Teaching (biological sciences); Doctor of Philosophy

Cell, Molecular and Structural Biology: Master of Science; Doctor of Philosophy

Chemistry and Biochemistry: Master of Science; Doctor of Philosophy

Ecology, Evolution and Environmental Biology: Doctor of Philosophy

Economics: See Farmer School of Business.

English: Master of Arts, Master of Arts in Teaching; Master of Fine Arts; Doctor of Philosophy

Environmental Science: Master of Environmental Science

French: Master of Arts

Geography: Master of Arts

Geology & Environmental Earth Science: Master of Arts; Master of Science; Doctor of Philosophy

History: Master of Arts

Mathematics: Master of Arts; Master of Science; Master of Arts in Teaching (for licensed teachers)

Microbiology: Master of Science; Doctor of Philosophy

Philosophy: Master of Arts

Physics: Master of Science

Political Science: Master of Arts

Psychology: Master of Arts (as required step in the doctoral program only); Doctor of Philosophy. For school psychology, see the College of Education, Health, and Society.

Sociology and Gerontology: Master of Gerontological Studies; Doctor of Philosophy in Social Gerontology

Spanish and Portuguese: Master of Arts

Speech-Language Pathology: Master of Arts; Master of Science

Statistics: Master of Science in Statistics

The Farmer School of Business

Accountancy: Master of Accountancy

Business Administration: Master of Business Administration

Business Analytics: Master of Science in Business Analytics

Economics: Master of Arts

Entrepreneurship and Emerging Technology: Master of Entrepreneurship and Emerging Technology

Management: Master of Science in Management

College of Education, Health, and Society

Curriculum and Instruction: Master of Education

Educational Leadership: Master of Education; Master of Science; Doctor of Philosophy, Doctor in Education

Educational Psychology: Master of Arts; Master of Education; Master of Science; Specialist in Education

Family Sciences & Social Work: Master of Social Work

Kinesiology, Nutrition, and Health: Master of Science in Kinesiology, Nutrition, and Health; Master of Athletic Training

Sport Leadership and Management: Master of Esports Management; Master of Science in Sport Leadership and Management; Master of Sport Analytics

Teacher Education: Master of Arts in Teaching; Master of Education

College of Engineering and Computing

Computer Science and Software Engineering: Master of Computer Science; Master of Science in Computer Science

Chemical, Paper and Biomedical Engineering: Master of Science, Master of Science in Clinical Engineering

Electrical and Computer Engineering: Master of Science

Mechanical Engineering: Master of Science

College of Creative Arts

Architecture + Interior Design: Master of Architecture

Art: Master of Fine Arts

Entrepreneurship and Emerging Technology: Master of Entrepreneurship and Emerging Technology

Esports Management: Master of Esports Management

Music: Master of Music (Performance)

College of Liberal Arts and Applied Science

Nursing: Master of Science in Nursing

Graduate Certificate Programs

These specializations, which enhance a graduate degree, are available to students who have been admitted to the Graduate School and have met program prerequisites.

- Advanced Business Analytics
- Advanced Manufacturing and Materials Evaluation
- Analytics
- Applied Statistics
- Business Management
- Child Life Specialist
- College Teaching
- Conservation Biology
- Ecology
- Entrepreneurship and Emerging Technology
- Esports Management
- Geographic Information Sciences
- Instructional Design and Educational Technology
- Mental Health Intervention
- Reading Endorsement
- Sport Analytics
- Sport Management
- Sport Psychology
- Teaching English to Speakers of Other Languages (TESOL) Endorsement Certificate
- Teaching of Writing
- Women's, Gender, and Sexuality Studies

Admission for Graduate Students

Graduate School

102 Roudebush Hall
 Phone: 513-529-3734
www.MiamiOH.edu/graduate-studies/

About Admission

To be admitted to a graduate program at Miami, you must have earned a baccalaureate degree from an accredited institution. You must be fully admitted to the Graduate School to be eligible to receive graduate credit.

Graduate School admission standards are the minimum standards for all graduate programs. Individual departments may have higher standards and additional requirements. You are expected to be fully cognizant of your department's requirements.

You may apply for admission online at: www.miamiOH.edu/graduate-school/admission/index.html

The Graduate School's contact information is:

Graduate School
 102 Roudebush Hall
 Miami University
 Oxford, Ohio 45056
 Phone: 513-529-3734
 Fax: 513-529-3762
 E-mail: applygrad@MiamiOH.edu
 Web: www.MiamiOH.edu/graduate

Admission information for international students appears lower on this page.

To Apply for Admission

Submit to the Graduate School

- Your completed application with the required nonrefundable application fee. Your application will not be processed until the application fee is received.
- Applicants for graduate study must have earned at least a US equivalent Baccalaureate degree. Applicants must submit 1 copy of their academic record/transcript at the time of application. Unofficial documents are accepted at the time of application.
- Admitted students must have an *official final* transcript from their Baccalaureate institution and all schools attended after receiving your Baccalaureate *sent directly* to the Graduate School in order to register for classes. Photocopies and notarized copies of academic records are not accepted as official. Documents can be certified as true copies by a U.S. Consular official or by a recognized educational authority in the applicant's home country. Records issued in a language other than English must be accompanied by a literal (not interpretive) certified English translation.
- Official final transcripts are not required from Miami University graduates.
- All international students must provide proof of English proficiency by meeting ONE of the following requirements:

- You have earned a Bachelor's degree or higher from an accredited university in the US
- You have earned a Bachelor's degree from or are a citizen of one of these countries.
- You have earned a minimum passing score on one of the English language tests accepted by Miami University.

Submit to Your Major Department

- Additional materials required by your department. These may include letters of recommendation, personal statement, test scores, or a portfolio. Contact your major department for information.

Submit to the Student Health Service:

- Your completed Miami University Graduate Student Medical History form. You will not be allowed to register until your completed form is returned to the Student Health Service.
- Students under 30 years of age are required to provide proof of immunizations.

Admission Tests

Each department offering a graduate program determines the tests required for admission, if any. The following tests may be required by specific departments.

Graduate Management Admission Test (GMAT)

This is required for applicants for graduate study in the Farmer School of Business. Information can be obtained from:

Graduate Management Admission Council
 P.O. Box 2969
 Reston, VA 20195
customer-care@gmac.com
 888-505-6559

www.gmac.com/gmat

Graduate Record Examination (GRE)

Information and online registration is available at www.gre.org. An information booklet can be obtained from:

Graduate Record Examination
 Educational Testing Service
 P.O. Box 6000
 Princeton, NJ 08541-6000
 Phone: 866-473-4373
www.ets.org/gre

Miller Analogies Test (MAT)

Most college and university counseling centers have MAT information. Information concerning times and places for the MAT can be obtained from:

Pearson
 MAT Customer Relations
 19500 Bulverde Road
 San Antonio, TX 78259
MATscoring.services@Pearson.com

800-622-3231

www.PearsonAssessments.com/postsecondaryeducation/graduate_admissions/mat.html

Grade Point Average

For admission purposes, the computation of grade point averages is determined by the institution that awarded the baccalaureate or graduate degree. An exception to this applies to incomplete and failing grades—Miami University will count these as zero points. Plus and minus grades that are clearly explained on transcripts will be counted in the grade point average.

Regular Standing

For admission to the Graduate School as a degree candidate with regular standing, you must have earned a grade point average (GPA) of at least 2.75 (4.00 scale) at the institution awarding your bachelor's degree. You must have at least a 3.00 GPA for all graduate work attempted. Undergraduate course work taken after the completion of your bachelor's degree will not be considered in determining your grade point average.

GPA Conditional Standing

Admission to the Graduate School with conditional standing (master's degree programs only) is possible if you do not meet requirements for regular standing but you can provide evidence of promise for success in graduate study. If you must satisfy departmental prerequisites, have academic deficiencies, or have earned a bachelor's degree from a non-accredited institution, you may be admitted with conditional standing, even if you have met minimum requirements for admission to regular standing.

Requests for admission with conditional standing are considered by the dean of the Graduate School. Such requests must have the support of the academic department in which you seek admission. Evidence in support supplied by the applicant and the department may include graduate admission test scores, reference to successful professional experience, statements of academic prowess, etc. A student admitted with conditional standing cannot hold an assistantship.

If you are admitted with conditional standing, you must achieve a cumulative grade point average of at least 3.00 in the first 12 hours of graduate courses taken for grades. Grades earned in undergraduate courses do not apply to this required grade point average. The probationary period begins on the date of admission with conditional standing. Students who do not satisfy the requirements of conditional standing are denied further registration in the Graduate School. Students who meet these requirements continue with regular standing.

International Student Admission

Non-immigrant students from other countries are encouraged to apply for admission to graduate study. International students may be admitted with regular standing or English proficiency conditional admission.

English Proficiency Conditional Admission

Conditional admission to the Graduate School is possible if you meet the graduate department's academic requirements, but do not meet

the Graduate School's English language requirement. Students with TOELF iBT scores between 65-79, IELTS scores between 5.5-6.0, or ELS 112 Certificate can be considered for conditional admission to the ACE-G program. Students with TOEFL iBT score below 65 or IELTS score below 5.5 can be considered for conditional admission to the ELC program.

Applicants can request conditional admission when completing the application or the Graduate School may admit students conditionally based on their English proficiency scores.

If you are conditionally admitted, you must begin your English language studies prior to your academic study. You must achieve a cumulative grade point average of at least 3.00 in ELC and/or ACE-G in order to progress to the academic program. Failure to complete the English program successfully will result in a cancellation of your conditional offer of admission. For more information about our conditional admission, please go to www.MiamiOH.edu/graduate-school/admission/international-application.html

After you are admitted and on campus (prior to class registration), you must take an examination in the use of English administered by Miami's English department. If this test indicates that you need additional instruction in English, you must register for ENG 119 (specially designated for graduate students) in your first term of study, which may require that you reduce your academic course load until it is determined that your English proficiency is adequate to pursue a full course of study.

In addition, if you are assigned instructional responsibilities (including laboratory supervision) as a teaching associate or graduate assistant, you are required by Ohio state law to demonstrate English-speaking proficiency. After arrival on campus, you may be required to take a test that assesses your proficiency in spoken English.

Continuing Graduate (Non-Degree) Status

If you would like to take graduate-level courses, but do not intend to pursue a graduate degree, you can apply for admission with continuing non-degree graduate status (CGS). After you are admitted, you can earn an unlimited number of graduate hours within an indefinite period of time; however only twelve hours may be applied to a degree program.

To apply for admission, submit to the Graduate School:

- Completed admission application form;
- Nonrefundable application fee.

If you are admitted as a CGS student, you will not be able to enroll in certain courses if the department or program has limited enrollment; students who have been admitted to a degree-granting program have first priority. Check with the department about enrollment restrictions. If you have been denied regular or conditional admission to a degree program, you can enroll in courses in that department as a CGS student only if the department grants permission. If you take courses as a CGS student after you have been denied admission as a degree student, these courses cannot be applied to a future degree program.

If you are a CGS student (and have not previously applied for degree admission) and desire admission to a degree program, you must

apply for admission and meet Graduate School and departmental standards for admission. No more than twelve of the most recent graduate hours earned with CGS status can be applied toward a graduate degree and then only with the approval of the department. All twelve hours are subject to normal time limitations for credit toward a degree.

For more information, contact the Assistant Dean for Graduate Admission in the Graduate School, 513-529-3734.

Visiting (Transient) Status

If you are pursuing a graduate degree at another institution and intend to complete your program there, you can apply for admission with "transient status."

To apply for admission:

1. obtain a transient status application from the Graduate School, and
2. complete your part, then forward the entire form to the dean of your graduate school with a request for the dean to complete it and send it directly to the Graduate School of Miami University.

After you are admitted with transient status, you can enroll in courses if you have fulfilled departmental and divisional requirements for the program and prerequisites for the courses. Admission does not make you a candidate for a graduate degree at Miami University.

Diverse Student Assistance

The Diversity Enhancement Pathway (DEP) is intended to attract diverse domestic students to Miami's graduate programs, with the goal to increase the number of diverse domestic students completing master's and doctoral study at Miami University.

The DEP provides a Graduate School funded stipend and tuition waiver for one academic semester per year for either two years for master's students or four years for doctoral students. This will result in either two semesters or four semesters of Graduate School funded support for master's or doctoral students, respectively. Departments will provide the remaining stipend and tuition waiver for the duration of the student's graduate program and will assign assistantship duties for the awardee.

The Ronald E. McNair Graduate Assistantship Program is intended to attract current undergraduate McNair Scholars and McNair Alums to Miami's graduate programs, with the goal to increase the number of diverse domestic students completing graduate study at Miami University.

The Program provides a Graduate School funded stipend and tuition waiver for one academic semester per year for either two years for master's students or three years for doctoral students. During the student's program they will also be provided an additional Graduate School funded Research Assistantship for either one semester for master's students or two semesters for doctoral students. The student will choose which semester(s) they wish to be appointed on the Research Assistantship. This will result in either three semesters or five semesters of Graduate School funded support for master's or doctoral students, respectively. Departments will provide the remaining stipend and tuition waiver for the duration of the student's graduate program. When not on the Research Assistantship, the nominating department will assign assistantship duties for the awardee.

Degree and Certificate Requirements

Graduate School

102 Roudebush Hall
Phone: 513-529-3734
www.MiamiOH.edu/graduate-studies/

Master's Programs: General Requirements

Since each department or division may have special requirements for any program it offers, you must be aware of those requirements as well as the requirements of the Graduate School. Specific program requirements are listed in the Fields of Study chapter.

A minimum of 30 semester hours is required for all master's degrees, but several programs require more. Many departments offer both thesis-type and non-thesis master's programs, with the student's objectives and abilities determining which type of program they may pursue. Both types allow between six to 12 hours of research or research-and-thesis credit. Some departments or divisions may require candidates to perform research, teaching, or equivalent services as a part of their degree requirement.

Examinations

Note: To be eligible to take the final examination for a master's degree, a graduate student must have a 3.00 grade point average or better and may not have grades of incomplete.

A preliminary examination is optional, but a final degree examination is required in all graduate programs except for the Master of Accountancy and the Master of Business Administration. The final examination, written, oral, or both, must be given in the semester in which the candidate completes the work for the degree, but they must pass the examination no later than five years after completing their first course toward the degree.

The typical examination committee for either a thesis is comprised of at least three members of the graduate faculty; two represent the student's major department and the third member represents the minor department (if applicable), the major department, or the Graduate School. The director of the thesis for a thesis-type program must have Level A standing of the graduate faculty. The non-thesis committee only requires two committee members.

If the committee is larger than three, there can be no more than one dissenting vote to pass the examination.

If a student fails the examination on the first attempt, his, her, or their department may allow him, her, or them to take the examination a second time after a minimum of fourteen (14) calendar days from the first attempt. A student may only take the examination two (2) times; after that, he, she, or they is ineligible to receive the master's degree.

Thesis

The department determines whether students will follow a thesis-type or non-thesis program. Thesis credit ranges between six to 12 hours for a 30-hour program. For each required hour over thirty (30), the department may increase the thesis credit by one.

Format and style used by leading professional journals or style sheets in each discipline or professional field and must meet the Graduate School and OhioLINK format requirements.

All students submitting a thesis or dissertation must deposit it electronically at OhioLINK. Before beginning to write, you should email the Graduate School at gradschool@miamioh.edu for a template and instructions for mechanics and procedures from the Graduate School. Your thesis must be electronically deposited at OhioLINK at least 14 working days before commencement, or as determined by the Graduate School. The only paper submitted to the Graduate School by the student will be the original signature/title page on plain white copy paper.

Transfer Credit

Up to one-third of the semester hours required for the degree may be transferred toward the master's degree. Courses cannot be older than five years at the time the master's degree is awarded. Contact the Graduate School for details regarding transfer of graduate credit.

Course Level Requirement

A master's degree student must present at least 6 semester hours earned at 600-level or above.

Time Limit

Work for a master's degree must be completed within five calendar years (e.g., students beginning master's programs in 2022 must complete their programs by December 2027). Partial credit may be given for graduate courses completed at Miami University that are between five and 10 years old, but such credit must be gained by way of petition to the appropriate petitions committee.

Second Master's Degree

With the approval of the department, a student who has been admitted to a second master's degree program may apply a maximum of 10 semester credits from a first master's degree earned at an accredited graduate school toward the second master's degree, provided the work is not more than five years old at the time the second master's degree is awarded.

If a thesis was presented for the first degree, it may not be used for the second degree. The same degree title may be earned in two different areas of study.

For two master's degrees earned at Miami University see the dual degree policy in the policy library.

Combined Bachelor's and Master's Degree Program

Departments and programs that offer the master's degree have the option of offering a combined bachelor's and master's degree option. See the specific department/program of interest for program and admission details.

Admission Requirements: Students can be admitted on a provisional basis to the combined program anytime during their academic career at Miami, from the time they apply for undergraduate admission. Upon earning a minimum of 64 hours and having a GPA of 3.00 or greater, students may apply to a combined program by completing the Graduate School application and submitting materials as required by the program to which they are applying. Standard application

and admission procedures shall be used. Both full- and part-time students may participate in the combined program at a department's discretion. Regular time-limits for completing the master's degree apply to students in a combined program.

Double Counting Graduate Hours: Departments or programs with a combined degree may allow students to double-count up to nine hours of graduate course work toward their undergraduate degree. With permission of the appropriate advisor(s) and dean(s) or their designee(s), these students may count the graduate courses toward their major, minor, electives, and university requirements. A minimum of 145 hours is required for the combined program; 115 semester hour minimum for a bachelor's degree and 30 graduate semester hours minimum for a master's degree.

Student Classification and Graduation: Students in a combined program will remain undergraduates until they apply for graduation or submit a request to the Graduate School to have their classification changed from undergraduate to graduate. Students must have completed a minimum of 124 or 128 hours (depending on catalog year; undergraduate and graduate) to be classified as a graduate student. Students may receive their bachelor's degree prior to completing their master's degree. Upon receiving the bachelor's degree, students will automatically be classified as graduate students. Students receiving the bachelor's degree prior to completing the master's degree can count up to nine hours of graduate course work toward their bachelor's degree. Those hours can also count toward the completion of their master's degree as indicated above.

Students may withdraw from the combined program by completing a withdrawal form available at the Graduate School's website. The student must note on the withdrawal form that he/she is withdrawing only from the combined program and wishes to retain their status in the undergraduate program. The student must also notify their department of their decision to withdraw from the combined program.

Doctoral Programs: General Requirements

The Doctor of Philosophy (Ph.D.) is awarded in the departments of Biology, Chemistry and Biochemistry, Educational Leadership, English, Geology & Environmental Earth Science, Gerontology, Microbiology, and Psychology. The Doctor of Education (Ed.D.) is awarded in the Department of Educational Leadership. Students entering these doctoral programs must fulfill the following requirements, as well as those established by the department(s) involved.

Students with a 3.00 grade point average for their baccalaureate degree may be admitted directly to a doctoral program if recommended by the department.

The degree Doctor of Philosophy or Doctor of Education will not be granted to a member of the Miami University faculty or staff who holds rank above instructor.

Effective July 1, 1970, a recipient of a Miami doctorate is ineligible for employment as a faculty member at Miami, unless that person has been employed elsewhere for at least three years and has gained significant achievement since receiving the Miami degree. Those who received a doctorate or were already enrolled in a doctoral program before this date are exempt from this regulation.

Ph.D. Requirements

A doctoral program normally requires three to five years post-baccalaureate work and generally includes three stages.

First stage ends when you receive a master's degree or earn the equivalent credit (30 semester hours) with a minimum grade point average of 3.00.

Second stage includes fulfillment of departmental requirements and successful completion of your preliminary comprehensive examination.

Third stage comprises research and seminars, preparation of your dissertation, and your final examination.

Program Requirements

Each program has unique characteristics and may have standards higher than the minimum established by the Graduate Council. It is your responsibility to be informed of the standards and requirements by consulting with the graduate advisor or department chair.

Credit Hour Requirements

Admission to the third stage requires a minimum of 30 hours of post-master's credit. A minimum of 16 semester hours and a maximum of 60 hours may be given for the dissertation at the discretion of the department.

A minimum 3.00 grade point average is required for work on the doctorate.

A minimum of 60 semester hours beyond the master's degree (or its equivalent) is required. Forty-eight hours must be earned at Miami University.

Time Limit

Students must complete coursework, pass the comprehensive examination, complete their dissertation and pass the final examination within ten (10) years of completing their first course in the doctoral program.

Transfer Credit

Up to 12 hours of graduate credit may be transferred toward the doctoral degree. Courses may not be more than seven years old at the time the comprehensive examination is taken. Contact the Graduate School for details regarding transfer of graduate credit.

Preliminary (Comprehensive) Examination

Note: To be eligible to take the preliminary (comprehensive) examination, a graduate student must have a 3.00 grade point average or better and may not have grades of incomplete.

To be admitted formally to candidacy for the doctorate degree, you must pass a preliminary examination that qualifies you for further work and research.

You must pass this examination within seven years after completing your first doctoral-level course. It is a two-part examination: written and oral. You must take the oral part within four weeks after taking the written part.

Your examination committee is made up of at least three members of the Graduate Faculty including your dissertation advisor. The advisor must be in the same department as the doctoral student. A

fourth graduate faculty member also votes and participates in the oral part of your comprehensive examination. At least one member of the committee must be from outside your major department. The committee must be approved by the Graduate School dean. Three of the four committee members must approve in order for you to pass the examination. If your committee is larger than five, there can be no more than one dissenting vote for in order for you to pass the examination.

If the student does not pass the comprehensive examination after the first attempt, the committee may grant the student permission to take a second examination, which will be given under the conditions stipulated by the committee. Students can take a second examination no earlier than 14 calendar days following the conclusion of the first exam.

Dissertation

The Doctor of Philosophy is primarily a research degree. You must demonstrate your capacity for independent research by writing an original dissertation on a topic within your major field of study. The subject of your dissertation must be reported to the doctoral committee at the time of your preliminary examination.

A minimum of 16 hours is required for dissertation research, and a maximum of 60 hours may be applied toward the semester hour requirement for the degree.

Before beginning to write, you should obtain a template and instructions for mechanics and procedures from the Graduate School. Generally, format and style used by leading professional journals in your field serves as a guide. Check your writing format early with the Graduate School to avoid any delay. A final format check and approval by the Graduate School are required before your dissertation is accepted and electronically deposited.

All students submitting a dissertation must deposit it electronically. Your dissertation must be electronically deposited at OhioLINK at least 21 working days before commencement or as determined by the Graduate School. The only paper submitted to the Graduate School by the student will be the original Certificate page (with original committee signatures) which is the first page of the dissertation.

Final Examination

Note: To be eligible to take the final examination for the doctoral degree, a graduate student must have a 3.00 grade point average or better and may not have grades of incomplete.

A final examination to evaluate your dissertation work and competence in your field is conducted by an examining committee consisting of at least four members of the Graduate Faculty (your dissertation director, two readers, and a member from outside your department). Three of the four members must approve your dissertation and final examination for you to be awarded the degree. If your committee is larger than four, there can be no more than one dissenting vote on your examination. All members have responsibility for the conduct of the examination and must also certify the fairness of the examination. All Graduate Faculty are eligible to participate in the examination.

The final examination must be passed and the dissertation must be uploaded to OhioLINK no later than ten calendar years after taking the first course toward the degree. The deadline to deposit the dissertation is at least 21 working days before the commencement

when your degree is awarded, or as determined by the Graduate School. Any exception may involve further examinations or course requirements.

Note: Students must submit their thesis or dissertation electronically. More information is available from the Graduate School, 513-529-3734, or online at www.MiamiOH.edu/graduate-school/.

Interdisciplinary Doctoral Degree

The Graduate School can authorize a special committee to supervise an interdisciplinary doctoral program for students whose needs cannot be met within an established program. Special Committee Degrees are "interdisciplinary degrees" that have unique requirements for each student. Special Committee Degrees are "one of a kind" degrees built around the unique needs of individual students that cannot be satisfied by approved, existing programs and may permit degrees in new and emerging fields or combinations of disciplines. A higher degree of independence is required on the part of the student, since easily-provided guidance from departments is more difficult to obtain, and there is not the usual collegial group of students in closely-related research and course work. The Special Committee Doctoral Degree is reserved for those departments granted the authority to offer the doctoral degree by Miami University and the Ohio Board of Regents.

Prospective students who may have an interest in a Special Committee Doctoral Degree should apply to the department of the degree program that is most central to their major area of interest. The student must meet the admission requirements of the department to which the application is submitted.

Students may be admitted directly to a Special Committee Degree program or enter the interdisciplinary program later. At least 12 credit hours must be remaining in the students' program when their special committee degree proposal is submitted. The prospective student's application must be endorsed by the home department and three potential committee members drawn from Level A faculty from within the home department or from across the University. Special Committee members can be drawn from non-doctoral departments. The Special Committee must consist of not less than five members, with no more than half (higher whole number) being drawn from any one department.

The chairperson (or in the case of co-chairs, one of the co-chairs) must be a member of the department to which the student had originally been admitted. The admitting department should remain the keeper of the student's records, and should make all appropriate nominations for financial support.

The Special committee is responsible for helping the student develop a plan of study to be submitted to the home department for its approval. That plan of study may be at significant variance with normal departmental requirements so long as it is approved following the established procedures of the home department.

Students must be accepted into a doctoral-degree-granting department, establish at least one semester of full-time graduate work, and then submit a proposal for a special committee degree. The one-page proposal should include (in the following order):

1. Names of two faculty members, in addition to the students' major professor(s), who will supervise their course of study.

2. Explanation of why their needs cannot be met within existing programs and why the special committee degree program is needed.
3. Proposed course of study.
4. Their committee's recommendation for an examination procedure that assures adequate in-depth coverage.

Students should check with the Graduate School and the faculty with whom you are interested in working for guidance in requesting a special committee for your program of study. Special committee members can be from non-doctoral departments and must have Level A standing on the Graduate Faculty. Students' course of study may vary from normal departmental requirements, as long as it is approved within the established procedures of the department. After their three committee members and department endorse the proposal, it is submitted to the Graduate School.

The Special Committee is governed by the expectations and regulations of the Graduate School.

Ed.D. Requirements

The Ed.D. is available in the Department of Educational Leadership.

Although the general requirements listed for the Doctor of Philosophy apply to the Doctor of Education, the latter is specifically designed for students professionally oriented to a career in the field of education. Advanced research courses, therefore, may vary from those pursued in other fields, and the program may be considered more appropriate to those especially interested in public education.

Certificate Programs: General Requirements

The Graduate School offers certificate programs in several areas. These programs, described in the Fields of Study chapter, are available to students who have been admitted to the Graduate School and have met program prerequisites.

Specialist in Education: General Requirements

The Specialist in Education (Ed.S.) degree is designed for those with bachelor's degrees who want to prepare for a career in school psychology and for those who are certified school psychologists who wish to upgrade their training. Information about the Ed.S. in School Psychology is found in the Education Psychology field of study section.

Graduate Fields of Study

- Accountancy
- Architecture
- Art, Studio
- Athletic Training
- Biological Sciences
- Biology
- Biomedical Science
- Botany
- Business Administration
- Business Analytics
- Cell, Molecular and Structural Biology
- Chemical and Biomedical Engineering
- Chemistry and Biochemistry
- Clinical Engineering
- Computer Science
- Creative Writing
- Curriculum and Instruction
- Ecology, Evolution and Environmental Biology
- Economics
- Education
- Education, Teacher Education
- Educational Leadership
- Educational Technology
- Electrical and Computer Engineering
- English
- Entrepreneurship and Emerging Technology
- Environmental Science
- Esports Management
- French
- Geography
- Geology
- Gerontology
- History
- Instructional Design and Technology
- Kinesiology, Nutrition, and Health
- Learning Sciences and Human Development
- Literacy and Language
- Management
- Mathematics
- Mechanical Engineering
- Microbiology
- Music Performance
- Nursing, Nursing Practice
- Philosophy
- Physician Associate Studies
- Physics
- Political Science
- Psychology
- School Psychology
- Social Work

- Spanish
- Special Education
- Speech-Language Pathology
- Sport Analytics
- Sport Leadership and Management
- Statistics
- Student Affairs in Higher Education

Certificates

- Advanced Business Analytics
- Advanced Manufacturing and Materials Evaluation
- Analytics
- Business Management
- Child Life Specialist
- College Teaching
- Conservation Biology
- Ecology
- Entrepreneurship and Emerging Technology
- Esports Management
- Geographic Information Sciences
- Instructional Design and Educational Technology
- Mental Health Intervention
- Reading Endorsement
- Sport Analytics
- Sport Management
- Sport Psychology
- Teaching English to Speakers of Other Languages (TESOL) Endorsement Graduate Certificate
- Teaching of Writing
- Women's, Gender, and Sexuality Studies

Accountancy- Master of Accountancy

Department of Accountancy, MSC 1002
3094 Farmer School of Business, 513-529-3372
www.fsb.MiamiOH.edu/macc

For information, contact the Department of Accountancy, 3094 FSB, 513-529-6200.

The department's mission is to prepare students to excel as high-integrity business leaders and accounting professionals and to enable faculty members to be outstanding instructors whose scholarship informs their teaching and who positively impact the professional and Miami community. The Department of Accountancy has been accredited by the Association to Advance Collegiate Schools of Business International since 1984.

This program provides an in-depth understanding of selected areas of accounting and business and the knowledge and skills to prepare graduates for long-term success in an accounting-related career. This program qualifies graduates to sit for the CPA examination in Ohio and most states that require 150 semester hours.

Master's programs in business administration (MBA) and in economics (M.A.) are also offered in the Farmer School of Business. These two programs are listed alphabetically.

Admission Requirements

Applicants are admitted on the basis of proven intellectual capability, maturity, and promise of success demonstrated by the undergraduate academic record, results of the Graduate Management Admission Test (GMAT) (optional), letters of recommendation, personal statement, and professional, community, and extracurricular activities.

The GMAT and TOEFL score reports (if required) should be sent directly to Miami University. All candidates apply online, uploading an unofficial transcript, resume, and personal statement. Letters of recommendation are completed electronically. Complete details of the admission process can be found on the MAcc website.

Financial Assistance

In addition to graduate assistantships described elsewhere in this Bulletin, the department awards one fellowship and several scholarships on the basis of merit and/or demonstrated financial need. For information, contact the EY Professional Development Advisor.

Program Requirements

(30 semester hours)

Prerequisite courses for this program are equivalent to the requirements for a Bachelor of Science in Business with a major in accountancy, including financial accounting research and financial statement auditing.

The Master of Accountancy Program consists of 30 semester hours of coursework in accountancy and other business disciplines.

Combined Degree Option

Students planning to take the CPA exam in Ohio and in most other states are required to have 150 hours of education with at least a bachelor's degree. This requires additional education beyond the requirements for a bachelor's degree from Miami.

High-achieving students have the option of pursuing a combined-degree program, in which you can earn both your bachelor's and master's degrees in accountancy within four years. After completing the program, you are qualified to sit for the CPA examination in the state of Ohio and most other states that have adopted the 150-hour education requirement.

To be eligible to apply for the combined degree program, students must have completed at least 64 credit hours with a minimum GPA of 3.25. Certain elements of the graduate program may be used to satisfy undergraduate requirements. Please contact the department's academic program coordinator to learn more about this option.

Advanced Business Analytics Certificate

The Graduate Certificate in Advanced Business Analytics builds upon the Graduate Certificate in Analytics and is an immersive four course sequence into leading methods and technologies in applied analytics.

Students will develop skills in machine learning applications in organizational settings, the forefronts of prescriptive methodologies, and applications of artificial intelligence. Students will also engage with practitioners about how analytic solutions are deployed and put to practice in organizations.

Program Requirements

Code	Title	Credit Hours
Required courses:		
ISA 630	Machine Learning Applications in Business	3
ISA 632	Big Data Analytics and Modern AI	3
ISA 633	Prescriptive Analytics in Business	3
ISA 634	Analytics Solution Deployment and Lifecycle Management	3
Total Credit Hours		12

Advanced Manufacturing and Materials Evaluation Certificate

For information, contact:

Department of Mechanical and Manufacturing Engineering

56 Garland Hall
650 E. High St.
Oxford, OH 45056
513-529-0710

MMEdept@MiamiOH.edu

This certificate program equips participants to remain at the forefront of advances in manufacturing technologies and material science. The program develops and enhances skills in analyzing, adopting and effectively utilizing advanced manufacturing methods and the interplay between manufacturing processes and material properties. Courses can be selected to suit areas of interest and/or job requirements. Coursework includes additive manufacturing, mechanical property characterization, wear analysis, nano-materials, statistical process control, etc. Selection of equipment and creation of a testing program to capture specific service conditions is undertaken. Manufacturing and material property interaction in metals and polymers is examined. Practicum courses can be taken for hands-on experiences in topics such as materials testing, process instrumentation, and automation.

A total of twelve (12) credit hours from the two concentration areas are required to complete for the graduate certificate.

Advanced Materials Concentration

Code	Title	Credit Hours
MME 588A	Material Characterization Techniques	1.0
MME 588B	ASTM Codes	0.5
MME 588C	Sample Preparation Methods, Data Collection and Analysis	1.0
MME 588D	Practicum Material Testing and Sample Preparation	1.5

MME 588E	Dynamic Testing of Materials (DMA)	1.0
MME 588F	Dynamic Scanning Calorimetry (DSC)	0.5
MME 588G	Microscopy (AFM, SEM, TEM) Applied to Material Property and Failure Evaluation	1.0
MME 588J	Biomaterials	1.0
MME 588I	Practicum Advanced Material Testing	1.5
MME 588K	Composite Materials	1.0
MME 588N	Fundamentals of Tribology	1.0
MME 588O	Equipment and Testing Protocols for Wear of Materials	1.0
Total Credit Hours		12

Advanced Manufacturing Processes Concentration: Emerging Tools and Technologies

Code	Title	Credit Hours
MME 589A	Overview of Traditional Manufacturing Processes	2.0
MME 589B	Practicum Traditional Manufacturing Process	2.0
MME 589C	Design, Modeling and Simulation for Additive Manufacturing	1.0
MME 589D	Process Overview and Advances in 3D Printing of Polymers and Metals	1.0
MME 589E	Practicum: Additive Manufacturing	2.0
MME 589F	Overview of Advanced Manufacturing Processes	1.0
MME 589N	Fundamentals of Micro-manufacturing	0.5
MME 589O	Fundamentals of Nano-manufacturing	0.5
MME 589P	Quality, Metrology	1.0
MME 589Q	Practicum: Advanced Manufacturing Processes	1.0
Total Credit Hours		12

Analytics Certificate

The in Analytics Graduate Certificate builds on the foundations that are established in the Undergraduate Certificate in the Foundations of Analytics or similar coursework. Students will become more versed in data driven decision making with additional data manipulation and retrieval knowledge in both structured and unstructured data as well as hands on knowledge of predictive modeling tools and techniques. The program also has a focus on communicating and storytelling with data. Once this is complete, a student is eligible to pursue the Advanced Graduate Certificate in Business Analytics.

Program Requirements

Code	Title	Credit Hours
Required courses:		
ISA 512	Data Warehousing and Business Intelligence	3
ISA 514	Managing Big Data	3
ISA 591	Introduction to Data Mining in Business	3

Elective Courses - select one:		3
ISA 544	Business Forecasting	
ISA/STA 616	Communicating with Data	
Total Credit Hours		12

Architecture- Master of Architecture

For information, please contact the Director of Graduate Studies, Department of Architecture + Interior Design, 100 Alumni Hall, 513-529-7026, <http://arts.MiamiOH.edu/architecture-interior-design/programs/graduate-studies>.

Research and Support Facilities Alumni Hall

The Department of Architecture + Interior Design is located in Alumni Hall, which for many years served as the University's main library. The central portion, which dates from 1909, was conceived as the most lavish building on campus when it was commissioned and remains an impressive space today. The rotunda is a focus for departmental ceremonies, receptions, and graduate program dinners. Since its restoration and 30,000 square foot addition designed by the renowned architectural firm Hammond, Beeby + Babka of Chicago was completed in 1997, Alumni Hall has served as a focal point for campus-wide activities. Almost all of the department's activities are housed within Alumni Hall, including individual studio space for each student in the program as well as classrooms, seminar spaces, faculty and administrative offices, the department woodshop, digital fabrication lab, the Alumni Hall Cage Gallery, and the W.W. Wertz Art and Architecture Library. All department classes, except the larger lecture sessions, are taught in Alumni Hall.

The Department of Architecture + Interior Design supports a mobile computing environment with wireless internet access provided to studio, lecture, seminar spaces, and the library. Students purchase/ provide their own equipment that can support the software recommended by the digital media faculty. The department supports laser cutting, 3D printing, and CNC/Rapid Prototyping equipment.

Visual Resources Center: Art Building

The Miami University College of Creative Arts maintains a divisional collection of visual resources located in the Art Building. The collection contains approximately 30,000 digital images. There are also 200,000 slides available, including approximately 80,000 architectural images, as well as a DVD collection with architecture department lectures and other architecture subjects. Services include slide digitizing, scanning, circulating photographic and video equipment, and a student work documentation studio.

Exhibit Galleries

The College of Creative Arts maintains several divisional art galleries. The exhibit gallery in Hiestand Hall supports faculty and student exhibits, traveling exhibitions, and other exhibits and events sponsored by the Departments of Art, Architecture + Interior Design, Theatre, and Music. The Cage Gallery, located in the lower level of Alumni Hall, provides ongoing exhibits of professional as well as student work within the Department of Architecture + Interior Design.

Admission Requirements

Application Process

Applications are considered from any student with an accredited bachelor's degree, regardless of his/her major. Applicants must first satisfy the entrance requirements of the Graduate School of Miami University to be accepted into the Master of Architecture Program.

Application Deadline: January 15

Submit the Online Application to the Graduate School

This includes:

Three letters of recommendation, written by individuals who are able to assess academic or professional potential. At least one letter should be from an academic source. Specify recommenders in the online application.

A personal statement that describes how Miami University's Master of Architecture degree will help the applicant attain educational goals, enable the applicant to explore interests, and also how the applicant could contribute to the academic and creative community of the graduate program.

A curriculum vitae or resume that describes academic and professional accomplishments, scholarship, research, and creative activity.

A writing sample, either academic or creative.

Submit Required GRE Scores

Miami University's code is 1463 and Graduate Architecture Studies code is 4401.

Submit a portfolio of creative work to:

Graduate Admissions Committee
c/o Architecture Graduate Studies
100 Alumni Hall
Miami University
Oxford, OH 45056
USA

For applicants to the M. Arch. II program, the portfolio should include examples of undergraduate and/or professional architectural design projects. All M. Arch. applicants are encouraged to include non-architectural work within their portfolio as well.

For applicants to the M. Arch. III program, the portfolio can include examples from architectural projects, if applicable. The portfolio should include work that demonstrates creative accomplishments.

Portfolio contents can be from any creative field, including design, photography, studio arts, film, writing, music, and performance. Candidates from technical disciplines, such as science or engineering, should contact the program to determine suitable application materials. The portfolio should contain only printed reproductions; please do not send originals. There is no required format, but the portfolio should be less than 12"x18" for our filing system. If the portfolio contains group work, this must be noted and the applicant's role in the project must be described.

To have portfolios returned, please include a pre-addressed mailer with postage. The department assumes no responsibility for the loss of any portfolio.

Program Requirements

Programs vary according to undergraduate preparation. The M. Arch. II is a two-year program entailing 60 credit hours of graduate-level courses. (Additional credit hours required if all prerequisites have not been met.) This program is designed for students with the equivalent of Miami's Bachelor of Arts in Architecture.

Students who do not have an architectural degree or equivalent can expect to complete a Master of Architecture degree in three and one-half years. The M. Arch. III program includes 42 credit hours of preparatory courses in addition to the final 63 credit hours for a total of 105 credit hours. After the preparatory courses in both semesters of the first year, the student must undergo review from the graduate faculty to continue in the program.

National Architectural Accrediting Board (NAAB) Statement

In the United States, most registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit professional degree programs in architecture offered by institutions with U.S. regional accreditation, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted an eight-year, three-year, or two-year term of accreditation, depending on the extent of its conformance with established educational standards.

Doctor of Architecture and Master of Architecture degree programs may require a preprofessional undergraduate degree in architecture for admission. However, the preprofessional degree is not, by itself, recognized as an accredited degree.

The Department of Architecture + Interior Design at Miami University offers the following NAAB-accredited degree programs: Master of Architecture II (pre-professional degree + 60 graduate credits) and Master of Architecture III (non-pre-professional degree + 105 graduate credits). Next accreditation visit for all programs: 2023.

Transfer Credits

Students who have completed graduate course work in other architectural graduate programs may petition to receive credit for that work toward a Master of Architecture degree. Decisions about transfer credit, based on the applicant's previous record, are made by the graduate committee after consultation with the appropriate instructor. Transfer credit is granted for work equivalent in content and rigor to Miami University's offerings and may not, by Graduate School stipulation, exceed one-third of the credit hours of graduate course work required by the Department of Architecture + Interior Design.

Length of Program

The program outlines below represent the minimum length of each curriculum track. Typically, course waivers granted by the director of graduate studies (in consultation with graduate faculty) do not reduce total credit hour requirements of a program. Under certain circumstances, students entering the M. Arch. III program with strong backgrounds in some design disciplines may petition to have their initial studio waived. The nature of the studio sequence, however,

normally prevents any reduction of semesters in residence in the M. Arch. II and M. Arch. III programs.

These program tracks can be extended only upon consultation with the graduate director and the Graduate School. Candidates with insufficient backgrounds in core curricular areas, as determined by the director and graduate committee, will be required to take additional course work to attain the requisite curricular background.

Thesis

The student must produce a written research thesis document and a design thesis project with guidance and approval of a committee of graduate faculty from the department and the University. The thesis must meet standards, format, and procedures established by the Department of Architecture + Interior Design.

Program Outlines

The Master of Architecture (M. Arch.) is accredited by the National Architectural Accrediting Board (NAAB). Miami's graduate program in architecture accepts students from two different preparation backgrounds. Students from pre-professional undergraduate architecture programs who wish to complete their professional education and hold a Bachelor of Arts in Architecture or a Bachelor of Science in Architecture apply to the M. Arch. II Program. Those who have earned an undergraduate degree in fields other than architecture apply to the M. Arch. III Program.

Two-Year Professional Program in Architecture (M. Arch. II)

(60 credit hours with pre-professional design degree. Additional credit hours will be required if all prerequisites have not been met.)

The two-year professional program is designed for students with a pre-professional degree that is the equivalent of a Bachelor of Arts in Architecture. Normally, a Bachelor of Arts or a Bachelor of Science in Architecture is considered an equivalent pre-professional degree. Other undergraduate degree programs, in which the students have completed four years of architectural design studio and requisite coursework in architectural history and architectural technology, may also satisfy partial requirements for admission to the M. Arch. II Program.

Students admitted to the two-year program must complete 60 graduate credit hours, normally completed in two academic years. Additional credit hours are required if all prerequisites have not been met. All students in the M. Arch. II Program are expected to produce a written thesis document and a design thesis project. Students who have previously completed coursework that is the equivalent of required courses in the M. Arch. II sequence may be given credit for that work toward completion of the Master of Architecture degree from Miami. While students may petition to have these course requirements waived, the total credit hours required for graduation will not be reduced. Miami credit and waivers are approved only by the department's graduate faculty in consultation with the graduate director. The following proposal outlines the typical sequence of required courses and electives for the two-year term.

First Year		Credit Hours
Fall		
A 500-level departmental graduate seminar ¹		3
ARC 513	Environmental Control Systems I ²	3
ARC 601	Architecture Studio ³	6
ARC 634	Architectural Theory	3
Credit Hours		15
Spring		
ARC 511	Structural Design ²	3
ARC 514	Environmental Systems II	3
ARC 602	Architecture Studio ^{3,4}	6
ARC 636	Design & Research Methods	3
Credit Hours		15
Second Year		
Fall		
A 500-level departmental graduate seminar ¹		3
ARC 512	Structural Design ²	3
ARC 541	Professional Practice ²	3
ARC 701	Pre-Thesis Design Studio	6
Credit Hours		15
Spring		
ARC 551	Contemporary Architectural Theory and Practice ²	3
ARC 702	Thesis Design Studio	6
A graduate-level elective		3
A graduate-level elective (with approval of advisor)		3
Credit Hours		15
Total Credit Hours		60

¹ See advisor to determine eligible course options.

² ARC 511, ARC 512, ARC 513, ARC 514, ARC 541, and ARC 551 can be waived and elective coursework substituted if the student demonstrates that course requirements have been met in his/her previous curriculum.

³ ARC 517, ARC 518, and ARC 621-ARC 622 (or their equivalent) are the normal prerequisites for ARC 601-ARC 602. A pre-semester review will be held to determine if these prerequisites are met.

⁴ ARC 513 (or the equivalent) is a prerequisite for ARC 602.

Three-Year Professional Program in Architecture (M. Arch. III)

(88 credit hour track for students with degrees in other disciplines)

The three-year (M. Arch. III) professional program is designed for students whose undergraduate degrees are outside the field of architecture. The program was established for two reasons. First, M. Arch. III students are generally a diverse group of individuals who bring perspective and an intellectual maturity that can benefit the program. Second, these students often return to school after significant work experience and, when combined with their prior education, can significantly enrich the teaching and learning culture of the graduate program and the department at large.

Students admitted to the M. Arch. III graduate program must complete 88 graduate credit hours that are normally completed in three academic years. All students in the M. Arch. III program are expected to produce a written thesis document and a thesis design project. Students who have previously completed coursework that is the equivalent of that required in the M. Arch. III sequence may be given credit for that work toward completion of the Master of Architecture degree. While students may petition to have these course requirements waived, the credit hours required to fulfill degree requirements will not be reduced. Miami credit and waivers are approved only by the department's graduate faculty in consultation with the graduate director.

The first year of the 88 credit-hour track is a preparatory year during which students receive intensive education in the fundamental principles of architectural design, graphic communication and visual analysis, architectural history and theory, and architectural technology. For M. Arch. III graduate students to continue in the program, design work from the preparatory year must be reviewed and approved by a committee of graduate faculty in the latter part of the spring semester.

The following curriculum outlines the typical sequence of required courses and electives for the three-year program.

First Year

Fall		Credit Hours
ARC 517	Architectural Materials	3
ARC 582	Architectural Design Studio	6
ARC 613	Graphic Media II	2
ARC 621	History of Architecture I	3
Credit Hours		14

Spring

ARC 518	Construction Methods	3
ARC 583	Architectural Design Studio	6
ARC 614	Graphic Media III	2
ARC 622	History of Architecture II	3
Credit Hours		14

Second Year

Fall		Credit Hours
ARC 510	Statics & Strengths of Materials	3
ARC 513	Environmental Control Systems I	3
ARC 601	Architecture Studio	6
ARC 634	Architectural Theory	3
Credit Hours		15

Spring

ARC 511	Structural Design	3
ARC 514	Environmental Systems II	3
ARC 602	Architecture Studio	6
ARC 636	Design & Research Methods	3
Credit Hours		15

Third Year

Fall		Credit Hours
A 500-level departmental graduate seminar ¹		3
ARC 512	Structural Design	3
ARC 541	Professional Practice	3

ARC 701	Pre-Thesis Design Studio	6
Credit Hours		15
Spring		
A 500-level departmental graduate seminar ¹		3
ARC 551	Contemporary Architectural Theory and Practice	3
ARC 702	Thesis Design Studio	6
A graduate-level elective		3
Credit Hours		15
Total Credit Hours		88

¹ See advisor to determine eligible course options.

Art, Studio- Master of Fine Arts

For information, contact:
 Studio Art Graduate Director
 Department of Art
 124 Art Building
 513-529-2900
<http://arts.MiamiOH.edu/art/programs/graduate-studio-art>

Admission Requirements

In addition to requirements of the Graduate School, you must meet departmental requirements.

You must have earned a minimum of 74 semester hours (110 quarter hours), of which 12 must be in art history and 12 must be in drawing, studio, and related art courses. At least 12 semester hours (18 quarter hours) must be advanced hours in the area of proposed concentration. Total general academic studies shall not be less than 30 semester hours (45 quarter hours). **Note:** Life experiences, strong portfolio contents, and other factors may substitute for some of these requirements. Only the Department of Art graduate faculty may approve substitutions.

Departmental acceptance into the M.F.A. program is determined by graduate faculty evaluation of transcripts, three letters of recommendation, a one-page statement of goals for study, experience, and examples of creative work indicating competence in the area of proposed study. Portfolios representing your studio performance should be submitted to the Department of Art via SlideRoom, an online web portal, at the time of application to the Graduate School. An on-campus interview with an instructor in the area of proposed study prior to or during the application process is also strongly recommended. Instructional and other resources of the department determine the number of applicants accepted.

Priority application deadline is **Feb. 1**. Applications are accepted until **June 1** for enrollment in fall semester.

Program Requirements

(60 semester hours)

This program requires a minimum of two years of full-time graduate study with areas for studio concentration available in ceramics, metals, painting, photography, printmaking, and sculpture.

Code	Title	Credit Hours
Studio courses:		
600-level studio courses with no fewer than 18 hours in primary discipline, either Art 660 – Ceramics; Art 664- Metals; Art 630 – Painting; Art 657 – Photography; Art 645 – Printmaking; or Art 670 – Sculpture.		24
ART 601	Graduate Assistant Seminar ¹	3
ART 602	Graduate Seminar in Studio Practice (taken repeatedly)	6
Graduate-level art history, Art 680 is required for 3 hours.		
ART 680	Graduate Seminar in Art History	3
Thesis		
ART 700	Thesis	9
Graduate Art History Elective Options, choose 6 hours from list below:		6
ART 506	Art Since 1980	
ART 587	Art of the Early 20th Century	
ART 588	Art in the Age of Revolution: 1789-1848	
ART 589	Postwar to Postmodern, 1945-1980	
Graduate electives		9
Graduate Electives can include any graduate level course at the university relevant to studio practice, and require approval of lead faculty in the student's area of study. Graduate students frequently take elective credit in a studio discipline other than their primary discipline. Two recommended electives, Art 620 and Art 596 are listed below.		
ART 620	Graduate Study in Drawing	
ART 596	Seminar on Theory for Visual Artists	
Total Credit Hours		60

¹ Required of graduate teaching assistants.

Athletic Training - Master of Athletic Training

Athletic Trainers (ATs) are licensed health care professionals who collaborate with physicians in the prevention, immediate care, clinical diagnosis, therapeutic intervention, and rehabilitation of injuries and illnesses to optimize physical activity and well-being. The Athletic Training Program (ATP) at Miami University leads to a Master of Athletic Training (MAT) degree and is accredited by the Commission on Accreditation of Athletic Training Education (CAATE). Students who successfully complete the ATP will be eligible and qualified to take the Board of Certification (BOC) examination and enter professional practice.

Students develop skills in patient-centered care, interprofessional practice, evidence-based practice, quality improvement, health care informatics, and professionalism. Program curricular content includes such areas as anatomy/physiology, immediate care, foundational skills, examination/diagnosis, therapeutic intervention, general medical conditions, pathophysiology, and health care administration. In addition to the curricular content, clinical

experiences under the direct supervision of a BOC-credentialed Athletic Trainer are required to successfully fulfill the program requirements and to attain competency and proficiency of the required skills. Assistance is available to all students admitted into the program in finding placements to complete the clinical requirement. This requirement will be attained through scheduled clinical experiences with assigned clinical preceptors. Clinical placement locations include Miami University athletics (both varsity and club), local high schools (both Ohio and Indiana), outpatient rehabilitation clinics, and other emerging clinical rotation sites.

The mission of the Athletic Training Program (ATP) at Miami University is to prepare educated professional athletic trainers through academic and clinical education in which students develop competency and proficiency of entry-level skills for successful completion of the Board of Certification (BOC) examination and placement within the athletic training profession. We seek to advance highly competent healthcare providers who integrate current evidence, clinical expertise, and patient values in practice.

Program Requirements

Code	Title	Credit Hours
Required courses:		
KNH 591	Injury Recognition and Patient Care (Injury Recognition and Patient Care)	3
KNH 601	Athletic Training Clinical Practicum I (Clinical Practicum in AT I)	1
KNH 602	Athletic Training Clinical Practicum II (Clinical Practicum in AT II)	1
KNH 603	Athletic Training Clinical Practicum III (Clinical Practicum in AT III)	1
KNH 604	Athletic Training Clinical Practicum IV (Clinical Practicum in AT IV)	1
KNH 607	Foundational Skills in Athletic Training (Foundational Skills in AT)	3
KNH 609	Emergency Patient Care in Athletic Training (Emergency patient Care in AT)	3
KNH 625	Clinical Anatomy and Kinesiology (Clinical Anatomy and Kinesiology)	3
KNH 626	Examination & Diagnosis I - Lower Extremity (Examination and Diagnosis I)	3
KNH 627	Examination & Diagnosis II - Upper Extremity (Examination and Diagnosis II)	3
KNH 628	Examination & Diagnosis III - General Medical (Examination and Diagnosis III)	3
KNH 636	Therapeutic Interventions I - Modalities (Therapeutic Interventions I)	3
KNH 637	Therapeutic Interventions II - Rehabilitative Exercise (Therapeutic Interventions II)	3
KNH 638	Therapeutic Interventions III - Pharmacology & Psychosocial (Therapeutic Interventions III)	3

KNH 641	Immersive Experience in Athletic Training (Immersive Experience in AT)	1
KNH 656	Clinical Pathology in Athletic Training (Clinical Pathology in Athletic Training)	3
KNH 658	Health Care Administration and Informatics in Athletic Training (Health Care Administration and Informatics)	3
KNH 691	Evidence-based Athletic Training (Evidence-based AT)	3
KNH 692	Evidence-based Athletic Training II (Evidence-based AT II)	3
KNH 693	Graduate Seminar in Athletic Training (Graduate Seminar in AT I)	1
KNH 695	Graduate Seminar in Athletic Training II (Graduate Seminar in AT II)	1
KNH 697	Graduate Capstone in Athletic Training (Graduate Capstone in AT)	3
Total Credit Hours		52

Biological Sciences- Master of Arts in Teaching

For information, contact:
513-529-8576
<http://masters.df.MiamiOH.edu>

The Master of Arts in Teaching (MAT) in the Biological Sciences is a part-time, non-thesis master's program designed for formal and informal educators who already hold teaching licensure. The program is cooperatively offered by Project *Dragonfly* and the Department of Biology. The MAT has two main programs: the Advanced Inquiry Program (AIP) and the Global Field Program (GFP). The master's is designed to be completed in 2.5 years.

This program is not intended to lead to teacher certification. Teachers are advised to contact their individual school districts as to whether this program may qualify for salary advancement.

Biological Sciences: Master of Arts in Teaching (Project Dragonfly)

35 Semester Hours

Code	Title	Credit Hours
Students may enroll in either the Advanced Inquiry Program (AIP) or the Global Field Program (GFP).		
Advanced Inquiry Program (AIP)		
Required Core Courses		
BIO 631	Conservation Science & Community	3
BIO 632	Biology in the Age of Technology	3
BIO 634	Issues in Evolution	3
BIO 636	Science Leadership & Media Workshop	3
BIO 639	Master's Capstone: MAT	2
Electives - (Include but not limited to) ¹		21

Students may substitute one Earth Expeditions course (5 credit summer + 2 credit fall Inquiry and Action) for seven AIP W+ credit hours.)

BIO 620	Graduate Research (cannot exceed 10 hours)
BIO 638	Climate Change
BIO 640	Internship
BIO 654	Foundations of Inquiry
BIO 655	Master Plan in Action
BIO 656	Environmental Stewardship in My Community
BIO 657	Regional Ecology
BIO 658	Ecophysiology
BIO 659	Great Lakes Ecosystems
BIO 662	Animal Behavior & Conservation
BIO 663	Project Design & Assessment
BIO 667	Conservation Research at Living Collection Institutions
BIO 677	Independent Studies
BIO 694	Habitats, Adaptations, & Evolution
BIO 695	Plants & People
BIO 696	Primate Behavior & Conservation

Global Field Program (GFP)

Required Core Courses

BIO 631	Conservation Science & Community	3
BIO 632	Biology in the Age of Technology	3
BIO 634	Issues in Evolution	3
BIO 636	Science Leadership & Media Workshop	3
BIO 639	Master's Capstone: MAT	2
BIO 675	Inquiry & Action (take three times)	2, 2, 2

Electives - (Include but not limited to)

Students enroll in three of the following Earth Expeditions courses: 15

BIO/IES 642	Amazon: Avian & Tropical Ecology
BIO/IES 643	Australia: Great Barrier Reef
BIO/IES 644	Baja: Field Methods
BIO/IES 645	Belize: Approaches to Environmental Stewardship
BIO/IES 646	Borneo: Primate Conservation
BIO/IES 647	Guyana: Local Wisdom & Conservation
BIO/IES 648	Hawai'i: Saving Species
BIO/IES 649	Kenya: Wildlife & People in Integrated Landscapes
BIO/IES 651	Mongolia: Steppe Ecology & Civic Media
BIO/IES 653	India: Species, Deities & Communities
BIO/IES 691	Costa Rica: Ecology & Ecotourism
BIO/IES 692	Namibia: Great Cat Conservation
BIO/IES 652	Thailand: Buddhism & Conservation

¹ Note that certain electives from the list may be required at some AIP locations.

Miami University is authorized by the Washington Student Achievement Council and meets the requirements and minimum educational standards established for degree-granting institutions under the Degree-Granting Institutions Act. This authorization is subject to periodic review and authorizes Miami University to offer specific degree programs. The Council may be contacted for a list of currently authorized programs. Authorization by the Council does not carry with it an endorsement by the Council. Any person desiring information about the requirements of the act or the applicability of those requirements to the institution may contact the Council at P.O. Box 43430, Olympia, WA 98504-3430, or by email at degreeauthorization@wsac.wa.gov.

The Washington Student Achievement Council (WSAC) has authority to investigate student complaints against specific schools. WSAC may not be able to investigate every student complaint. Visit <https://www.wsac.wa.gov/student-complaints> for information regarding the WSAC complaint process.

For Washington State residents seeking information and resources about student loan repayment or seeking to submit a complaint relating to your student loans or student loan servicer, please visit www.wsac.wa.gov/loan-advocacy or contact the Student Loan Advocate at loanadvocate@wsac.wa.gov.

The transferability of credits earned at Miami University is at the discretion of the receiving college, university, or other educational institution. Students considering transferring to any institution should not assume that credits earned in any program of study at Miami University will be accepted by the receiving institution. Similarly, the ability of a degree, certificate, diploma, or other academic credential earned at Miami University to satisfy an admission requirement of another institution is at the discretion of the receiving institution. Accreditation does not guarantee credentials or credits earned at Miami University will be accepted by or transferred to another institution. To minimize the risk of having to repeat coursework, student should contact the receiving institution in advance for evaluation and determination of transferability of credits and/or acceptability of degrees, diplomas, or certificates earned.

For more information about requirements, admission, and program descriptions go to <https://projectdragonfly.miamioh.edu/>

Biology- Master of Arts, Master of Arts in Teaching, Master of Science, Doctor of Philosophy, Certificate

For information, contact:
Chair of Graduate Advisory Committee
Department of Biology
212 Pearson Hall, 513-529-3100
<http://MiamiOH.edu/cas/academics/departments/biology/academics/graduate-studies/index.html>

Research and Support Facilities

The department has outstanding laboratory facilities that are supported by the university, as well as grants from a variety of agencies and foundations including the National Institutes of Health, National Science Foundation, U.S. Department of Agriculture, and the U.S. Environmental Protection Agency. Facilities include DNA

sequencing, synthesizing, and analytical equipment and specialized equipment for cellular, developmental and neurophysiological research, including electron microscopy and confocal laser facilities.

Miami University is located near excellent sites for field studies in terrestrial and aquatic ecosystems. The university's Ecology Research Center located two miles from campus has more than 200 acres devoted to a wide range of research projects in behavior, ecology, and environmental biology. In addition, Hueston Woods State Park and other nearby field sites are readily available to faculty and students.

The Biology Department also collaborates to offer Project *Dragonfly* online/hybrid graduate programs designed for working professionals located across the United States and abroad. These programs enable connections with leading zoos and botanical gardens as well as international Earth Expeditions field courses.

Admission Requirements

Admission is based on evaluations submitted by the departmental, the Graduate School, and (where applicable) the International Programs Office. Applicants for the Master of Science and Doctoral programs are required to make contact with and identify a prospective major advisor.

For Project *Dragonfly*/Biology degree programs, which include paths for a Master of Arts in Biological Sciences (MA) or Master of Arts in Teaching in the Biological Sciences (MAT), prospective applicants can learn more about admission requirements by visiting the Advanced Inquiry Program or Global Field Program websites.

For the Master of Science and Doctoral Programs

All application instructions can be accessed through the Miami University Graduate Studies website (<http://www.miamioh.edu/graduate-studies/admission/>)

A complete application must include the following:

1. Submit your application, pay the application fee, and submit all supplemental materials (numbers 2-7 below) electronically: (<https://www.applyweb.com>).
2. Official copies of transcripts for all undergraduate and graduate work. Unofficial transcripts should be submitted with your application (with your name and institution clearly indicated). If admitted, you will be required to submit an official transcript for each degree earned.
3. An official copy of the Graduate Record Examination (GRE) general test. You may apply before completing the GRE, but your application will not be reviewed until an official score report is received.
4. For most international applicants, an official copy of scores on the Test of English as a Foreign Language (TOEFL) is also required.
5. Resume.
6. Three letters of recommendation.
7. Personal Statement - a letter outlining professional goals, research interests, and potential faculty advisor(s). We encourage you to contact individual faculty members with whom you share a research interest (email links available on our web site: (<http://biology.MiamiOH.edu>) prior to submitting your application. To be

admitted, you must identify at least one faculty member that is willing to serve as your advisor.

For more information about requirements, admission, and program description go to Biology Department Graduate Programs.

General Requirement: Master of Science, Doctor of Philosophy

As a part of their professional training, all M.S. and Ph.D. candidates must perform departmental teaching and/or research.

Requirements: Master's Degree Programs

Biology- Master of Science

- Incoming students are expected to have completed a bachelor's degree and should have a broad course background in biology, chemistry, physics, and mathematics or statistics. A student may be required to complete undergraduate courses as part of his/her program of study.
- Complete a pedagogy workshop upon entry to the graduate program, prior to assistantship duties, and complete an introductory seminar (BIO 601) during the first fall semester in residence.
- Complete at least 30 semester hours of graduate work including:
 - at least 9 hours of formal course credit,
 - at least three seminars, and
 - six to 12 hours of thesis credit in biology. Not more than 10 semester hours of transfer credit can be applied to the degree. A course of study must be approved by a committee of graduate faculty during the first year in residence.
- Pass an oral defense of your thesis proposal, approved by a committee of graduate faculty.
- Conduct a research project approved by a committee of graduate faculty and present the project as a written thesis and in a public seminar.
- Pass an oral examination in defense of your thesis, approved by a committee of graduate faculty.

In addition to the general requirements described above, M.S. students may be eligible for a certificate in Ecology by taking additional specific formal coursework. See the field of study listings in this Graduate Bulletin titled Ecology-Certificate for more details regarding requirements.

Admission Requirements for the Master of Arts in Biology Program

Incoming students are expected to be over the age of 18 and have completed a bachelor's degree. The GRE is not required. Students admitted to the program who have not completed at least one university-level life science course or its equivalent will need to complete one of several options (determined by the MA graduate committee) for basic biology content as part of the Master's degree program. Applicants submit application materials (short essays, CV/resume, and two letters of recommendation). Learn more at the following websites or contact us at 513-529-8576.

- Advanced Inquiry Program (AIP) - an online master's degree that combines web-based Miami graduate courses with face-to-face experiential learning and field study at some of the nation's premier zoos and botanical gardens.

- Global Field Program (GFP) - graduate students engage in online courses and, in the summer, travel to conservation hotspots in Africa, Asia, Australia, and the Americas to gain firsthand experience in conservation biology and participatory education.

Either program can lead to a Master of Arts in Biology (MA) or a Master of Arts in Teaching in the Biological Sciences (MAT).

Biology- Master of Arts

The Master of Arts (MA) in Biology is a part-time, non-thesis master's program designed for working professionals from diverse backgrounds, including formal and informal educators. The program is cooperatively offered by Project *Dragonfly* and the Department of Biology. The MA has two main programs: the Advanced Inquiry Program (AIP) and the Global Field Program (GFP). The master's is designed to be completed in 2.5 years.

Biology: Master of Arts (Project *Dragonfly*)

35 Semester Hours

Code	Title	Credit Hours
Students may enroll in either the Advanced Inquiry Program (AIP) or the Global Field Program (GFP).		
Advanced Inquiry Program (AIP)		
Required Core Courses		
BIO 631	Conservation Science & Community	3
BIO 632	Biology in the Age of Technology	3
BIO 634	Issues in Evolution	3
BIO 636	Science Leadership & Media Workshop	3
BIO 637	Master's Capstone	2
Electives - (Include but not limited to) ¹		21
Students may substitute one Earth Expeditions course (5 credit summer + 2 credit fall Inquiry and Action) for seven AIP W+ credit hours.)		
BIO 620	Graduate Research (cannot exceed 10 hours)	
BIO 638	Climate Change	
BIO 640	Internship	
BIO 654	Foundations of Inquiry	
BIO 655	Master Plan in Action	
BIO 656	Environmental Stewardship in My Community	
BIO 657	Regional Ecology	
BIO 658	Ecophysiology	
BIO 659	Great Lakes Ecosystems	
BIO 662	Animal Behavior & Conservation	
BIO 663	Project Design & Assessment	
BIO 667	Conservation Research at Living Collection Institutions	
BIO 677	Independent Studies	
BIO 694	Habitats, Adaptations, & Evolution	
BIO 677W	Independent Studies	
BIO 695	Plants & People	
BIO 696	Primate Behavior & Conservation	
Global Field Program (GFP)		

Required Core Courses

BIO 631	Conservation Science & Community	3
BIO 632	Biology in the Age of Technology	3
BIO 634	Issues in Evolution	3
BIO 636	Science Leadership & Media Workshop	3
BIO 639	Master's Capstone: MAT	2
BIO 675	Inquiry & Action (take three times)	2, 2, 2
Electives - (Include but not limited to)		
Students enroll in three of the following Earth Expeditions courses:		15
BIO/IES 642	Amazon: Avian & Tropical Ecology	
BIO/IES 643	Australia: Great Barrier Reef	
BIO/IES 644	Baja: Field Methods	
BIO/IES 645	Belize: Approaches to Environmental Stewardship	
BIO/IES 646	Borneo: Primate Conservation	
BIO/IES 647	Guyana: Local Wisdom & Conservation	
BIO/IES 648	Hawai'i: Saving Species	
BIO/IES 649	Kenya: Wildlife & People in Integrated Landscapes	
BIO/IES 651	Mongolia: Steppe Ecology & Civic Media	
BIO/IES 653	India: Species, Deities & Communities	
BIO/IES 691	Costa Rica: Ecology & Ecotourism	
BIO/IES 692	Namibia: Great Cat Conservation	
BIO/IES 652	Thailand: Buddhism & Conservation	

¹ Note that certain electives from the list may be required depending on a student's AIP location.

Miami University is authorized by the Washington Student Achievement Council (WSAC) and meets the requirements and minimum educational standards established for degree-granting institutions under the Degree-Granting Institutions Act. This authorization is subject to periodic review and authorizes Miami University to offer field placement components for specific degree programs. The Council may be contacted for a list of currently authorized programs. Authorization by the Council does not carry with it an endorsement by the Council of the institution or its programs. Any person desiring information about the requirements of the act or the applicability of those requirements to the institution may contact the Council at P.O. Box 43430, Olympia, WA 98504-3430, or by email at degreeauthorization@wsac.wa.gov.

The Washington Student Achievement Council (WSAC) has authority to investigate student complaints against specific schools. WSAC may not be able to investigate every student complaint. Visit <https://www.wsac.wa.gov/student-complaints> for information regarding the WSAC complaint process.

For Washington State residents seeking information and resources about student loan repayment or seeking to submit a complaint relating to your student loans or student loan servicer, please visit www.wsac.wa.gov/loan-advocacy or contact the Student Loan Advocate at loanadvocate@wsac.wa.gov.

The transferability of credits earned at Miami University is at the discretion of the receiving college, university, or other educational institution. Students considering transferring to any institution should not assume that credits earned in any program of study at Miami University will be accepted by the receiving institution. Similarly, the ability of a degree, certificate, diploma, or other academic credential earned at Miami University to satisfy an admission requirement of another institution is at the discretion of the receiving institution. Accreditation does not guarantee credentials or credits earned at Miami University will be accepted by or transferred to another institution. To minimize the risk of having to repeat coursework, students should contact the receiving institution in advance for evaluation and determination of transferability of credits and/or acceptability of degrees, diplomas, or certificates earned.

For more information about requirements, admission, and program descriptions go to <https://projectdragonfly.miamioh.edu/>.

Biological Sciences- Master of Arts in Teaching (35 semester hours)

For more information about requirements, admission, and program description go to <http://bulletin.miamioh.edu/graduate-fields-study/biological-sciences/>.

Requirements: Doctoral Programs

Biology- Doctor of Philosophy

In addition to the general requirements specified by the Graduate School, you must:

1. Fulfill all requirements specified for the Master of Science in Biology and any further courses specified by your graduate advisory committee. Doctoral students are expected to participate in graduate seminars throughout their program, are expected to participate in departmental teaching as part of their professional development, and are required to complete at least 30 semester hours of dissertation credit (BIO 850). A course of study must be approved by a committee of graduate faculty during the first year in residence;
2. Demonstrate adequate knowledge of biology and related areas by successfully passing a written and oral comprehensive examination administered by a committee of graduate faculty;
3. Pass an oral defense of your dissertation proposal, approved by a committee of graduate faculty;
4. Conduct a research project approved by a committee of graduate faculty and present the project as a written dissertation and in a public seminar;
5. Pass an oral examination in defense of your dissertation, approved by a committee of graduate faculty.

Biomedical Science - Master of Medical Science

The Master of Medical Science (MMSc) in Biomedical Science degree is both a vocational and post-graduate studies entry level degree within the health sciences field. Program curriculum allows exploration into a deeper knowledge of core life sciences, while preparing graduates for a future in advanced medical education studies or a career within the healthcare-related biomedical science professions research.

Program Requirements

General Studies Track: 32 credit hours

Code	Title	Credit Hours
Required Courses		
CHM 740	Topics in Organic and Biochemistry	3
MMS 690	General Medical Sciences Capstone	3
PAS 601	Introduction to the Healthcare Professions (Physician Associate)	1
PAS 603	Evidence Based Medicine and Clinical Research	3
PAS 604	Clinical Bioethics and Professional Conduct	1
PAS 611	Pharmacology	2
PAS 612	Introduction to the Human Body and Pathophysiology of Disease--Lecture	4
PAS 623 or MBI 515	Immunology and Infectious Disease Immunology Principles and Practice	3-4
12-credits will be accomplished through elective requirements. Required Subgroup Neuro (3-credits); Required Subgroup Molecular (3-Credits); Required Subgroup Public Health/Gerontology (3-credits); Required Subgroup 4 General Science (3-Credits)		12
Total Credit Hours		32-33

Leadership Studies Track: 47 credit hours

Code	Title	Credit Hours
Required Courses		
CHM 740	Topics in Organic and Biochemistry	3
FIN 625	Managerial Finance	3
ISA 628	Information Technology and Analytic's Role in the Enterprise	1.5
MGT 610	Strategic Human Capital Management	1.5
MGT 627	Supply Chain and Operations Management	3
MKT 618	Marketing Management	3
MMS 677	Independent Studies	3
MMS 690	General Medical Sciences Capstone	3
PAS 601	Introduction to the Healthcare Professions (Physician Associate)	1
PAS 603	Evidence Based Medicine and Clinical Research	3
PAS 604	Clinical Bioethics and Professional Conduct	1
PAS 611	Pharmacology	2
PAS 612	Introduction to the Human Body and Pathophysiology of Disease--Lecture	4
PAS 623 or MBI 515	Immunology and Infectious Disease Immunology Principles and Practice	3-4

12-credits will be accomplished through elective requirements. Required Subgroup Neuro (3-credits); Required Subgroup Molecular (3-Credits); Required Subgroup Public Health/Gerontology (3-credits); Required Subgroup 4 General Science (3-Credits)

Total Credit Hours 47-48

Elective Courses

Code	Title	Credit Hours
Subgroup 1 - Neuro (3 CREDIT HOURS MINIMUM)		
BIO 552	Neuromodulation:Cells to Circuits	3
BIO 554	Endocrinology	3
BIO 569	Neurophysiology	3
BIO 571	Molecular Physiology	3
Subgroup 2 - Molecular (3 CREDIT HOURS MINIMUM)		
BIO 544	Molecular Biology	3
BIO 564	Laboratory in Cell and Molecular Biology	3
BIO 605	Advanced Molecular Biology	3
BIO 606	Advanced Cell Biology	3
MBI 595	Bacterial Cellular and Developmental Biology	3
CHM 740	Topics in Organic and Biochemistry	3
Subgroup 3 - Public Health/Gerontology (3 CREDIT HOURS MINIMUM)		
KNH 541	Environmental Public Health	3
KNH 562	Public Health Planning and Evaluation	3
KNH 611	Behavioral Approaches to Health Promotion and Education	3
GTY 556	Aging & Health	3
GTY 579	Research on Inequality in Aging & Health	4
GTY 602	Perspectives in Gerontology	3
GTY 667	Policy and Politics of Aging	3
Subgroup 4 - General Science (3 CREDIT HOURS MINIMUM)		
BIO 549	Biology of Cancer	3
MBI 505	Medical Bacteriology	4
MBI 525	Microbial Physiology	4
MBI 564	Human Viruses	3
GTY 608	The Logic of Inquiry	4
GTY 609	Qualitative Research Methods	3

Botany- M.A., M.S., Ph.D.

For information, contact:
 Botany Program Graduate Advisor
 Department of Biology
 212 Pearson Hall, 513-529-3100
www.miamioh.edu/cas/academics/departments/biology/

Research and Support Facilities

The Department of Biology in Pearson Hall is well-equipped with research laboratories in plant anatomy and morphology, cell biology, plant ecology, plant evolutionary genetics, plant

molecular biology, mycology, plant physiology, plant systematics, and bioinformatics. Special facilities include: Center for Advanced Microscopy and Imaging, Willard Sherman Turrell Herbarium, Center for Bioinformatics and Functional Genomics, plant growth chamber facility, and the Ecology Research Center (184 acres). Special departmental funds are available on a competitive basis to support student research projects.

Admission Requirements

Admission is based on evaluations by departmental faculty, the Graduate School, and (where applicable) the International Programs Office. All application instructions can be accessed through the Miami University Graduate School website. You should submit a departmental application, transcripts, Graduate Record Examination (GRE) scores, three letters of recommendation, a copy of your resume/CV, and a statement that describes your training and experience and defines your area of research interest and long-range goals.

Combined Bachelor/Master's Program

The combined BA(BS)/MA program in Botany allows students to pursue a Masters of Arts degree in an accelerated manner while pursuing their bachelor's degree. It is designed for students who wish to acquire knowledge in plant sciences in order to prepare for a career in industry, governmental agencies, biological consulting, the non-profit sector, or related areas. Please contact the Botany Program Graduate Advisor for more information about the combined program.

Botany- Master of Arts

(30 semester hours)

1. Minimum background preparation at the undergraduate level in:
 - general biology or botany
 - organic chemistry or biochemistry
 - genetics or evolution
2. Complete BIO 601 (Graduate Colloquium) during your first fall semester in residence.
3. Complete at least 36 hours of graduate work including:
 - a. one of BIO 650, BIO 710, BIO 720, or equivalent;
 - b. three courses from the following: BIO 502, BIO 503, BIO 525, BIO 532, BIO 566, BIO 581, BIO 582, BIO 583, BIO 605, BIO 671, BIO 672;
 - c. up to 12 hours of BIO 700.
4. Complete an internship experience (or approved substitute), write a report in accordance with current Graduate School guidelines, and pass an oral defense of the internship report.

Botany- Master of Science

(30 semester hours)

1. Minimum background preparation at the undergraduate level in:
 - a. general biology or botany
 - b. organic chemistry or biochemistry
 - c. genetics or evolution
2. Complete BIO 689 and BIO 601 during your first fall semester in residence.
3. Complete at least 30 hours of graduate work including at least:

- a. one of BIO 650, BIO 720, or equivalent;
 - b. one botany graduate (500 or above) course of three credit hours or more (with a "B" or higher) from three of the four core areas in botany;
 - c. one additional pedagogical botany graduate course exclusive of BIO 601, BIO 720, and BIO 750;
 - d. completing six to 12 hours of BIO 700.
4. Demonstrate adequate knowledge of botany and related areas by passing an oral comprehensive examination.
 5. Pass an oral defense of the thesis.

In addition to the general requirements described above, M.S. students may be eligible for the certificate in Ecology by taking additional specific formal coursework. See the field of study listings in this Graduate Bulletin titled Ecology-Certificate for more details regarding requirements.

Botany- Doctor of Philosophy

(60 semester hours)

In addition to the general requirements specified by the Graduate School, you must meet minimum requirements for the master's degree or equivalent and fulfill the following requirements:

1. Complete BIO 689 and BIO 601 during your first fall semester in residence.
2. Complete at least 60 hours of graduate work including at least
 - a. two of BIO 650, BIO 720, or equivalent;
 - b. one biology graduate (500 or above) course of three credit hours or more (with a "B" or higher) from each of the four core areas in biology;
 - c. two additional pedagogical biology graduate courses exclusive of BIO 601, BIO 720, and BIO 750;
 - d. 16 to 60 hours of BIO 850.
3. Demonstrate adequate knowledge of botany and related areas by passing a written and oral comprehensive examination.
4. Pass an oral defense of the doctoral dissertation.

In addition to the general requirements described above, Ph.D. students may be eligible for the certificate in Ecology by taking additional specific formal coursework. See the field of study listings in this Graduate Bulletin titled Ecology-Certificate for more details regarding requirements.

Business Administration- Master of Business Administration

For information, contact:
MBA Program Office, Voice of America Learning Center

Located at our satellite location - West Chester, Ohio

Farmer School of Business, 513-895-8876

fsbgrad@miamioh.edu

The Farmer School of Business offers an MBA degree for working professionals. Each semester the student chooses to attend evening classes in person in West Chester at Miami's Voice of America Learning Center, fully online, or a combination of both (hybrid).

The program is completed on a part time basis and designed to allow completion in 2 years, assuming year-round participation by the student. Admission requirements are posted on the MBA program website.

The Farmer School of Business is accredited by the AACSB, the international association for management education.

Admission Requirements

The application and fee (via credit card) can be submitted online; official transcripts should be submitted online with application. A resume should be uploaded along with a contact person who will serve as a recommender. Complete details of the admission process can be found on the MBA admission website.

Requirements: Professional (Part-Time) Program

(36 semester hours)

There are three pre-requisite courses required prior to beginning the Professional MBA Program: Financial Accounting, Statistics, and Micro-Economics. Students must also display familiarity with standard desktop software, particularly spreadsheets. There will be an assessment process to ensure that the admitted student has both completed the pre-requisite courses and is competent in the prerequisite subject matter.

Students admitted to the Professional MBA program may choose a concentration in Marketing or Finance or students may earn a general MBA by taking a combination of three concentration courses.

Code	Title	Credit Hours
Core Courses		
ACC 611	Accounting for Managers	3
ECO 616	Microeconomic Analysis for Managerial Decisions	3
ISA 621	Enabling Technology Topics I	3
FIN 625	Managerial Finance	3
MKT 618	Marketing Management	3
MGT 627	Supply Chain and Operations Management	3
MGT 644	Leadership, Change & Cross-Cultural Management	3
MGT 654	Strategic Human Resource Management	3
BUS 637	Managing Competition	3
Concentration: select one elective per term your second year for a total of 9 credit hours for your concentration		9
Marketing Concentration Courses		
MKT 622	Creativity, Innovation & Problem Solving in Marketing	
MKT 632	Information Network Marketing	
MKT 635	Branding and Brand Equity Management	
MKT 645	Marketing Analytics for the Executive	
Finance Concentration Courses		
FIN 635	Investment Management	

FIN 645

FIN 675 Applied Advanced Corporate Finance

Total Credit Hours

36

Business Analytics- Master of Science in Business Analytics

For information, contact the Department of Information Systems and Analytics, 3095 FSB, 513-529-4835

The MS in Business Analytics provides students with the skills and knowledge to excel at data driven decision making in organizations. It includes base level skills and knowledge required for data and analytics necessary across domains and an advanced set of skills and knowledge for decision making in a business context. This advanced knowledge includes machine learning applications in organizational settings, the forefronts of prescriptive methodologies, and applications of artificial intelligence. Students will also engage with practitioners about how analytics solutions are deployed and put to practice in organizations and be immersed in an experiential project to deliver a client based data-driven solution.

Program Requirements

Code	Title	Credit Hours
Required courses:		
ISA 512	Data Warehousing and Business Intelligence	3
ISA 514	Managing Big Data	3
ISA 591	Introduction to Data Mining in Business	3
ISA 616	Communicating with Data	3
ISA 630	Machine Learning Applications in Business	3
ISA 632	Big Data Analytics and Modern AI	3
ISA 633	Prescriptive Analytics in Business	3
ISA 634	Analytics Solution Deployment and Lifecycle Management	3
Six hour Experiential Component (course is three hours and repeated once)		6
ISA 650	Business Analytics Practicum	
Total Credit Hours		30

Business Management Certificate

For information, contact:
Farmer School of Business
3075 FSB
Miami University
Oxford, OH 45056
513-529-3631

The Graduate Certificate in Business Management is embedded in the Master of Science in Management (MSM) degree program. Students will participate in foundation week, that includes team building, career preparation and business communication skills. The Certificate is earned with foundation week plus any twelve hours from

the Business Core component of the MSM program. The Business Core curriculum includes subjects from all the key functional areas of business. Students who successfully earn the certificate will have studied the fundamental business principles for an organization.

Program Requirements

Code	Title	Credit Hours	
Select any 12 hours from the following:			
ACC 611	Accounting for Managers	12	
ECO 618	Game Theory and Decisions		
FIN 625	Managerial Finance		
ISA 628	Information Technology and Analytic's Role in the Enterprise		
ISA 629	Leveraging IT and Data Across the Business		
MGT 627	Supply Chain and Operations Management		
MGT 610	Strategic Human Capital Management		
MKT 618	Marketing Management		
Total Credit Hours			12

Cell, Molecular and Structural Biology (CMSB)- M.S., Ph.D.

For information, contact:
 Chair of CMSB Admission Committee
 Department of Biology
 212 Pearson Hall, 513-529-3100
<http://www.cas.MiamiOH.edu/cmsb/>

Cell, Molecular and Structural Biology is a multi-disciplinary program that seeks to identify and understand the molecules that collectively form the basis of all life.

Program Requirements: Master of Science

(minimum of 30 credit hours)

Code	Title	Credit Hours	
Areas of Study			
Select one course from two of the three following areas: ¹		6-7	
Biochemistry:			
CHM 532	Fundamentals of Biochemistry	6-7	
Cell Biology:			
BIO 571	Molecular Physiology		
BIO/MBI 606	Advanced Cell Biology		
MBI 515	Immunology Principles and Practice		
Molecular Biology:			
BIO 544	Molecular Biology		
BIO/MBI 605	Advanced Molecular Biology		
Structural Biology			
Select one of the following:			2-4
BIO 581	Theory of Electron Microscopy		

BIO 582	Scanning Electron Microscopy Laboratory	6-7
BIO 583	Transmission Electron Microscopy Laboratory	
BIO 566	Bioinformatics Computing Skills	
BIO/MBI 585	Bioinformatics Principles	
CHM 740	Topics in Organic and Biochemistry	
CHM 760	Selected Topics in Inorganic and Analytical Chemistry	
CHM 770	Topics in Physical Chemistry	

Seminar Requirements

BIO/CHM/MBI 650	Seminar in Molecular Biology ²	1
BIO 601	Seminar for Graduate Students	1

Additional Courses

CHM/BIO/MBI 700	Research for Master's Thesis	1-12
Electives (minimum of 5 credit hours) as determined by the student's committee to meet required hours.		5

¹ One course must be at the 600 level.

² One semester for M.S., three semesters for Ph.D.

To achieve the minimum 30 credit hours required for the M.S., additional course work appropriate to student's area of interest will be determined by student's dissertation/thesis committee in accordance with Graduate School requirements.

Program Requirements: Doctor of Philosophy

Code	Title	Credit Hours	
Areas of Study			
Select one course from two of the three following areas: ¹		6-7	
Biochemistry:			
CHM 532	Fundamentals of Biochemistry	6-7	
Cell Biology:			
BIO 571	Molecular Physiology		
BIO/MBI 606	Advanced Cell Biology		
MBI 515	Immunology Principles and Practice		
Molecular Biology:			
BIO 544	Molecular Biology		
BIO/MBI 605	Advanced Molecular Biology		
Structural Biology			
Select one of the following:			2-4
BIO 581	Theory of Electron Microscopy	2-4	
BIO 582	Scanning Electron Microscopy Laboratory		
BIO 583	Transmission Electron Microscopy Laboratory		
BIO 566	Bioinformatics Computing Skills		
BIO/MBI 585	Bioinformatics Principles		
CHM 740	Topics in Organic and Biochemistry		
CHM 760	Selected Topics in Inorganic and Analytical Chemistry		
CHM 770	Topics in Physical Chemistry		

Seminar Requirements

BIO/CHM/MBI 650 Seminar in Molecular Biology ²	1,1,1
BIO 601 Seminar for Graduate Students	1

¹ One course must be at the 600 level.

² One semester for M.S., three semesters for Ph.D.

To achieve the minimum additional 60 credit hours required for the Ph.D., additional course work appropriate to student's area of interest will be determined by student's dissertation/thesis committee in accordance with Graduate School requirements.

Dissertation/Thesis Committee

The student, in consultation with his/her advisor, will set up a thesis committee (M.S.) by the end of the spring semester in the program or a dissertation committee (Ph.D.) by the end of the third semester in the program. These committees must be approved by the CMSB Director and the Graduate School.

M.S. Thesis Committee: Advisor and two other faculty members participating in the CMSB Program (total = 3).

Ph.D. Dissertation Committee: Advisor, at least three other faculty members from the CMSB Program, plus one additional faculty member who is not from the student's host department to serve as the Graduate School representative (total = 5).

Comprehensive Examination

M.S. - none

Ph.D. - written grant proposal on topic not related to dissertation work followed by oral defense of the proposal. Both written and oral components of the exam must be passed. The comprehensive examination should be completed by the end of the fifth semester in residence.

Thesis or Dissertation Proposal

Each student will present and defend a thesis or dissertation proposal to his/her thesis or dissertation committee. This should be done by the end of the third semester (M.S. students) or the end of the sixth semester (Ph.D. students) in residence.

Other Requirements

CMSB students will be expected to participate in pedagogy training prior to assuming their teaching duties. Students teaching Chemistry laboratories will attend training offered by the Department of Chemistry and Biochemistry. Students teaching BIO 115/BIO 116 MBI 115/MBI 116 laboratories will attend pedagogy training offered by one of the biological sciences departments. The CMSB Director, in consultation with participating departmental Graduate Advisory Committees, will assign CMSB students to appropriate departmental pedagogy training. CMSB students will also be expected to serve on CMSB and host department committees and otherwise participate in activities required of graduate students from the host department.

This structure will provide the necessary flexibility for an interdisciplinary program. The dissertation committee will be responsible for helping the student select courses that will appropriately train the student in the broad area of Cell, Molecular, and Structural Biology, with the specialization required for their particular research area. The committee will also administer the

comprehensive examination for Ph.D. students, give guidance for thesis or dissertation research, and will be responsible for conducting the thesis or dissertation defense.

Chemical and Biomedical Engineering- Master of Science in Chemical and Biomedical Engineering

For information, contact:

Director of Graduate Studies

Department of Chemical, Paper and Biomedical Engineering

064 Engineering Building, 513-529-0760

<http://MiamiOH.edu/cec/academics/departments/cpb/academics/graduate-studies/>

Introduction

The Master of Science in Chemical and Biomedical Engineering offers research (thesis) and course intensive (non-thesis) options. The mission of the program is to prepare students who wish to either pursue doctoral work in chemical or biomedical engineering or to seek research-related careers in industry. The departmental faculty have active research projects in the areas of solar cells, environmental, paper physics and chemistry, tissue engineering, biomaterials, molecular simulation, biomechanics, biophotonics, enzyme treatment, separation and electrochemistry.

Research and Support Facilities

The department's equipment includes a highly instrumented papermaking machine, stock preparation equipment, complete paper testing laboratories, pulping digesters, process control laboratory, biochemical engineering laboratory, catalysis research laboratory, environmental laboratory, chemical engineering laboratory, molecular simulation, biomechanics, biomedical optical imaging and sensing laboratory, electrochemical laboratory, solar cell research laboratory and tissue engineering/biomaterials laboratory. Students also have access to equipment at the university's Electron Microscopy Facility and Nanotechnology Center.

Admission Requirements

You must have an undergraduate education in a science or engineering field, and must provide:

1. Academic transcript of undergraduate performance,
2. Graduate Record Examination (GRE) scores (waived for combined BS/MS applicants),
3. Three letters of recommendation,
4. Written statement of purpose for seeking a master's degree in chemical and biomedical engineering from Miami University, and
5. Curriculum vitae (CV) or résumé.

Combined Bachelor/Master's Program

Undergraduate students may apply to participate in the combined bachelors/master's program. This program allows you to pursue a master's degree in an accelerated manner while completing your bachelor's degree. It is a great opportunity to deepen your

knowledge and research skills. Please contact the department for more information about the combined program.

Program Requirements

Option I - Research Intensive (thesis)

Students are required to complete a minimum of 33 semester hours, which is comprised of the following:

Code	Title	Credit Hours
CPB 517 or CPB 526	Biomedical Engineering Fundamentals of Tissue Engineering	3
CPB 515 or CPB 512 or CPB 514 or CPB 551	Chemical Kinetics and Reactor Design Chemical Engineering Thermodynamics Mass Transfer and Unit Operations Unit Operations Laboratory	2-4
CPB 600	Graduate Seminar ¹	3
CPB 611	Transport Phenomena in Engineering	3
CPB/MME 612	Engineering Analysis	3
CPB 700 or CPB 710	Research for Master's Thesis ² Industrial Practicum	9-15

Students in the combined BS/MS program can double count up to 9 credit hours for thesis option

Electives ²	8-10
------------------------	------

Biomedical Engineering Electives

CPB 516	Biochemical Engineering
CPB 517	Biomedical Engineering
CPB 519	Biomaterials
CPB 523	Biomechanics
CPB 526	Fundamentals of Tissue Engineering
CPB 582	Process Control
CSE 556	Bioinformatic Principles
CSE 566	Bioinformatics Computing Skills
ECE 526	Biomedical Signal Analysis and Machine Learning
CSE 570	Special Topics in CSE (Computational Genomics (3))
CSE 616	Simulation of Physical Systems

Chemical Engineering Electives

CPB 505	Industrial Environmental Control
CPB 512	Chemical Engineering Thermodynamics
CPB 514	Mass Transfer and Unit Operations
CPB 515	Chemical Kinetics and Reactor Design
CPB 516	Biochemical Engineering
CPB 541	Pollution Prevention in Environmental Management
CPB 551	Unit Operations Laboratory
CPB 542	Air Pollution Control
CPB 573	Chemical Process Design
CPB 582	Process Control
CPB 583	Chemical Process Safety

Non-Engineering and Computing Electives

CHM 532	Fundamentals of Biochemistry
---------	------------------------------

STA 504	Advanced Data Visualization
STA 672	Statistical Modeling and Study Design
GLG 532	X-ray Powder Diffraction and Clay Analysis
BIO 571	Molecular Physiology
BIO 581	Theory of Electron Microscopy
BIO 582	Scanning Electron Microscopy Laboratory
BIO 583	Transmission Electron Microscopy Laboratory
BIO 554	Endocrinology

Total Credit Hours	33-39
---------------------------	--------------

¹ Maximum 3.

² The remaining 8-10 credit hours of graduate course work are to be selected from the Biomedical Engineering, Chemical Engineering, or Non-Engineering and Computing electives with the approval of the program adviser.

The student must:

- complete a total of 33 semester hours with at least 24 semester hours of graduate credit in biomedical and chemical engineering or related courses approved by the department. At least 12 credits must be earned at 600-level or above;
- complete a research thesis (9 to 15 hours credit) or the analysis and solution of an industrial problem (9 to 15 hours credit); and
- pass a final examination.

Option II - Course Intensive (non-thesis)

Students are required to take a total of 34 credit hours, of which at least 30 semester hours must comprise of the following:

Code	Title	Credit Hours
CPB 517 or CPB 526	Biomedical Engineering Fundamentals of Tissue Engineering	3
CPB 515 or CPB 512 or CPB 514 or CPB 551	Chemical Kinetics and Reactor Design Chemical Engineering Thermodynamics Mass Transfer and Unit Operations Unit Operations Laboratory	2-4
CPB 600	Graduate Seminar ¹	3
CPB 611	Transport Phenomena in Engineering	3
CPB/MME 612	Engineering Analysis	3
CPB 704 or CPB 710	Non-Thesis Project Industrial Practicum	4-12
Electives ²		14-16

Students in the combined BS/MS program can double count up to 6 credit hours for non-thesis option

Total Credit Hours	34-42
---------------------------	--------------

¹ Maximum 3.

² The remaining 14-16 credits hours of graduate course work are to be selected from either the Biomedical Engineering, Chemical Engineering, or Non-Engineering and Computing electives listed under Option I with the approval of the program adviser.

The student must:

1. complete a total of 34 semester hours with at least 30 semester hours of graduate credit in chemical, paper and biomedical engineering or related courses approved by the department. At least 12 credits must be earned at 600-level or above;
2. register for at least 4 credit hours of CPB 704 or CPB 710 and complete a research project under the supervision of a faculty member. The student will write a comprehensive report and make a formal presentation, which will be evaluated by a team of three faculty. This will constitute the final exam for the student.

Chemistry- Master of Science, Doctor of Philosophy

For information, contact:

Chair, Graduate Admission Committee
Department of Chemistry and Biochemistry
160 Hughes Laboratories, 513-529-2813
chemgrad@MiamiOH.edu

<http://chemistry.MiamiOH.edu/>

Research Areas and Facilities

The department has Bachelor's/M.S., M.S., and Ph.D. programs in analytical chemistry, biochemistry, chemistry education research, inorganic chemistry, organic chemistry, and physical chemistry, as well as in interdisciplinary areas such as biophysical chemistry, molecular biology, structural biology, materials chemistry, and nanotechnology. These programs are well supported by an active staff, excellent teaching and research facilities, and a full range of instrumentation.

The Department of Chemistry & Biochemistry houses a collection of magnetic resonance instrumentation not found at most universities. Among these instruments are 6 NMR spectrometers and 4 EPR spectrometers, and they include an 850 MHz solution NMR spectrometer and a multi-frequency pulsed EPR. Additional information regarding our NMR, EPR, and Mass Spec facilities can be found at <http://miamioh.edu/cas/academics/departments/chemistry-biochemistry/research/instrumentation/index.html>.

Admission Requirements & Application Procedures Bachelor's/M.S. Program

This program is only for undergraduates in good standing at Miami University. Students may declare their interest in enrolling in the combined program at any time during their academic career at Miami, but ideally by spring semester of their junior year. Upon earning a minimum of 64 credit hours and having a cumulative GPA of 3.00 or greater, students may apply for admission to the combined program. If the student intends to complete a thesis, the student must have initiated undergraduate research and have support of undergraduate research mentor.

To apply, students should first meet with the program's advisor to develop a plan of study for the degree. Then, they should complete the Graduate School online application and pay the application fee. Two letters of recommendation from faculty members must be submitted, including one from the research mentor if the student intends to complete a thesis.

M.S. and Ph.D. Programs

Entry into the program requires completion of a bachelor's degree in chemistry or biochemistry or a closely related field from an accredited college or university. Typical coursework includes:

1. Two semesters of general chemistry plus laboratory
2. Two semesters of organic chemistry plus laboratory
3. Two semesters of physical chemistry plus laboratory
4. Two of the following three courses: analytical chemistry, biochemistry, and inorganic chemistry

While a student need not have taken a curriculum approved by the American Chemical Society, the coursework in chemistry, physics, and mathematics should be similar to those of approved programs (e.g., two or more semesters of calculus and calculus-based physics).

The admissions process involves two steps:

1. the Graduate School accepts students into the graduate program and
2. the Department of Chemistry & Biochemistry awards teaching assistantships to students who have been accepted by the Graduate School.

To apply to the graduate school, students must:

1. Apply online to the Miami University Graduate School
2. Pay the online application fee
3. Provide names and contact information for at least two people to write letters of recommendation (three recommended).
4. Provide transcripts. Applicants may be given provisional acceptance on the basis of unofficial transcripts.
5. Submit proof of English language proficiency in accordance with Graduate School requirements.

Program Requirements Chemistry- Master of Science

The MS degree requires 30 credit hours total. Students are required to demonstrate competence (through examination or additional coursework) in at least three disciplines of chemistry.

Thesis Option: The minimum graded coursework is five (5) courses and thirteen (13) graded credit hours, of which at least 2 graded credit hours must be at the 600 level or above. At least 12 credit hours must be earned in courses numbered 600 or above.

Students must select an advising committee during year 1 to approve their plan of study, and must hold a conference with that committee at the end of year 1 to discuss their proposed research. Students must write and defend a thesis based on original research conducted during the course of the degree.

Non-thesis Option: The minimum graded coursework is six (6) courses and fourteen (14) graded credit hours, with at least four (4) of those graded credit hours in courses numbered 600 and above. At least 12 credit hours must be earned in courses numbered 600 or above. Students must select an advising committee during year 1 to approve their plan of study, and must hold a conference with that committee at the end of year 1 to discuss their proposed research or advanced study. Students must write and pass a report based on original research or advanced study conducted during the course of the degree.

Chemistry- Doctor of Philosophy

The Ph.D. degree requires a minimum of 60 semester hours beyond the master's degree (or its equivalent). Requirements include:

1. Coursework. The minimum graded coursework is six (6) graduate courses comprising at least fourteen (14) credit hours, with at least four (4) of those graded credit hours in courses numbered 600 and above. In addition, students must demonstrate proficiency in at least three disciplines of chemistry (analytical, biochemistry, chemistry education research, inorganic, organic, or physical) either by successfully passing the ACS Exam in that discipline or by completing a course in that discipline during the first three semesters of the program. Additional courses in the student's designated area of research are required as determined by the student's faculty committee.
- For students earning an MS at Miami University, all graded coursework taken toward the MS also counts toward the Ph.D. graded coursework requirements. For students earning a non-thesis MS, no additional graded coursework is needed, beyond that required for the M.S.
2. Seminars. Students are required to enroll in at least one discipline-specific seminar and at least one departmental seminar each semester.
3. Conferences. Students must select an advising committee during year 1 to approve their plan of study, and must hold a conference with that committee at the end of year 1 to discuss their proposed research.
4. Annual Reports. Students must submit and pass annual reports commencing at the end of second year in the graduate program.
5. Written and Oral Exams. Students must write and pass a written proposal document, which serves as the Written Examination. Students must orally defend the proposal at the end of the second year, which serves as the Oral Examination. The proposal may be in the student's research area, with a minimum of one third of the content being beyond the student's dissertation work. Students may elect to write a proposal entirely outside of the student's dissertation research topic.
6. Original Research. Students must write and defend a dissertation regarding the findings of their research.

Child Life Specialist Certificate

The Child Life Specialist Graduate Certificate is designed for students who have already completed a bachelor's degree and now wish to complete the necessary coursework to become eligible for certification as a child life specialist. The Child Life Specialist Graduate Certificate includes coursework required by the Association of Child Life Professionals for eligibility to complete official child life internships and take the Child Life Professional Certification Exam.

Completing the Child Life Certificate does not constitute certification by the Association of Child Life Professionals.

Certified Child Life Specialists often work in pediatric hospitals but may also work in other spaces (e.g., courtrooms, funeral homes or bereavement services) where children may experience illness-related trauma. The field of Child Life is evidence-based, providing interventions (e.g., therapeutic play, education, self-care, stress reduction, distraction, etc) with children and families that are developmentally appropriate. As important members of a child's care

team, Child Life Specialists serve an important role in improving the illness-related experiences of both patients and their families.

Students admitted to the Child Life Specialist Graduate Certificate complete five graduate-level courses (FSW 535, FSW 545, FSW 575, FSW 581, and FSW 616). In addition, students are required to complete a field placement (FSW 640) either in a healthcare or agency setting working with diverse children. Students admitted to the Child Life Specialist Graduate Certificate may also be able to complete two undergraduate courses (e.g., FSW 245, FSW 318) which are required for national certification as a child life specialist.

Code	Title	Credit Hours
Required Coursework		
FSW 535	Death Studies	3
FSW 545	Therapeutic Play for Child Life Specialists	3
FSW 575	Family Theories	3
FSW 581	Adolescent Development in Diverse Families: Ages 13-25	3
FSW 616	Graduate Social Work Research I	3
Field Placement		
FSW 640	Internship	0
Total Credit Hours		15

Clinical Engineering - Master of Science in Clinical Engineering

The Master of Science in Clinical Engineering offers research (thesis) and course intensive (non-thesis) options, mostly in an online format. The mission of the program is to prepare students who wish to either pursue professional employment in the medical device industry and hospitals, or obtain a doctoral degree in biomedical engineering. The unique features of this program are: (i) a required course in hospital rotation and (ii) a required internship in the medical or allied industry or in a hospital setting. The department faculty have active medical research projects in the areas of biomedical devices, tissue engineering, biomaterials, molecular simulation, biomechanics, biosensors, biophotonics, and enzyme treatment.

Program Requirements

Code	Title	Credit Hours
CPB 502	Introduction to Clinical Engineering	3
CPB 535	Clinical Engineering Laboratory	2
CPB 552	Introduction to FDA Regulations and Medical Device Laws	3
CPB 545	Hospital Instrumentation	3
CPB 548	Hospital Rotation	3
CPB 528	Engineering Principles in Medical Device Design	3
CPB 614	Clinical Trials and Data Analysis	3
CPB 622	Engineering of Clinical Devices	3
EGM 511	Leading and Managing Projects	3
or MGT 553	Quality Management Systems	
or MGT 551	Operations Planning and Scheduling	

or MGT 644	Leadership, Change & Cross-Cultural Management	
or MGT 654	Strategic Human Resource Management	
CPB 600	Graduate Seminar	2
CPB 640	Internship	0-6
Complete the following for thesis option ¹		6
CPB 700	Research for Master's Thesis	
Complete the following for non-thesis option ¹		
CPB 710	Industrial Practicum	
CPB 553	Medical Device Development and Regulatory Considerations	
or CPB 526	Fundamentals of Tissue Engineering	
or EGM 511	Leading and Managing Projects	
or MGT 553	Quality Management Systems	
or MGT 551	Operations Planning and Scheduling	
or MGT 644	Leadership, Change & Cross-Cultural Management	
or MGT 654	Strategic Human Resource Management	
Total Credit Hours		34-40

Note: Every student enrolled in the program is required to engage in research and exploration of frontline issues related to clinical engineering and medical device design and development. This is a research-oriented program with emphasis on creating new knowledge.

¹ For the thesis option, all students must complete a total of 34 semester hours, complete a research thesis (CPB 700 - Research for Master's Thesis, 6 hours) and pass a final examination. The major difference between the thesis and non-thesis options is while the former involves the creation and application of fundamental knowledge, the latter emphasizes research on application of the current knowledge (such as design) and innovation. Students in the non-thesis option will take the same number of credit hours (34) as for the thesis option, but will replace the six credit hours of CPB 700 with an industrial practicum (CPB 710, 3 hours) and an additional elective (3 hours). Non-thesis students must complete a research project under the supervision of a faculty member, write a comprehensive report, and make a formal presentation to a team of three faculty. This will constitute the final exam for the student. Each of these experiences (thesis or non-thesis) will include a written report detailing the research done, the plan developed for the student's activities, and a reflection on how they were successful in executing the work undertaken. The culminating experiences are the research thesis for the thesis option and the industrial practicum for the non-thesis.

College Teaching Certificate

Its purpose is to provide graduate students with the opportunity to develop their pedagogical knowledge and skill in an interdisciplinary manner that facilitates the development of teacher-scholars. The Certificate in College Teaching consists of a variety of course work and experiences guided by a student's mentor. Students will select a mentor and develop a plan of study that addresses three major components: discipline specific teaching experience/study, interdisciplinary pedagogy, and theory. The plan of study is submitted to the College Teaching Certificate Committee for approval. Upon the completion of the program plan, the student and mentor will submit a statement indicating that the program plan was completed, including a self-assessment by the student and an assessment by the mentor,

to the College Teaching Certificate Committee, who determines if the student has completed all program requirements. Courses taken to complete one's degree can count toward the Theory program component and/or the Discipline program component. Students must have a 3.00 GPA in the Certificate courses to be awarded the Certificate in College Teaching. The Certificate in College Teaching will be awarded upon the completion of all certificate requirements. Students will NOT receive a State of Ohio certificate in teaching.

Certificate Program Requirements

(12 hours)

Code	Title	Credit Hours
Interdisciplinary Pedagogy		
GSC 601	College Teaching Enhancement Program ¹	1
GSC 602	College Teaching	1
GSC 603	Academic Cultures	1
Theory		
Select 1-2 of the following: ²		3-8
CHM 511	Learning Theories in Chemistry	
CHM 515	Misconceptions in Chemistry	
EDL/TCE 606	Curriculum Innovation and Transformation through Understanding and Design	
EDL 621	Foundations of Multi-Cultural Education	
EDL 624	Ethics and Values in Education	
EDL 629	History of Education in America	
EDL 667	Diversity, Equity, and Dialogue in Student Affairs	
EDL 675	Student Development Theory I	
EDP 601	Advanced Educational Psychology	
EDP 603	Theories of Human Learning	
EDP 607	Educational Measurement and Evaluation	
EDP 635	Theories of Human Development	
ENG 608	Theory & Practice of Teaching Writing Across the University	
ENG 730	Studies in Composition Research and Pedagogy ³	
FSW 581	Adolescent Development in Diverse Families: Ages 13-25	
PSY 533	Advanced Developmental Psychology	
PSY 551	Cognitive Neuroscience	
PSY 574	Advanced Cognitive Processes	
THE 524	Topics in Applied Theatre, Practice, and Pedagogy	
Discipline Specific Teaching Experience		
Contact the Graduate School for guidelines on completing this component.		3-6
Final Assessment		
Submitted to the College Teaching Certificate Committee		
Total Credit Hours		12-17

¹ Maximum 2.

² Or substitute courses that have been approved by the College Teaching Certificate Committee.

³ Maximum 12 toward any one degree.

Computer Science - Master of Computer Science, Master of Science in Computer Science

For information, contact:

Director of Graduate Programs
Department of Computer Science and Software Engineering
205 Benton Hall, 513-529-0340
CECgrad@MiamiOH.edu
<http://www.cse.MiamiOH.edu/csmasters>

Master of Computer Science Introduction

The Master of Computer Science is a coursework-only graduate program. The mission of the Master of Computer Science program is to prepare students for computing professions with foundational and advanced coursework, opportunity to work on industrial projects, and flexible pathways to the degree. Through advanced coursework, students can gain experience in areas such as: artificial intelligence, machine learning, data science, cybersecurity, computer vision, high-performance computing, Internet-of-Things, and software engineering. These courses will be taught by outstanding faculty and researchers in these fields.

Admission and Application Requirements

Applicants for admission into the coursework-only Master of Computer Science program should hold at least the equivalent of a minor in Computer Science or Software Engineering. It is preferred that applicants hold a bachelor's degree in one of these fields or another that is closely related. Specifically, successful applicants to our program should have mastered the following undergraduate topics:

- Imperative and/or functional programming
- Object-oriented programming
- Basic algorithms and/or complexity
- Computer organization and architecture
- Concurrent and/or parallel programming
- Software development methods and tools
- Probability and statistics
- Discrete mathematics or linear algebra

Applicants are expected to meet the following criteria:

- Undergraduate GPA: Equivalent of at least 3.00 on a 4.00 scale
- Proof of English Proficiency Minimum Scores (when required)
 - TOEFL IBT: 80+, 100+ is preferred
 - IELTS Overall \geq 6.5
 - PTE \geq 54
- The GRE is optional but recommended. If submitted, the desired Quantitative score is 60th percentile or higher, the preferred

Verbal score is 35th percentile or higher, and the preferred Analytical Writing score is 25th percentile or higher.

Applications must also include two recommendation letters and a résumé.

Combined Bachelor/Master's Program

Undergraduate students may apply to participate in the combined Bachelor/ Master of Computer Science program. This program allows the student to pursue a coursework-only master's degree in an accelerated manner while simultaneously completing a bachelor's degree. Students admitted to the combined degree program may count six to nine credit hours of their graduate coursework towards their bachelor's degree. This enables them to complete their degrees in an accelerated fashion. With an undergraduate major in computer science or software engineering, it is possible for students to complete the combined program in five years.

Admission to the combined program Bachelor/ Master of Computer Science requires a GPA of 3.00 or higher after earning a minimum of 64 credit hours. Please contact the department for more information.

Program Requirements

(30 semester hours)

The total course of instruction includes a minimum of 30 credit hours. Students must complete 24-27 hours of graduate level coursework and 3-6 hours of a culminating experience.

Coursework Requirement (24-27 credit hours)

Students must complete 24-27 hours of graduate-level coursework. All 500 and 600-level CSE courses are acceptable for fulfilling this requirement, with the exception of CSE 566, 600, 601, 610, 611, 630, and 640.

- Students must complete at least three courses (nine hours) that are at or above the 600 level.
- Students must earn a grade of 'C' or higher in all courses taken to meet degree requirements.

Code	Title	Credit Hours
Select 24-27 hours of graduate level coursework:		24-27
CSE 501	Software Quality Assurance and Testing	
CSE 511	Introduction to Model-Driven Software Engineering	
CSE 532	Machine Learning	
CSE 543	High Performance Computing & Parallel Programming	
CSE 551	Web Services and Service Oriented Architectures	
CSE 564	Algorithms	
CSE 565	Comparative Programming Languages	
CSE 567	Computer and Network Security	
CSE 570	Special Topics in CSE	
CSE 573	Automata, Formal Languages, and Computability	
CSE 574	Compiler Design	
CSE 584	Algorithms II	

CSE 585	Advanced Database Systems
CSE 586	Introduction to Artificial Intelligence
CSE 587	Game Design and Implementation
CSE 588	Image Processing & Computer Vision
CSE 589	Advanced Graphics and Game Engine Design
At least 9 hours should be at the 600 level or above:	
CSE 609	Programming for Engineers and Scientists
CSE 616	Simulation of Physical Systems
CSE 617	Advanced Networks
CSE 618	Graphics for Simulation and Virtual Environments
CSE 620	Special Topics in Computer Science Applications
CSE 621	Foundations of Software Engineering
CSE 627	Machine Learning
CSE 650	Special Topics in Computer Science Theory
CSE 664	Advanced Algorithms
CSE 667	Cryptography
CSE 671	Software Quality
CSE 690	Graduate Research

Total Credit Hours **24-27**

Additional Graduate Courses

Graduate level courses chosen in consultation with the Graduate Director may be counted towards the coursework requirements for the degree.

Culminating Experience Requirement (3-6 hours)

Students must complete 3-6 hours of culminating experience, which may take the form of an internship, a non-thesis project, or the CSE 648 culminating experience course.

Code	Title	Credit Hours
CSE 640	Internship	3-6
or CSE 704	Non-Thesis Project	
or CSE 648	Professional Computing Experience	

Total Credit Hours **3-6**

Master of Science in Computer Science

Introduction

The mission of the Master of Science in Computer Science program is to prepare students for computing professions that require research, invention, and advanced or specialized knowledge. This includes possible pursuit of a PhD in computer science. Students (who are expected to hold a bachelor's degree in computer science or a closely related field) shall complete and document work on independent research with a faculty advisor and study advanced topics in computer science. The advanced coursework and experience in research and invention prepares students for work at the cutting edge of computer science.

Admission and Application Requirements

Applicants for admission into the thesis-based Master of Science in Computer Science program should hold at least the equivalent of a minor in Computer Science or Software Engineering. It is preferred that applicants hold a bachelor's degree in one of these fields or another that is closely related. Specifically, successful applicants to our program should have mastered the following undergraduate topics:

- Imperative and/or functional programming
- Object-oriented programming
- Basic algorithms and/or complexity
- Computer organization and architecture
- Concurrent and/or parallel programming
- Software development methods and tools
- Differential and integral calculus
- Probability and statistics
- Discrete mathematics or linear algebra

Applicants are expected to meet the following criteria:

- Undergraduate GPA: Equivalent of at least 3.00 on a 4.00 scale
- Proof of English Proficiency Minimum Scores (when required)
 - TOEFL IBT: 80+, 100+ is preferred
 - IELTS Overall ≥ 6.5
 - PTE ≥ 54
- The GRE test is optional, but recommended. The expected Quantitative score is 60th percentile or higher. The preferred Verbal score is 35th percentile or higher and Analytical writing score 25th percentile or higher.

Applicants are ranked for admission based on these criteria as well as recommendation letters, a statement of purpose, and interview results.

Combined Bachelor/Master's Program

Undergraduate students may apply to participate in the combined Bachelor/ Master of Science in Computer Science program. This program allows the student to pursue a thesis-based master's degree in an accelerated manner while simultaneously completing a bachelor's degree. Students admitted to the combined degree program may count six to nine credit hours of their graduate coursework towards their bachelor's degree. This enables them to complete their degrees in an accelerated fashion. With an undergraduate major in computer science or software engineering, it is possible for students to complete the combined program in five years.

Admission to the combined Bachelor/ Master of Science in Computer Science program requires a GPA of 3.25 or higher after earning a minimum of 64 credit hours. Please contact the department for more information.

Program Requirements

(31 semester hours)

The total course of instruction includes a minimum of 31 credit hours. Students must complete both research and advanced coursework requirements. The research requirement includes four hours of formal coursework related to research and a minimum of nine hours of thesis

research. The coursework requirement includes 18 hours of graduate level coursework. All students in the program are expected to attend thesis proposal and defense presentations as well as other research presentations while enrolled in the program.

Research Requirement (13 credit hours minimum)

The research requirement includes four hours of structured preparation of students to conduct, evaluate, and document Computer Science research followed by a minimum of nine credit hours of thesis research. All students must write and successfully defend a Master's Thesis in order to graduate from the program.

- CSE 601 Computer Science Research Methods (3)
- CSE 602 Emerging Topics in Computer Science (1)
- Nine credit hours of CSE 700 Research for Master's Thesis (9)

Students must be successful in formally proposing and presenting a research problem in order to pass CSE 602.

Code	Title	Credit Hours
CSE 601	Computer Science Research Methods	3
CSE 602	Emerging Topics in Computer Science (Emerging Topics in Computer Science)	1
CSE 700	Research for Master's Thesis	9
Total Credit Hours		13

Coursework Requirement (18 credit hours)

Students must complete 18 hours of graduate-level course work. All 500 and 600-level CSE courses are acceptable for fulfilling this requirement, with the exception of CSE 566, 600, 601, 609, 610, 611, 630, and 640.

- Students must complete at least three courses (nine hours) that are at or above the 600 level.
- Students must earn a grade of 'C' or higher in all courses taken to meet degree requirements.

Code	Title	Credit Hours
Select 18 hours of graduate level coursework:		18
CSE 501	Software Quality Assurance and Testing	
CSE 511	Introduction to Model-Driven Software Engineering	
CSE 532	Machine Learning	
CSE 543	High Performance Computing & Parallel Programming	
CSE 551	Web Services and Service Oriented Architectures	
CSE 564	Algorithms	
CSE 565	Comparative Programming Languages	
CSE 567	Computer and Network Security	
CSE 570	Special Topics in CSE	
CSE 573	Automata, Formal Languages, and Computability	
CSE 574	Compiler Design	
CSE 584	Algorithms II	
CSE 585	Advanced Database Systems	
CSE 586	Introduction to Artificial Intelligence	

CSE 587	Game Design and Implementation
CSE 588	Image Processing & Computer Vision
CSE 589	Advanced Graphics and Game Engine Design
At least 9 hours should be at the 600 level or above:	
CSE 616	Simulation of Physical Systems
CSE 617	Advanced Networks
CSE 618	Graphics for Simulation and Virtual Environments
CSE 620	Special Topics in Computer Science Applications
CSE 621	Foundations of Software Engineering
CSE 627	Machine Learning
CSE 650	Special Topics in Computer Science Theory
CSE 664	Advanced Algorithms
CSE 667	Cryptography
CSE 671	Software Quality
CSE 690	Graduate Research

Total Credit Hours **18**

Additional Graduate Courses

Graduate level courses chosen in consultation with the student's research advisor may be counted towards the coursework requirements for the degree if approved by the department Graduate Director.

Conservation Biology Certificate

This certificate integrates specialized graduate coursework with the culminating experience the student completes as part of a Master's degree, to prepare students for careers in conservation biology with federal, state, tribal, and local agencies and non-profit organizations. This Certificate provides a value-added component to a graduate degree at Miami University, specifically an M.A. or M.S. in Biology or Botany; Ph.D. in Biology, Botany or Ecology, Evolution, & Environmental Biology; or M.En. in environmental science. By choosing the appropriate coursework, a student can earn the Conservation Certificate simultaneously with earning a graduate degree.

Program Requirements

Code	Title	Credit Hours
Select the following:		
BIO 567	Conservation Biology	3
BIO 671	Population and Community Ecology	4
Select one:		3
GEO 541	Geographic Information Systems	
GEO 542	Advanced Geographic Information Systems	
GEO 543	Python Programming for Geospatial Applications	
GEO 544	GIScience Techniques in Landscape Ecology	
Select one:		3

BIO 551	Conservation Education and Community Engagement	
ECO 506	Environmental Economics	
EGM 511	Leading and Managing Projects	
ENG/IES 529	Environmental Communication	
IES 550	Environmental Law	
Graduate Seminar:		
BIO 710	Advanced Seminar	1-4
Total Credit Hours		14-17

Creative Writing- Master of Fine Arts

For information, contact:
 Director of Graduate Studies
 Department of English
 356 Bachelor Hall, 513-529-7530
www.MiamiOH.edu/english/graduate

The MFA in Creative Writing prepares students to launch a career in fiction writing, screenwriting, poetry, or creative nonfiction. Students produce a high-quality, publishable portfolio of creative writing, receive practical advice about the literary marketplace, and develop a sophisticated understanding of the literary field. The program has an additional focus on pedagogy, and students enroll in creative writing and literature classes on campus while learning and practicing the craft of teaching creative writing.

Program Requirements

Code	Title	Credit Hours
ENG 605	Issues in the Profession	2
ENG 631	Writing in the Genres: Residential Workshop ¹	4,4,4,4
ENG 635	Reading for Writing: Literary Forms	4
ENG 700	Research for Master's Thesis	6
2 English Literature Seminars at the 600 level or above. Select 2 of the following. ²		8
ENG 603	Literary Theories and Their Histories	
ENG 610	Topics in Literary and Cultural Studies	
ENG 620	Studies in Renaissance Literature	
ENG 650	Studies in 19th-Century English Literature	
ENG 660	Studies in 20th and 21st Century British and Irish Literature	
ENG 670	Studies in American Literature, 1800-1865	
ENG 680	Studies in American Literature, 1865-1919	
ENG 690	Studies in Modern American Literature, 1919 to Present	
ENG 750	Histories and Methodologies in Literary and Cultural Studies	
Total Credit Hours		36

¹ Repeated 4 times.

² May include up to 4 credit hours of ENG 710, ENG 751 or ENG 780 with department approval.

Curriculum and Instruction - Master of Education

Curriculum and Instruction is a Master of Education program jointly administered by the Departments of Teaching, Curriculum, and Educational Inquiry and Educational Leadership. This online program is designed to support those interested in multicultural, contextually relevant, justice-oriented education leadership, curriculum, and pedagogy/practice in both classroom and community spaces. There will be two tracks for students to choose from: (1) Early Career Teachers working in classrooms, and (2) Community-Oriented Educators working outside of classrooms. The program centers Anti-racism, Community, Inquiry, and Agency as essential anchors that center justice and where conversations are rooted in a commitment to engage in intellectualism toward action. This is done through the development of critical consciousness, centering knowledge of communities and grassroots organizing, and engagement with socially and contextually relevant teaching/learning.

The M.Ed. in Curriculum and Instruction is open to both students with existing teaching licensure and those who do not have an existing license. This degree does not lead to initial license to teach.

Program Requirements

Code	Title	Credit Hours
Core Courses		
EDL 622	Foundations of Multicultural Education	3
EDL/TCE 606	Curriculum Innovation and Transformation through Understanding and Design	3
EDL 611	Theories of Leadership	3
EDL 615	Communities, Power, and Change	3
TCE 557	Engaging Minoritized Children & Youth	3
TCE 615	Introduction to Research Inquiry	3
TCE/EDL 691	Graduate Capstone Experience in Education	3
Select one concentration:		9
Early Career Teacher Concentration		
EDL 619	Educational Policies & Teachers	
TCE 583	Educators as Activists: Preparing Educators for Forces Impacting Classrooms and Schools	
TCE 623	Students, Justice, and Equity Centered Pedagogies	
Community-Oriented Educator Concentration		
EDL 687	Community-Based Leadership & Action I	
EDL 688	Community-Based Leadership & Action II	
EDL 638	Identity, Community, & Activism	
Total Credit Hours		30

Ecology, Evolution and Environmental Biology- Doctor of Philosophy

For information, contact:

Director, Ph.D. Program in Ecology, Evolution, and Environmental Biology
212 Pearson Hall
eeeb@MiamiOH.edu

Ecology, Evolution, and Environmental Biology is a multi-disciplinary program that includes the study of organisms and their interactions with the environment.

Program Requirements

The focus of a student's program will be his/her dissertation research. Course requirements will be flexible to meet the particular needs and goals of each student. Thus, a student interested in global climate change and its effect on biogeochemical cycling will be permitted to take a set of courses that is largely different from another student interested in the evolutionary genetics of an endangered species.

Each student will be required to earn at least 12 graduate credits from formal courses. At least 2 of these courses must be "program courses." (Program courses are those offered by the various departments, which the EEEB Executive Committee designates as officially approved program courses). In addition, at least one additional course (not including the 2 "program courses" mentioned above) must be from the student's home department. The particular set of courses taken by an individual student will be determined in consultation with his/her advisor and committee.

Each student must also take at least 5 graduate credits of approved EEEB seminar courses, in addition to the 12 credits mentioned above. Two of these seminar credits will be taken in year 1 of the program: BIO 601, and BIO 710 (Emerging Trends in Ecology, Evolution, and Environmental Biology). The other 3 graduate seminar credits will be taken from graduate seminars offered by the participating departments and falling within the EEEB domain (e.g., "journal club" style courses such as BIO 720, GLG 710, MBI 750, and BIO 710). EEEB students can choose from among these seminars, but to meet program requirements these must be officially approved as EEEB related seminars.

Ecology Certificate

For more information on this interdepartmental program, contact the director of Ph.D. program in Ecology, Evolution and Environmental Biology at eeeb@MiamiOH.edu.

This certificate program is available only to students who have been admitted to a graduate degree-granting program at Miami University.

Program Requirements:

Students must take these courses:

Code	Title	Credit Hours
BIO 671 or an equivalent graduate course in population and/or community ecology		4

BIO 672 or an equivalent graduate course in ecosystem and/or global ecology	4
Graduate course in statistics, modeling, remote sensing, or GIS	3-4
At least two graduate advanced seminars (e.g., BIO 710) in a relevant ecological topic. <small>Must be approved by the director of the Ph.D. program in EEEB</small>	2
Total Credit Hours	13-14

Economics- Master of Arts

For information, contact:

Director of Graduate Studies
Department of Economics, Suite 2054
Farmer School of Business, 513-529-2836
fsb/academics/economics/academics/graduate-program

This program prepares students for careers as professional economists, equipped to serve academia, government, and the business world. Accordingly, this program provides a background in economics that can serve as a terminal degree or preparation for further graduate study. Emphasis is on theoretical and statistical techniques used in the investigation of empirical problems.

The Farmer School of Business also offers a Master of Business Administration and a Master of Accountancy; these programs are described under their alphabetical listings.

Admission Requirements

Applicants should have completed, with a grade of C or better: intermediate-level courses in microeconomic and macroeconomic theory, at least one course in calculus, and at least one course in statistics. Additional mathematics courses are strongly recommended. GRE examination scores and three letters of recommendation should be sent to the department address listed above.

Program Requirements

(31 semester hours)

Concentration in Applied Economics

Code	Title	Credit Hours
ECO 511	Advanced Empirical Methods	3
ECO 514	Mathematical Economics	4
ECO 515	Topics in Microeconomics	3
ECO 517	Topics in Macroeconomics	3
ECO 615	Advanced Microeconomic Theory	3
ECO 617	Advanced Macroeconomic Theory	3
ECO 671	Topics in Applied Econometrics	3
ECO 672	Applied Time Series Analysis	3
Total Credit Hours		25

Thesis Option

Code	Title	Credit Hours
ECO 700	Research For Masters Thesis	1-10

Students must pass a written, oral, or combined examination on their research paper and related study in economics.

Project Option

Code	Title	Credit Hours
ECO 515	Topics in Microeconomics	3
ECO 685	Economic Research Methods	3

Students must pass a written, oral, or combined examination on their research paper and related study in economics.

Students must pass a written, oral, or combined examination on their project and related study in economics.

Education- M.A., M.A.T., M.Ed., M.S., Specialist in Education, Ph.D., Ed.D.

For information, contact:

College of Education, Health, and Society (EHS)

207 McGuffey Hall, 513-529-6317

<https://www.miamioh.edu/ehs/academics/graduate-studies/>

Master's Degrees

All master's degrees require at least 30 semester hours, and some programs require more. At least 15 semester hours must be earned at 600-level or above; no more than one-third of the credits required for a master's degree may be transfer credits.

The Master of Arts is offered by the Department of Educational Psychology (Instructional Design and Technology) and the Department of Family Science and Social Work.

The Master of Education is offered by the Departments of Educational Leadership, Educational Psychology, and Teaching, Curriculum, and Educational Inquiry (TCE). The Educational Leadership and TCE Masters require at least a provisional teaching certificate/license or one earned no later than when your master's degree is awarded. In Educational Psychology, the M.Ed. in Learning Sciences and Human Development does not require licensure.

Master of Arts in Teaching programs are administered by the Department of Teaching, Curriculum, and Educational Inquiry. Master of Science programs are offered by the departments of Educational Leadership, Educational Psychology, and Family Science and Social Work.

Department listings describe these programs. Check with your department for the most recent licensure requirements where appropriate. Details are available here: <https://www.miamioh.edu/ehs/academics/graduate-studies/masters-and-licenses/index.html>

Teaching Programs

For information, contact the director of graduate studies in the department. Programs in art education and music education are described in art and music.

Specialist in Education

The Department of Educational Psychology offers the Specialist in Education degree. Department listings describe these programs.

Details are available here: <https://www.miamioh.edu/ehs/academics/graduate-studies/masters-and-licenses/school-psychology/index.html>

Doctoral Degrees

The Department of Educational Leadership offers Doctor of Philosophy and Doctor of Education degrees. Department listings describe these programs. Details are available here: <https://www.miamioh.edu/ehs/academics/graduate-studies/doctoral-programs/index.html>

Education, Teacher Education- Master of Education, Master of Arts in Teaching

For information, contact:

Director of Graduate Studies

Department of Teaching, Curriculum, and Educational Inquiry

401 McGuffey Hall, 513-529-6443

www.miamioh.edu/tce

The Department of Teaching, Curriculum, and Educational Inquiry (TCE) offers both Master of Education (M.Ed.) and Master of Arts in Teaching (M.A.T.) degrees. Some of the graduate programs in TCE lead to teaching or supervisory licensure by the Ohio Department of Education. The Department also offers a variety of graduate-level courses and workshops for in-service education and professional development of school personnel who may not be interested in degree programs.

Admission Requirements

To receive graduate credit for courses taken, you must be admitted to the Graduate School. Admission to non-degree study requires Graduate School admission with continuing non-degree graduate standing. Admission to any of the master's degree programs requires:

1. Acceptance by the Graduate School.
2. Program Admission Requirements for TCE:
 - a. Essay
 - b. Resume
 - c. GRE (MAT applicants only)
 - d. TOEFL (if English is not your native language)
 - e. Two recommendations

For all programs, apply through the Graduate School at www.MiamiOH.edu/graduate-studies. You will submit an application, application fee, and official transcripts along with the documents required by the department, which are listed above. For further information or questions you may contact the TCE department at tcegraduateprogram@MiamiOH.edu.

When the Graduate School notifies the department that you have been admitted with appropriate standing, you will be informed of your admission status and assigned an academic advisor by the department.

General Requirements

Following program admission, you will need to develop a plan of study with your advisor's assistance. You **must** file a copy of this plan, approved by your advisor, with the department within two months of admission to the degree program. If a plan of study has not been

submitted within the required time, it could result in an inability to complete the degree in a timely manner. Your plan must satisfy requirements for your area of emphasis, your division, the Graduate School, and the university. At least 15 semester hours must be earned in 600-level courses or above.

You may make substitutions in your plan, provided that each is consistent with these requirements, is approved by a petition through your advisor, and is filed with the department office as an amended plan of study prior to registration for the substitute course.

A final comprehensive master's presentation defense is required during the last term of course-work for your program. As you approach the completion of graduate course-work in your approved plan of study, consult with your advisor to complete the following required components. The defense will be administered by a committee of three faculty selected by you and your advisor, including at least one other member of the Department of Teaching, Curriculum, and Educational Inquiry.

Endorsements

Reading Endorsement

(13¹-16 semester hours)

The K-12 Reading Endorsement can be added to a valid Ohio teaching license upon successfully completing required graduate-level reading education courses and passing the Ohio Assessments for Educators (OAE) Reading subtest #1/038 & subtest #11/039 both with a qualifying score of 220. Such an endorsement enables a teacher to teach reading in grades K-12 in the State of Ohio. Upon passing the tests, you need to complete the application to add the Reading endorsement as a second teaching field. The application is at www.oh.nesinc.com.

Code	Title	Credit Hours
Take all of the following:		
TCE 603	Language, Literacy and Culture	3
TCE 632	Literacy Assessment and Instruction	3
TCE 635	Clinical Literacy Practicum	4
TCE 642	Phonics and Reading Improvement for the Reading Teacher ¹	3
TCE 646	Reading and Writing in Content Areas	3
Total Credit Hours		16

¹ Teachers who completed a phonics course as part of their undergraduate curriculum are exempt from taking TCE 642.

Middle Childhood Generalist 4-6 Endorsement

This endorsement, including graduate and undergraduate courses, enables candidates who hold an Ohio Middle Childhood license for two content areas to teach one or two of the additional core subjects in grades 4-6. The generalist requirements for each subject are:

1. mathematics --In addition to MTH 115 taken as a Miami Plan course, students add MTH 116 and either TCE 465/TCE 565 or TCE 565 or TCE 265

2. science --In addition to the science courses taken as part of the Miami Plan requirements, students add BIO 155 and either TCE 405/TCE 505 or TCE 505, or GLG 244.
3. language arts -- In addition to taking ENG 111 and the advanced writing course for the Miami Plan, students add ENG 262 and either ENG 304 or TCE 625.
4. social studies -- In addition to one of these two-course sequences (HST 111/HST 112 OR HST 197/HST 198) students add TCE 362 and either TCE 452/TCE 552 or TCE 552 or SOC 153.

In addition to the coursework, a passing score on the Ohio Assessments for Educators (OAE) "Elementary Education" Subtest I/018 & Subtest II/019 is also required.

For detailed information about courses for the MCE generalist, contact the Department of Teaching, Curriculum, and Educational Inquiry at 513-529-6443.

Teaching English to Speakers of Other Languages (TESOL Endorsement)

Program Description

Miami's TESOL Endorsement (Teaching English to Speakers of Other Languages) prepares P-12 educators to work effectively with English language learners. Our courses provide real-world understanding and practical strategies to address the linguistic, cultural, and academic issues facing English language learners and their teachers in schools.

Feature

- Hybrid format: mostly online with three Saturday in-person sessions at Miami University's Voice of America Learning Center (VOALC)
- Take four courses and work with students in your classroom or school for case studies
- ESL Tutors welcome

Code	Title	Credit Hours
Select all of the following:		
TCE 612	TESOL in PK-12: Culture, Policy, & Second Language Acquisition	3
TCE 614	TESOL Instructional Methodologies	3
TCE 616	Current Issues in TESOL	3
TCE 618	TESOL Cultural Contexts & Assessment	3
Total Credit Hours		12

Application Process

Students seeking the TESOL endorsement only should apply for Continuing Non-degree status with the Graduate School, and should contact Robin Schell to sign up for the endorsement. Practicing teachers who are already enrolled in a Miami master's program may enroll in the TESOL endorsement by contacting Robin Schell.

Master of Education

- Curriculum and Instruction
- Literacy and Language
- Transformative Education

Master of Arts in Teaching

- Foreign Language Education
- Integrated English Language Arts Education
- Integrated Mathematics Education
- Integrated Social Studies Education
- Science Education Areas

Literacy and Language- Master of Education

This program is designed for teacher candidates and other educators with teacher certification/licensure who are interested in careers leading to classroom teaching and service as literacy specialists and other leadership positions.

Program Requirements

Code	Title	Credit Hours
Foundation & Theory		
Take all of the following courses:		
TCE 603	Language, Literacy and Culture	3
TCE 610	Applied Studies in Classroom Teaching	3
TCE 643	Language and Discourse	3
Literacy & Language Instruction		
Take all of the following courses:		
TCE 625	Teaching Writing	3
TCE 626	Teaching with Literature for Children	3
TCE 632	Literacy Assessment and Instruction	3
TCE 642	Phonics and Reading Improvement for the Reading Teacher	3
TCE 646	Reading and Writing in Content Areas	3
Practicum Experiences		
Take all of the following courses:		
TCE 635	Clinical Literacy Practicum	4
TCE 636	Literacy and Leadership	3
Total Credit Hours		31

Transformative Education- Master of Education

Transformative Education is a Master of Education program jointly administered by the Departments of Teaching, Curriculum, & Educational Inquiry and Educational Leadership. It prepares educators to provide leadership in transforming teaching and learning in schools and communities. The program emphasizes educational sustainability—creating, nurturing, and continuing effective teaching and learning environments—through the inclusion of both a responsiveness to the specific needs and interests of individual educators and a foundation of shared learning (multicultural education, curriculum, leadership, and data-informed decision making). The program blends a core set of courses that encompass important educational issues with a choice of concentrations that provide both conceptual and practical benefits for educators and the students they serve, giving educators the capacity to synthesize research with knowledge of their students to make professional decisions. The program aims to develop educators who are innovative

scholar-practitioners, collaborative leaders, and advocates for equity and social justice.

The M.Ed. in Transformative Education is open to both students with existing teaching licensure and those who do not have an existing license. This degree does not lead to initial license to teach.

Program Requirements

Code	Title	Credit Hours
Required Courses		
EDL 601	Educational Leadership Theory	3
EDL/TCE 606	Curriculum Innovation and Transformation through Understanding and Design	3
EDL 621	Foundations of Multi-Cultural Education	3
EDL/TCE 648	Data-Informed Decision Making in Education	3
Concentration		
Students will complete 15 hours of focused electives.		15
Some suggested focus areas include: Curriculum & Cultural Studies; Teaching English to Speakers of Other Languages (TESOL) endorsement; Assessment and Evaluation Certificate; Reading Endorsement; Social Justice, among others. Note that these programs are currently offered by Miami's College of Education, Health and Society on a regular basis at the VOALC.		
Culminating Course		
EHS 649	Action Research for Educators	3
Total Credit Hours		30

Foreign Language Education- Master of Arts in Teaching

For information, contact:

Director of Graduate Studies

Department of Teaching, Curriculum and Educational Inquiry

401 McGuffey Hall, 513-529-6443

www.MiamiOH.edu/tce

Master of Arts in Teaching (M.A.T.) programs combine graduate and undergraduate study and enables a student with a baccalaureate degree to earn teaching licensure and a master's degree in approximately four or five semesters of full-time study, depending upon academic background, experience, and teaching field.

Program Requirements

Requirements consist of

1. general requirements, common to all M.A.T. programs,
2. content course requirements and retention requirements, specific to each licensure area and
3. successful completion of benchmarks established for program accreditation compliance.
4. passing score on the OAE content test for the licensure area and passing score on the OAE pedagogy test.

A student who has satisfied all or most of the content course requirements can expect to complete an M.A.T. program in four

semesters or in three semesters and one summer; others can expect that additional semesters will be necessary in proportion to the number of content courses that must be satisfied.

Admission

In addition to admission requirements previously listed for all master's programs within the department, candidates must have a baccalaureate degree.

Cohort

We encourage anyone with a degree who wants to be a teacher to contact us about our MAT programs. When you are admitted to the program, you are automatically admitted to the cohort. A cohort is a group of students in a common teaching field, taking the same methods courses and student teaching in specific academic years.

A cohort is identified by its general subject area and an academic year; for example, integrated mathematics 2017-18, English language arts 2018-19, and chemistry education 2016-17 are separate cohorts. The cohort year indicates the academic year the student is scheduled for methods courses, and the following academic year when the student is scheduled for student teaching.

You should schedule a pre-application counseling appointment with the Department of Teaching, Curriculum and Educational Inquiry Graduate coordinator or advisor, 513-529-6443.

General Requirements

Code	Title	Credit Hours
Required courses:		
EDL 621	Foundations of Multi-Cultural Education	3
EDP 601 or EDP 603	Advanced Educational Psychology Theories of Human Learning	3
EDP 607	Educational Measurement and Evaluation	3
EDP 656	Education of Individuals with Exceptionalities	3
EHS 649	Action Research for Educators	3
FSW 581	Adolescent Development in Diverse Families: Ages 13-25	3
TCE 519A	Teaching Internship- Adolescent	12
TCE 521A	Classroom Cultures, Community, and Climate	3
TCE/EDL 648	Data-Informed Decision Making in Education	3
Choose one of these		3
EDP 547	eLearning in K-12 Education	
EDP 636	Diversity, Learning & Technology	
EDP 639	Trends in Learning Design and Analytics	
Take one--depending on program		3
TCE 346A	Reading Instruction for Adolescents	
TCE 546A	Integ Literacy Across Content	
TCE 546L	Reading in the Secondary School	
Total Credit Hours		42

This program combines graduate and undergraduate study and enables a student with a baccalaureate degree to earn teaching

licensure and a master's degree in approximately four semesters of full-time study, depending upon academic background, experience, and teaching field. A student can earn licensure through this graduate program if he/she has coursework or a degree in Spanish, Latin, German, French or Chinese¹. Students must complete the following program requirements and the content requirements of the corresponding language undergraduate degree. If the content requirements are lacking from their undergraduate degree programs, a student will be required to complete them.

Program Requirements

Code	Title	Credit Hours
TCE 544	Language Teaching & Learning I ¹	3
TCE 545	Language Teaching & Learning II ²	3
TCE 546L	Reading in the Secondary School ³	3
TCE 521A	Classroom Cultures, Community, and Climate ³	3
Total Credit Hours		12

¹ Offered in fall only.

² Offered in spring only.

³ Offered in spring with TCE 545.

Language Requirements

Advanced-Low level of proficiency on the Oral Proficiency Interview (OPI) for French, German, & Spanish.

Intermediate-High level of proficiency on the Oral Proficiency Interview (OPI) for Chinese.

Content Course Requirements

If a student has not lived or studied in a country where his/her target language is spoken, then they **must** complete a summer or semester study abroad to obtain content and fluency in their language. Study abroad coursework would be pre-approved by an advisor.

Chinese

Code	Title	Credit Hours
CHI 101 & CHI 102	Elementary Chinese and Elementary Chinese	8
CHI 201 & CHI 202	Second Year Chinese and Second Year Chinese	6
CHI 301 & CHI 302	Third Year Chinese and Third Year Chinese	6
CHI 401 & CHI 402	Fourth Year Chinese I and Fourth Year Chinese II	6
LIN 201	Introduction to Linguistics	3
Select two of the following: ¹		
CHI 251	Traditional Chinese Literature in English Translation	3
CHI 252	Modern Chinese Literature in English Translation	3
CHI 255	Drama In China/Japan:Eng Trans	3
CHI 264	Chinese Cinema and Culture	3
Total Credit Hours		41

¹ Study abroad transfer credit may be used

French

Code	Title	Credit Hours
Take all of the following:		
FRE 301	Culture & Interpretation	3
FRE 302	Pre-Revolutionary Literature and Life	3
FRE 303	Modern and Contemporary Literature and Life	3
FRE 310	Texts in Context	3
FRE 341	Conversation and Current Events in France	3
FRE 361	French Pronunciation ¹	3
FRE 411	Modern and Contemporary French Society	3
Electives in French (399-499) to complete required semester hours: ²		10
Total Credit Hours		31

¹ Minimum grade of B required.² FRE 399W is recommended**German**

Code	Title	Credit Hours
GER 301	German Language Through the Media	3
GER 311	Passionate Friendships in German Literature from the Middle Ages to the Present	3
GER 312	Coming of Age in German Life and Thought	3
GER 471	Linguistic Perspectives on Contemporary German	3
GER 321	Cultural Topics in German-Speaking Europe Since 1870	3
or GER 322	Comparative Study of Everyday Culture: German-Speaking Europe and the U.S.A.	
Select at least six credit hours of 400-level German courses, including one literature course		6
Electives (GER 203-GER 499) to complete required semester hours (not previously taken)		13
Total Credit Hours		34

No courses in translation count in this major

Latin**Note:** Study abroad is not required in Latin education

Code	Title	Credit Hours
CLS 102	Roman Civilization: From City to Empire	3
CLS 121	Introduction to Classical Mythology	3
LAT 201	Intermediate Latin	3
LAT 202	Representative Latin Authors	3
Select three credit hours of courses from CLS 200-499		3
Complete required 34 semester hours from the following:		19
LAT 310	Special Topics in Latin Literature ¹	

LAT 410	Latin Seminar ¹	
Total Credit Hours		34

¹ Repeatable; maximum 12 hours.**Spanish**

Code	Title	Credit Hours
Required Courses		
SPN 311	Grammar Review and Introductory Composition	3
SPN 312	Introduction to Spanish Language/ Linguistics	3
SPN 315	Intro to Hispanic Literatures	3
SPN 316	Intermediate Spanish Composition	3
SPN 342	Advanced Conversational Spanish	3
SPN 351	Historical Perspectives on Current Issues	3
SPN 352	Cultural History of Spain II	3
SPN 361	Marginalized Voices	3
SPN 362	Spanish American Cultural History II	3
SPN 420/430/440	Selected Topics in Literature and Culture: Spain	3
SPN 481	Spanish Phonology and Syntax ¹	3
Capstone		
SPN 490	Issues in Hispanic Literature, Linguistics, or Culture	3
Electives		
Select two electives from SPN 450-499:		6
Total Credit Hours		42

¹ See advisor if SPN 481 is not offered.**Foreign Language – Graduate-Level Licensure Only Program**

The program is designed for those who are interested in becoming World Language K-12 teachers in the state of Ohio. The Licensure Only program is comprised of a set of courses that allows completers to apply for a State of Ohio K-12 World Language teaching license. Upon completion of the program, students will be eligible to apply for an Ohio teaching license.

General Admission Requirements

Applicants must be admitted to the Graduate School at Miami University as a continuing non-degree candidate (see note below) and complete the following licensure program admission requirements:

- Hold a Bachelor's degree from an accredited post-secondary institution in the United States or an equivalent Bachelor's university degree.
- Demonstrate language proficiency in both speaking and writing in the language targeted for licensure by successfully completing both the Oral Proficiency Interview (OPI or OPIc computer) and the Writing Proficiency Test (WPT), which are required for licensure by the state of Ohio. The program requires an "Advanced-Low" or higher level of proficiency in both tests for admission into the program. Students seeking admission to the program should take

the OPI/OPIc and the WPT three to five weeks prior to applying for the program.

- Applicants who studied in a country or institution where English is not the official language must submit proof of English proficiency. We accept the following tests for admission: TOEFL iBT, IELTS, and PTE.
- International students seeking admission to the program must possess the appropriate visa status. Make an appointment with an International Student Advisor in the Office of International Education to discuss adding this program at <http://www.units.MiamiOH.edu/internationalprograms/about.php>.

Application Process

- All students must apply and be admitted to Miami University
- If you are a current international student at Miami University, make an appointment with an International Student Advisor in the Office of International Education to discuss adding this program. Domestic students can apply directly to the program if all admission requirements are met.
- If you are not currently a student at Miami University, apply to the Miami University's Graduate School as a continuing non-degree status candidate. Apply online to Miami's Graduate School.

NOTE: If you are admitted as a non-degree candidate and later desire admission to a degree program, you must apply for admission and meet Graduate School and departmental standards for admission. No more than eight of the most recent graduate hours earned with non-degree status can be applied toward a graduate degree and then only with the approval of the department. All eight hours are subject to normal time limitations for credit toward a degree.

Program Requirements

Course	Title	Credit Hours
First Year		
Fall		
TCE 544	Language Teaching & Learning I ¹	3
Select an appropriate content elective ²		3-4
Select an appropriate education elective ^{2,3}		3-4
EDP 607	Educational Measurement and Evaluation	3
Credit Hours		12-14
Spring		
TCE 521A	Classroom Cultures, Community, and Climate	3
TCE 545	Language Teaching & Learning II	3
TCE 546L	Reading in the Secondary School	3
Credit Hours		9
Second Year		
Fall		
TCE 519A	Teaching Internship- Adolescent	12
Credit Hours		12
Total Credit Hours		33-35

¹ Cohort class - must take in Fall

² Obtain approval from advisor.

³ Sample courses: EDL 621, EDP 601, EDP 656, FSW 581

Integrated English Language Arts Education- Master of Arts in Teaching

For information, contact:

Director of Graduate Studies

Department of Teaching, Curriculum and Educational Inquiry

401 McGuffey Hall, 513-529-6443

www.MiamiOH.edu/tce

Master of Arts in Teaching (M.A.T.) programs combine graduate and undergraduate study and enables a student with a baccalaureate degree to earn teaching licensure and a master's degree in approximately four or five semesters of full-time study, depending upon academic background, experience, and teaching field.

Program Requirements

Requirements consist of

1. general requirements, common to all M.A.T. programs,
2. content course requirements and retention requirements, specific to each licensure area and
3. successful completion of benchmarks established for program accreditation compliance.
4. passing score on the OAE content test for the licensure area and passing score on the OAE pedagogy test.

A student who has satisfied all or most of the content course requirements can expect to complete an M.A.T. program in four semesters or in three semesters and one summer; others can expect that additional semesters will be necessary in proportion to the number of content courses that must be satisfied.

Admission

In addition to admission requirements previously listed for all master's programs within the department, candidates must have a baccalaureate degree.

Cohort

We encourage anyone with a degree who wants to be a teacher to contact us about our MAT programs. When you are admitted to the program, you are automatically admitted to the cohort. A cohort is a group of students in a common teaching field, taking the same methods courses and student teaching in specific academic years.

A cohort is identified by its general subject area and an academic year; for example, integrated mathematics 2017-18, English language arts 2018-19, and chemistry education 2016-17 are separate cohorts. The cohort year indicates the academic year the student is scheduled for methods courses, and the following academic year when the student is scheduled for student teaching.

You should schedule a pre-application counseling appointment with the Department of Teaching, Curriculum and Educational Inquiry Graduate coordinator or advisor, 513-529-6443.

General Requirements

Code	Title	Credit Hours
Required courses:		
EDP 601 or EDP 603	Advanced Educational Psychology Theories of Human Learning	3
EDL 621	Foundations of Multi-Cultural Education	3
EDP 607	Educational Measurement and Evaluation	3
EDP 656	Education of Individuals with Exceptionalities	3
EHS 649	Action Research for Educators	3
FSW 581	Adolescent Development in Diverse Families: Ages 13-25	3
TCE 519A	Teaching Internship- Adolescent	12
TCE 521A	Classroom Cultures, Community, and Climate	3
TCE/EDL 648	Data-Informed Decision Making in Education	3
Choose one of these		3
EDP 547	eLearning in K-12 Education	
EDP 636	Diversity, Learning & Technology	
EDP 639	Trends in Learning Design and Analytics	
Take one--depending on program		3
TCE 346A	Reading Instruction for Adolescents (English Language Arts only)	
TCE 546A	Integ Literacy Across Content	
TCE 546L	Reading in the Secondary School (Foreign Language Programs only)	
Total Credit Hours		42

Integrated English/Language Arts Education

Program Requirements

Code	Title	Credit Hours
Required Courses		
TCE 523	Literature and Other Media for Adolescents	3
TCE 527	Adolescent Language Arts I (fall only)	3
TCE 528	Adolescent Language Arts II (spring semester)	3
TCE 625	Teaching Writing	3
Undergraduate Content Courses		
ENG 304	Backgrounds to Composition Theory and Research	3
JRN 101 or JRN 201	Journalism and American Life Reporting and News Writing I	3
LIN 301	History of the English Language	3
LIN 302	Structure of Modern English	3
STC 135	Principles of Public Speaking	3
TCE 246A	Foundations of Language and Critical Literacy	3
Select two of the following:		6

ENG 223	Rhetorical Strategies for Writers	
ENG 224	Professional Communication & Digital Rhetoric	
ENG 225	Advanced Composition	
ENG 226	Introduction to Creative Writing: Short Fiction and Poetry	
TCE 284	Writing for Educators	
Select one of the following:		3
ENG 272	English Literature to 1660	
ENG 273	English Literature 1660-1900	
ENG 274	English Literature 1901 to Present	
Select one of the following:		3
ENG 275	American Literature to 1900	
ENG 276	American Literature 1900 to the Present	
Select one of the following:		3
ENG 134	Introduction to Shakespeare	
ENG 221	Shakespeare and Film	
ENG 372	Shakespeare's Principal Plays: Early Works	
ENG 373	Shakespeare's Principal Plays: Late Works	
Select one of the following:		3
CHI 251	Traditional Chinese Literature in English Translation	
CHI 252	Modern Chinese Literature in English Translation	
CLS 121	Introduction to Classical Mythology	
ENG 251	Introduction to European Literature	
ENG 255	Love and Death in Nineteenth-Century Russian Literature	
ENG 256	Empire and Utopia in Russian Literature	
ENG 364	From Marco Polo to Machiavelli	
FRE 131	Masterpieces of French Culture in Translation	
FRE 350	Topics in French Literature in Translation	
RUS 257	Communism and Catastrophe in Modern Russian Literature	
Select one of the following: (see advisor for other choices)		3
ENG 336	African American Writing, 1746-1877	
ENG 337	African American Writing, 1878-1945	
ENG 338	African American Writing, 1946-Present	
ENG 348	Ethnic American Literatures	
Electives in ENG, JRN, STC, THE		6
Total Credit Hours		57

**Retention Requirements
Methods Checkpoint (for Admission to TCE 527 and TCE 528):**

- Admission to appropriate adolescent language arts cohort
- Completion of or transcript credit for at least 21 credit hours of content courses in integrated language arts

- A GPA of at least 2.75 in all undergraduate content courses of your plan of study earned at Miami
- A GPA of at least 3.00 in all graduate content coursework of your plan of study earned at Miami

Supervised Teaching Checkpoint (for Admission to TCE 519A):

- Admission to appropriate adolescent language arts cohort
- Completion of Adolescent Field Block courses and TCE 528 with GPA of at least 3.00
- A GPA of at least 2.75 in all undergraduate content courses of your plan of study earned at Miami
- A GPA of at least 3.00 in all graduate content course-work of your plan of study earned at Miami
- Completion of the OAE content test

Integrated Mathematics Education- Master of Arts in Teaching

For information, contact:
 Director of Graduate Studies
 Department of Teaching, Curriculum and Educational Inquiry
 401 McGuffey Hall, 513-529-6443
www.MiamiOH.edu/tce

Master of Arts in Teaching (M.A.T.) programs combine graduate and undergraduate study and enables a student with a baccalaureate degree to earn teaching licensure and a master's degree in approximately four or five semesters of full-time study, depending upon academic background, experience, and teaching field.

Program Requirements

Requirements consist of

1. general requirements, common to all M.A.T. programs,
2. content course requirements and retention requirements, specific to each licensure area and
3. successful completion of benchmarks established for program accreditation compliance.
4. passing score on the OAE content test for the licensure area and passing score on the OAE pedagogy test.

A student who has satisfied all or most of the content course requirements can expect to complete an M.A.T. program in four semesters or in three semesters and one summer; others can expect that additional semesters will be necessary in proportion to the number of content courses that must be satisfied.

Admission

In addition to admission requirements previously listed for all master's programs within the department, candidates must have a baccalaureate degree.

Cohort

We encourage anyone with a degree who wants to be a teacher to contact us about our MAT programs. When you are admitted to the program, you are automatically admitted to the cohort. A cohort is a group of students in a common teaching field, taking the same methods courses and student teaching in specific academic years.

A cohort is identified by its general subject area and an academic year; for example, integrated mathematics 2017-18, English language arts 2018-19, and chemistry education 2016-17 are separate cohorts. The cohort year indicates the academic year the student is scheduled for methods courses, and the following academic year when the student is scheduled for student teaching.

You should schedule a pre-application counseling appointment with the Department of Teaching, Curriculum and Educational Inquiry Graduate coordinator or advisor, 513-529-6443.

General Requirements

Code	Title	Credit Hours
Required courses:		
EDL 621	Foundations of Multi-Cultural Education	3
EDP 601 or EDP 603	Advanced Educational Psychology Theories of Human Learning	3
EDP 607	Educational Measurement and Evaluation	3
EDP 656	Education of Individuals with Exceptionalities	3
EHS 649	Action Research for Educators	3
FSW 581	Adolescent Development in Diverse Families: Ages 13-25	3
TCE 519A	Teaching Internship- Adolescent	12
TCE 521A	Classroom Cultures, Community, and Climate	3
TCE/EDL 648	Data-Informed Decision Making in Education	3
Choose one of these		3
EDP 547	eLearning in K-12 Education	
EDP 636	Diversity, Learning & Technology	
EDP 639	Trends in Learning Design and Analytics	
Take one--depending on program		3
TCE 346A	Reading Instruction for Adolescents (Language Arts only)	
TCE 546A	Integ Literacy Across Content (Mathematics, Social Studies, and Science)	
TCE 546L	Reading in the Secondary School (Foreign Language programs only)	
Total Credit Hours		42

Integrated Mathematics Education

Program Requirements

Code	Title	Credit Hours
Requirements		
(take TCE 529A fall semester with TCE 521A and TCE 546A, shown above)		
TCE 529A	Adolescent Mathematics I	3
TCE 530	Teaching Adolescent Mathematics (spring semester following TCE 529A)	3

Content Course Requirements

Select one of the following calculus sequences:		8-12
MTH 151 & MTH 251 & MTH 252	Calculus I and Calculus II and Calculus III	
MTH 249 & MTH 252	Calculus II and Calculus III	
MTH 251 & MTH 252	Calculus II and Calculus III	
Select the following:		
MTH 222	Introduction to Linear Algebra	3
MTH 331	Proof: Introduction to Higher Mathematics	3
MTH 508	Mathematical Problem Solving with Technology	3
MTH 509	Secondary Mathematics from an Advanced Perspective	3
MTH 511	Foundations of Geometry	3
MTH 521	Introduction to Abstract Algebra	4
MTH 482	Great Theorems of Mathematics	3
STA 301 & STA 501	Applied Statistics and Probability	6
Total Credit Hours		42-46

Retention Requirements Methods Checkpoint (for Admission to TCE 529A and TCE 530):

- Admission to appropriate adolescent mathematics cohort
- Completion of transcript credit for one of the designated calculus sequences, MTH 508, and at least nine credit hours of 300-600 level mathematics, statistics, or mathematics education courses approved by your academic advisor
- Content course GPA at least 2.50
- Overall GPA at least 3.00 in all graduate content course-work in your plan of study earned at Miami

Supervised Teaching Checkpoint (for Admission to TCE 519A):

- Admission to appropriate adolescent mathematics cohort
- Completion of TCE 529A, TCE 530, and the Adolescent Field Block courses
- Completion of or transfer credit for MTH 511, MTH 521, and STA 501 and at least nine credit hours of graduate-level mathematics, statistics, or mathematics education courses approved by your academic advisor
- Content course GPA at least 2.50
- Overall GPA at least 3.00 in all graduate content course-work in your plan of study earned at Miami
- Completion of the OAE content test.

Integrated Social Studies Education- Master of Arts in Teaching

For information, contact:
Director of Graduate Studies
Department of Teaching, Curriculum, and Educational Inquiry
401 McGuffey Hall, 513-529-6443

www.MiamiOH.edu/tce

Master of Arts in Teaching (M.A.T.) programs combine graduate and undergraduate study and enables a student with a baccalaureate degree to earn teaching licensure and a master's degree in approximately four or five semesters of full-time study, depending upon academic background, experience, and teaching field.

Program Requirements

Requirements consist of

1. general requirements, common to all M.A.T. programs,
2. content course requirements and retention requirements, specific to each licensure area and
3. successful completion of benchmarks established for program accreditation compliance.
4. passing score on the OAE content test for the licensure area and passing score on the OAE pedagogy test.

A student who has satisfied all or most of the content course requirements can expect to complete an M.A.T. program in four semesters or in three semesters and one summer; others can expect that additional semesters will be necessary in proportion to the number of content courses that must be satisfied.

Admission

In addition to admission requirements previously listed for all master's programs within the department, candidates must have a baccalaureate degree.

Cohort

We encourage anyone with a degree who wants to be a teacher to contact us about our MAT programs. When you are admitted to the program, you are automatically admitted to the cohort. A cohort is a group of students in a common teaching field, taking the same methods courses and student teaching in specific academic years.

A cohort is identified by its general subject area and an academic year; for example, integrated mathematics 2017-18, English language arts 2018-19, and chemistry education 2016-17 are separate cohorts. The cohort year indicates the academic year the student is scheduled for methods courses, and the following academic year when the student is scheduled for student teaching.

You should schedule a pre-application counseling appointment with the Department of Teaching, Curriculum, and Educational Inquiry Graduate coordinator or advisor, 513-529-6443.

General Requirements

Code	Title	Credit Hours
Required courses:		
EDL 621	Foundations of Multi-Cultural Education	3
EDP 601 or EDP 603	Advanced Educational Psychology Theories of Human Learning	3
EDP 607	Educational Measurement and Evaluation	3
EDP 656	Education of Individuals with Exceptionalities	3
EHS 649	Action Research for Educators	3

FSW 581	Adolescent Development in Diverse Families: Ages 13-25	3
TCE 519A	Teaching Internship- Adolescent	12
TCE 521A	Classroom Cultures, Community, and Climate	3
TCE/EDL 648	Data-Informed Decision Making in Education	3
Choose one of these		3
EDP 547	eLearning in K-12 Education	
EDP 636	Diversity, Learning & Technology	
EDP 639	Trends in Learning Design and Analytics	
Take one--depending on program		3
TCE 346A	Reading Instruction for Adolescents (Language Arts only)	
TCE 546A	Integ Literacy Across Content (Mathematics, Social Studies, and Science)	
TCE 546L	Reading in the Secondary School (Foreign Language programs only)	
Total Credit Hours		42

Integrated Social Studies Education

Program Requirements

Code	Title	Credit Hours
TCE 533	Adol Social Studies Methods I	3
TCE 534	Adol Social Studies Methods II	3
Content Course Requirements		
Select one of the following:		3-4
ATH 155	Introduction to Anthropology	
SOC 151	Social Relations in the U.S.	
SOC 153	Sociology in a Global Context	
Select the following sequence:		6
HST 197 & HST 198	World History to 1500 and World History Since 1500	
ECO 201	Principles of Microeconomics	3
ECO 202	Principles of Macroeconomics	3
HST 111 & HST 112	Survey of American History to 1877 and Survey of American History: From 1877 to the Present	6
GEO 101	Global Forces, Local Diversity	3
GEO 121	Earth's Physical Environment	4
POL 241	American Political System	3
POL 271	World Politics	3
POL 221-499		3
Select four advanced courses in History 200-599 ¹		12
Select one Philosophy course (CHOICE)		3-4
Total Credit Hours		58-60

¹ One course must be a non-western history course.

Retention Requirements Methods Checkpoint (for Admission to TCE 533 and TCE 534):

- Admission to appropriate adolescent social studies cohort
- Completion of or transcript credit for at least 33 credit hours of content courses in integrated social studies
- A GPA of at least 2.75 in all undergraduate content courses of your plan of study earned at Miami
- A GPA of at least 3.00 in all graduate content course-work of your plan of study earned at Miami

Supervised Teaching Checkpoint (for Admission to TCE 519A):

- Admission to appropriate adolescent social studies cohort
- Completion of TCE 533 and Adolescent Field Block courses with GPA of at least 3.00
- Completion of or transfer credit for at least 47 credit hours of content courses in integrated social studies
- A GPA of at least 2.75 in all undergraduate content courses of your plan of study earned at Miami
- A GPA of at least 3.00 in all graduate content course-work of your plan of study earned at Miami
- Completion of the OAE content test

Science Education Areas- Master of Arts in Teaching

For information, contact:

Director of Graduate Studies

Department of Teaching, Curriculum and Educational Inquiry

401 McGuffey Hall, 513-529-6443

www.MiamiOH.edu/tce

Master of Arts in Teaching (M.A.T.) programs combine graduate and undergraduate study and enables a student with a baccalaureate degree to earn teaching licensure and a master's degree in approximately four or five semesters of full-time study, depending upon academic background, experience, and teaching field.

Program Requirements

Requirements consist of

1. general requirements, common to all M.A.T. programs,
2. content course requirements and retention requirements, specific to each licensure area and
3. successful completion of benchmarks established for program accreditation compliance.
4. passing score on the OAE content test for the licensure area and passing score on the OAE pedagogy test.

A student who has satisfied all or most of the content course requirements can expect to complete an M.A.T. program in four semesters or in three semesters and one summer; others can expect that additional semesters will be necessary in proportion to the number of content courses that must be satisfied.

Admission

In addition to admission requirements previously listed for all master's programs within the department, candidates must have a baccalaureate degree.

Cohort

We encourage anyone with a degree who wants to be a teacher to contact us about our MAT programs. When you are admitted to the program, you are automatically admitted to the cohort. A cohort is a group of students in a common teaching field, taking the same methods courses and student teaching in specific academic years.

A cohort is identified by its general subject area and an academic year; for example, integrated mathematics 2017-18, English language arts 2018-19, and chemistry education 2016-17 are separate cohorts. The cohort year indicates the academic year the student is scheduled for methods courses, and the following academic year when the student is scheduled for student teaching.

You should schedule a pre-application counseling appointment with the Department of Teaching, Curriculum and Educational Inquiry Graduate coordinator or advisor, 513-529-6443.

General Requirements

Code	Title	Credit Hours
Required courses:		
EDL 621	Foundations of Multi-Cultural Education	3
EDP 601 or EDP 603	Advanced Educational Psychology Theories of Human Learning	3
EDP 607	Educational Measurement and Evaluation	3
EDP 656	Education of Individuals with Exceptionalities	3
EHS 649	Action Research for Educators	3
FSW 581	Adolescent Development in Diverse Families: Ages 13-25	3
TCE 519A	Teaching Internship- Adolescent	12
TCE 521A	Classroom Cultures, Community, and Climate	3
TCE/EDL 648	Data-Informed Decision Making in Education	3
Choose one of these		3
EDP 547	eLearning in K-12 Education	
EDP 636	Diversity, Learning & Technology	
EDP 639	Trends in Learning Design and Analytics	
Take one--depending on program		3
TCE 346A	Reading Instruction for Adolescents (Language Arts only)	
TCE 546A	Integ Literacy Across Content (Mathematics, Social Studies, and Science)	
TCE 546L	Reading in the Secondary School (Foreign Language programs only)	
Total Credit Hours		42

Science Programs (Seven Areas)

Subject areas available include chemistry, earth science, earth science/chemistry, life science/chemistry, life science/earth science, life science and physical science. All science areas take the following methods courses.

Program Requirements

Code	Title	Credit Hours
TCE 531	Adolescent Science Methods I (fall semester only)	3
Take the following course in spring semester following TCE 531 with TCE 521A and TCE 546A, shown above.		
TCE 532	Adolescent Science Methods II	3
Total Credit Hours		6

Retention Requirements

Methods Checkpoint (for Admission to TCE 531 and TCE 532):

- Admission to appropriate adolescent science cohort
- Completion of transcript credit for a minimum of 33 science content courses
- Content course GPA at least 2.50
- Overall GPA at least 3.00 in all graduate content course-work of your plan of study earned at Miami

Supervised Teaching Checkpoint (for Admission to TCE 519A):

- Admission to appropriate adolescent science cohort
- Completion of TCE 531, TCE 532, and the Adolescent Field Block courses
- Completion of 47 science credits
- Content course GPA at least 2.50
- Overall GPA at least 3.00 in all graduate content course-work in your plan of study earned at Miami
- Completion of the OAE content test

For additional information, please contact the Director of Graduate Studies.

Educational Leadership- Master of Education, M.S., Ph.D., Ed.D.

For information, contact:

Director of Graduate Studies
Department of Educational Leadership
304 McGuffey Hall, 513-529-6825
www.MiamiOH.edu/edl

These programs prepare students for leadership positions in elementary and secondary schools, central office positions in curriculum and instruction and administration, and college teaching positions in leadership, curriculum, administration, and related areas.

A school administration license may be completed to prepare students to become elementary, middle, and/or high school principals, supervisors, curriculum specialists, and professional development specialists.

The department also offers a Graduate Certificate for Professional Development in Family, School, and Community Connections, as well as other professional development experiences for administrators, classroom teachers, and other educators interested in pursuing non-degree graduate study.

Administrative Specialist Licenses

Principal

Principal licensure requires an M.Ed. in school leadership. At Miami, this is a 33 credit hour program (please see M.Ed. in School Leadership), although the degree can be conferred after successful completion of 30 credit hours. The other 3 credits need to be completed to fulfill requirements for Ohio's principal license.

Students who have an M.Ed. in Administration from a university that does not include all licensure requirements within their degree programs, can have their transcript reviewed to determine the licensure courses that are needed in order for Miami to recommend the candidate for an Ohio administrative license.

Superintendent

Superintendent licensure requires the candidate to hold a valid Ohio principal license and complete 12 credits as listed below.

Program Requirements

Code	Title	Credit Hours
EDL 727	School Business Affairs and Physical Resources	3
EDL 729	Board-Superintendent-Staff Relationships	3
EDL 782	Social Justice and Transformation	3
EDL 710	Internship in Educational Leadership	3
Total Credit Hours		12

Master of Education Programs

The Master's degree in School Leadership is recommended for students seeking state licensure as elementary or secondary school principals, curriculum directors, or other administrative positions. This license prepares the student for any administrative position in schools with the exception of superintendent. Admission requires an application from the department, in addition to the Graduate School application, and is based on your undergraduate grade point average (GPA), Miller Analogies Test (MAT) or Graduate Record Examination (GRE) score¹, two letters of recommendation, a writing sample, and an interview.

The Master's degree in Transformative Education is for students who want to improve their professional skills and take on leadership responsibilities as teachers and experts in curriculum, teaching, and learning. It can lead to a professional teaching license. Admission requires an application from the department, in addition to the Graduate School application, and is based on your undergraduate GPA, two letters of recommendation, and the EDL Information Sheet.

Teaching certification/licensure is generally required to earn the M.Ed. in School Leadership or Transformative Education.

Candidates in licensure programs and transformative education will be expected to complete and pass the portfolio review process at established intervals within the program. Information about the portfolio review process should be obtained from the department office.

¹ Please note the GRE is waived for students who hold a master's degree applying to School Leadership.

School Leadership- Master of Education

This program is designed for educators with a minimum of three years of K-12 teaching experience who wish to become school principals or administrators. Some courses are offered in a hybrid format—a blend of traditional class sessions and on-line components. The program structure allows teachers to complete their studies in two years of part-time enrollment while continuing to work full time. Please note the GRE is waived for students who hold a master's degree applying to School Leadership.

Program Requirements

(30 hours required for the M.Ed.; 33 hours required for licensure)

Code	Title	Credit Hours
Core		
EDL 601	Educational Leadership Theory	3
EDL 607	School Law	3
EDL 609	Politics In Education	3
EDL 614	Family-Community-School Partnerships	3
EDL 645	Supervision of Teaching	3
EDL 646	Curriculum Development for Instruction	3
EDL 648	Data-Informed Decision Making in Education	3
EDL 710	Internship in Educational Leadership	3
EDL 721	Pupil Personnel Services	2
EDL 723	Public School Finance	3
EDL 725	School Staff Personnel Administration	2
EDL 630B		2
Total Credit Hours		33

Transformative Education- Master of Education Educational Leadership- Doctor of Philosophy

The guiding mission of the Ph.D. program in Educational Leadership is to prepare education scholars attuned to culture-based leadership who are critically aware as well as politically and ethically discerning. The program prepares students for positions of school and district leadership and college teaching positions in educational leadership, curriculum or teacher education. The Ph.D. program includes doctoral core seminars, a preliminary examination, a research sequence, a concentration chosen from elective courses, a comprehensive examination, and dissertation research.

Program Requirements

(64 semester hours)

Code	Title	Credit Hours
Required Core Courses		
EDL 761	Introduction to Doctoral Study in Educational Leadership	3
EDL 762	Culture and Leadership in Education	3
EDL 764	Education and Democratic Society	3
EDL 765	Curriculum, Pedagogy and Diversity	3
EDL 771	Educational Policy Analysis	3

Preliminary Exam

Typically taken in May of the first or second year after the required core courses are completed

Electives

Student select a minimum of 15 hours of electives, including selection from seven advanced EDL electives created as part of the program revision process. Electives must be approved by advisor, at least 6 hours must be 700 level).

Required Research Courses 18

EDL 683	Qualitative Research in Education	
EDL 763	Seminar in Advanced Qualitative Research Methodology	
EDL 772	Quantitative Research Design in Education	
EDL 775	Capstone in Educational Inquiry	
EHS 667 or EDL 661	Behavior Statistics Quantitative Research in Higher Education	

One advanced research course from across the College or University

Residency Enrichment Experience

Typically taken after the Preliminary Examination

Comprehensive Exam

May not be taken until all coursework in completed.

Dissertation 16

Total Credit Hours 64

Educational Leadership- Doctorate of Education

The Doctorate of Education in Educational Leadership is a 60 credit hour program for educational leaders working in P-12 contexts and institutions around central and south-western Ohio. The primary goal of this degree is to prepare democratic leaders who engage issues of equity, ethics, and social justice to create solutions to complex problems of educational practice. The program includes a 12-credit core focusing on leadership, culture, curriculum, diversity and democracy; an 8-credit major focusing on administration, social justice, and new media literacies for leadership; 15 credits of research/inquiry courses; and a cognate area (9 hours) which allows students to pursue superintendent licensure or to pursue courses in a concentration area designed to enhance their capacity for educational leadership at a building or district level.

Program Requirements

(60 semester hours)

Code	Title	Credit Hours
Required Core Courses		
EDL 762	Culture and Leadership in Education	3
EDL 771	Educational Policy Analysis	3
EDL 764	Education and Democratic Society	3
EDL 765	Curriculum, Pedagogy and Diversity	3
Major Courses		
EDL 706	Educational Leadership and Organizational Development	3
EDL 730	New Literacies for Educational Leadership	2
EDL 782	Social Justice and Transformation	3

Cognate Courses

Select one of the following options: 9

Option A: Superintendent Licensure Courses:

EDL 710 Internship in Educational Leadership

EDL 727 School Business Affairs and Physical Resources

EDL 729 Board-Superintendent-Staff Relationships

Option B: Leadership Concentration:

9 related hours in a focus area (e.g. technology, special education, law, business - may include approved courses transferred from another accredited institution)

Research Courses

EHS 667 or EHS 668	Behavior Statistics ¹ Behavior Statistics II	3
EDL 772	Quantitative Research Design in Education	3
EDL 683	Qualitative Research in Education	3
EDP 690	Seminar in Educational Psychology	1-3
EDL 774	Scholarship of Practice	2

Dissertation

Select 16 hours of dissertation credit 16

¹ Or equivalent.

Electrical and Computer Engineering- Master of Science

For information, contact:

Director of Graduate Programs
Department of Electrical and Computer Engineering
260 Garland Hall, 513-529-0740
ECEdept@MiamiOH.edu
<http://MiamiOH.edu/cec/academics/departments/ece/academics/graduate-studies/index.html>

Introduction

The Master of Science in Electrical and Computer Engineering is designed to graduate electrical and computer engineers who are well qualified in advanced electrical and computer engineering technologies. This unique professional education prepares students for future interdisciplinary engineering practice that requires engineers to master both electrical/computer engineering and another discipline of choice. The degree includes electrical/computer engineering and elective courses in other disciplines. Students will conduct a research project with an electrical/computer engineering professor.

Students select either the research (thesis) or course intensive (non-thesis) option. Requirements include courses in electrical/computer engineering, elective courses, and a research-based thesis (research option) or a research project (course intensive option). For the thesis and the research project, students work with a faculty adviser on a research problem.

Admission and Application Requirements

New students are generally admitted to begin in the fall semester. Entry into the program requires completion of a bachelor's degree in electrical or computer engineering, or a closely related field.

Prospective students will be ranked and considered for admission based on the following information:

1. Requirements of the Graduate School, including: undergraduate transcripts, and TOEFL scores (if required)
2. GRE scores (waived for Miami graduates)
3. Three letters of recommendation
4. The applicant's essay describing the purpose of his/her study.

Combined Bachelor/Master's Program

Undergraduate Miami University students may apply to participate in the combined bachelors/master's program. This program allows you to pursue a master's degree in an accelerated manner while completing your bachelor's degree. It is a great opportunity to deepen your knowledge and research skills. Please contact the Department of Electrical and Computer Engineering for more information.

Program Requirements

The degree requires electrical and computer engineering courses, elective courses, and a thesis or research project. Students select one of the following two options:

Option 1- Research Option (Thesis)

The research option requires completion of a minimum of 32 credit hours of graduate study and any additional hours needed to satisfy prerequisites. The distribution of hours is summarized as follows:

Code	Title	Credit Hours
Electrical and Computer Engineering courses		12-18
Elective courses		6-12
ECE 610	Graduate Seminars	2
ECE 700	Research for Master's Thesis	6
Total Credit Hours		32

Option 2 - Course Intensive Option (Non-Thesis)

The course intensive option requires the completion of a minimum of 34 credit hours and any additional hours needed to satisfy prerequisites. The distribution of hours is summarized as follows:

Code	Title	Credit Hours
Electrical and Computer Engineering courses		15-21
Elective courses		9-15
ECE 704	Non-Thesis Project	3
ECE 610	Graduate Seminars	1
Total Credit Hours		34

Elective Courses

Students may enter the program with courses that cover some of the material in related disciplines; however, they must complete at least 6-9 credit hours of elective courses selected in consultation with their faculty adviser.

Code	Title	Credit Hours
CPB/MME 612	Engineering Analysis	3
CSE 532	Machine Learning	3
CSE 543	High Performance Computing & Parallel Programming ²	3
CSE 556	Bioinformatic Principles ²	3
CSE 564	Algorithms ²	3
CSE 565	Comparative Programming Languages	3
CSE 567	Computer and Network Security ²	3
CSE 573	Automata, Formal Languages, and Computability ²	3
CSE 584	Algorithms II ²	3
CSE 586	Introduction to Artificial Intelligence ²	3
CSE 588	Image Processing & Computer Vision	3
CSE 609	Programming for Engineers and Scientists	3
CSE 616	Simulation of Physical Systems	3
CSE 617	Advanced Networks	3
CSE 627	Machine Learning	3
CSE 664	Advanced Algorithms	3
CSE 667	Cryptography	3
MME 595	Introduction to Applied Nonlinear Dynamics ²	3
MME 612	Engineering Analysis	3
MTH 525	Number Theory ²	3
MTH 532	Optimization ²	3
MTH 537	Game Theory and Related Topics ²	3
MTH 538	Theory and Applications of Graphs ²	3
MTH 551	Introduction to Complex Variables ²	4
MTH 553	Numerical Analysis ²	3
MTH 591	Introduction to Topology ²	3
MTH 632	Advanced Optimization	3
MTH 638	Advanced Graph Theory	3
MTH 641	Functions of a Real Variable	4
MTH 651	Functions of a Complex Variable	4
PHY 541	Optics and Laser Physics ²	4
PHY 561	Electromagnetic Theory ²	4
PHY 571	Advanced Electronics ²	3
PHY 623	Solid State Physics	3
PHY 671	Electromagnetism	4
PHY 691	Modern Quantum Physics	4
PHY 692	Modern Quantum Physics	4
STA 527	Introduction to Bayesian Statistics ²	3
STA 562	Inferential Statistics ²	3
STA 563	Regression Analysis ²	4
STA 567	Statistical Learning ²	3
STA 583	Analysis of Forecasting Systems ²	3

Electrical and Computer Engineering Courses

Students design a program of study in consultation with their faculty advisor. Courses are selected from the following:

Code	Title	Credit Hours
ECE 511	Sensors and Data Fusion with Robotics Applications	3
ECE 514	Design and Modeling of Robotic Systems	3
ECE 525	Digital Signal Processing ²	3
ECE 526	Biomedical Signal Analysis and Machine Learning ²	3
ECE 527	Radar Signal Processing ²	3
ECE 529	Digital Image Processing ²	3
ECE 530	Electromagnetics in Sireless Sensing and Communications ²	3
ECE 536	Control of Dynamic Systems ²	3
ECE 553	Communication Systems ²	3
ECE 561	Network Performance Analysis ²	3
ECE 570	Special Topics ²	3
ECE 587	Computer Aided Design Tools for Computer Engineering ²	3
ECE 591	Power Systems Engineering ²	3
ECE 593	Power Electronics ²	3
ECE 597	Electric Vehicle Technology	3
ECE 601	State Variables for Engineers	3
ECE 625	Advanced Digital Signal Processing	3
ECE 661	Advanced Optical Network Architectures	3
ECE 670	Advanced Topics in Electrical and Computer Engineering ¹	1-3

¹ Maximum 6

² Students who have taken the 400-level of this course or its equivalent must substitute another course.

Graduate Seminar Course

Code	Title	Credit Hours
ECE 610	Graduate Seminars	1-3

Thesis and Project Research Courses

Code	Title	Credit Hours
ECE 704	Non-Thesis Project	0-12
ECE 700	Research for Master's Thesis	0-9

English- Master of Arts, M.A. in Teaching, Ph.D.

For information, contact:

Director of Graduate Studies

Department of English

356 Bachelor Hall, 513-529-7530

www.MiamiOH.edu/english/graduate

Admission Requirements

Admission to the Master of Arts program requires three letters of recommendation with recommendation form, a writing sample, a personal statement of intent, and approval of the department committee on admissions. Application deadline is **January 1** for admission in the following academic year.

Admission to the Master of Arts in Teaching (MAT) program requires a baccalaureate degree and licensure for teaching in public schools. Admission also requires the completion of the Master of Arts in Teaching English application, a professional resume, the completion of a recommendation form by a school official, and an application appointment with the Ohio Writing Project Director, 513-529-5245.

Admission to the doctoral program requires an M.A. (or equivalent), three letters of recommendation with recommendation form, a writing sample, a personal statement of intent, and approval of the department committee on admissions. Application deadline is **January 1** for admission in the following academic year.

English- Master of Arts Program Requirements

General program requirements include reading proficiency in a language other than English before the final examination, either tested by examination or confirmed by two years of credit in college level language courses. Students whose native language is other than English are exempt from the language requirement. Graduate assistants teaching in the college composition program must also take ENG 731 as well as 2 teaching workshops, ENG 606, and ENG 607. Other requirements follow:

M.A. with literature concentration (thesis option)

(36 semester hours)

Code	Title	Credit Hours
ENG 603	Literary Theories and Their Histories	4
ENG 605	Issues in the Profession	2
Departmental distribution requirements		16
Elective literature		8
Writing the thesis		6
Final Oral Examination		
Total Credit Hours		36

M.A. with literature concentration (without thesis)

(36 semester hours)

Code	Title	Credit Hours
ENG 603	Literary Theories and Their Histories	4
ENG 605	Issues in the Profession	2
Department distribution requirements		16
Elective literature		8
Final written and oral examination		6
Total Credit Hours		36

M.A. with composition and rhetoric concentration

(36 semester hours)

Code	Title	Credit Hours
Core courses in composition and rhetoric		
Select two of the following:		
ENG 732	Histories and Theories of Composition	4
ENG 733	Histories and Theories of Rhetoric	4
ENG 735	Empirical Research Methods in Composition	4
ENG 737	Contemporary Theories of Rhetoric	4
Three elective courses in ENG		12
ENG 605	Issues in the Profession	2
ENG 700	Research for Master's Thesis	6
Final oral examination		
Total Credit Hours		36

English- Master of Arts in Teaching Program Requirements - Non-GRE

General admission requirements include a valid teaching license, admission to the graduate school and a completed Master of Arts in Teaching in English application at <https://www.miamioh.edu/cas/academics/departments/english/academics/graduate-studies/ohio-writing-project/teaching/index.html>. Program requirements consist of core classes, elective workshops and classroom research reaching 32 semester hours.

(32 semester hours)

Code	Title	Credit Hours
ENG 622	The Teaching of Writing	6
Electives in writing and reading courses		15
Teacher Research courses		9
Final Teacher Research project, paper, and presentation		2
Total Credit Hours		32

English- Doctor of Philosophy

Concentrations are offered in composition and rhetoric, and in American and English literature.

Program Requirements

Composition and Rhetoric

Code	Title	Credit Hours
ENG 605	Issues in the Profession	2
Six seminars in composition and rhetoric, including four foundation courses		24
Three open elective seminars in ENG		12
ENG 850	Research for Doctoral Dissertation	22
Total Credit Hours		60

American and English Literature

Code	Title	Credit Hours
ENG 603	Literary Theories and Their Histories	4
ENG 605	Issues in the Profession	2
Eight seminars, including one in ENG 750		32

ENG 850	Research for Doctoral Dissertation	22
Total Credit Hours		60

Fulfillment of the departmental historical distribution requirement is expected.

For both concentrations, course of study must be approved by the Graduate Committee.

For students in American and English Literature, the language requirement is met by

reading proficiency in two languages other than English; or

reading proficiency in one language other than English and six semester hours of graduate credit in an approved cognate field.

For students in Composition and Rhetoric, the language requirement is met by

reading proficiency in one language other than English, or six semester hours of graduate credit in an approved cognate field.

Also required for both concentrations are a comprehensive examination, written and oral; a dissertation; and an oral defense of the dissertation.

Graduate assistants and teaching associates teaching in the college composition program must take ENG 731, as well as two teaching workshops, ENG 606 and ENG 607.

Entrepreneurship and Emerging Technology Certificate

For information, contact: Department of Emerging Technology in Business and Design, 209 Laws Hall, 529-1637.

This online graduate certificate provides a foundation to succeed in the technology-driven startup world. Students take two courses in entrepreneurial business models, finance, and creativity along with two courses in digital marketing, usability research, and web programming. They then participate in a deep-dive bootcamp in either tech startups, programming/development, or digital design.

Program Requirements

Code	Title	Credit Hours
Pick Two From List Below		6
ESP 544	Entrepreneurship: Venture Capital Immersion	
ESP 651	Creativity, Innovation and the Entrepreneurial Mindset	
ESP 670	Introduction to Entrepreneurship and Business Models	
Pick Two From List Below		6
IMS 513	User Experience Research	
IMS 519		
IMS 617	Interactive Web Programming	
IMS 585	Technology Entrepreneurship Ecosystems	
IMS 591	Tech Startup Bootcamp	

or IMS 592 Startup Development Bootcamp
or IMS 593 Startup Design Bootcamp

Total Credit Hours 12

Entrepreneurship and Emerging Technology - Master of Entrepreneurship and Emerging Technology

The Master of Entrepreneurship and Emerging Technology positions students for success in creating or working for new economy organizations that leverage digital technology. The program provides a foundation in entrepreneurial best practices, finance, and creativity that is supported with technology expertise in advanced digital marketing, usability testing, and programming. All of this prepares a student to create an emerging media business or propel an existing business on the frontiers of our economy with practical work experience.

Code	Title	Credit Hours
Core		
Foundation		18
ESP 544	Entrepreneurship: Venture Capital Immersion	
ESP 651	Creativity, Innovation and the Entrepreneurial Mindset	
ESP 670	Introduction to Entrepreneurship and Business Models	
IMS 513	User Experience Research	
IMS 519		
IMS 617	Interactive Web Programming	
Community		
Ecosystems		1
IMS 585	Technology Entrepreneurship Ecosystems	
Bootcamp		2
IMS 591	Tech Startup Bootcamp	
or IMS 592	Startup Development Bootcamp	
or IMS 593	Startup Design Bootcamp	
Connection		
Thesis		3
IMS 652	Graduate Research Project	
Internship		6
IMS 640	Internship	
Total Credit Hours		30

Environmental Science - Master of Environmental Science

For information, contact:

Director of Graduate Studies
Institute for the Environment and Sustainability (IES)
118 Shideler Hall, 513-529-5811

www.MiamiOH.edu/ies

Program and Support Facilities

Faculty, staff, and students are involved in professional service projects, internships, practica, and research, including agricultural ecology, GIS and resource analysis, conservation biology, sustainability, land use issues, pollution prevention, watershed management, water quality, stream and wetland restoration, and conflict resolution of environmental problems.

Facilities include dedicated rooms for graduate-student team projects for external clients (professional service projects), GPS and field equipment, a weather station at the Ecology Research Center, and instrumentation for the analysis of water quality in the Center for Aquatic and Watershed Sciences.

Admission Requirements

At least a 2.75 grade point average (4.00 scale) or 3.00 in the last two undergraduate years, three letters of recommendation, letter of intent, and a current resume of education and experience are required.

Professional Science Masters

The IES Masters of Environmental Science degree is designated as a national Professional Science Master's (PSM) program based on its professional skills, experiential learning, and interdisciplinary breadth. PSM programs prepare students for science careers in business, government, or nonprofit organizations, where workforce needs are increasing. Learn more at the PSM website.

Program Requirements

Satisfactory completion of 36 semester hours including:

Code	Title	Credit Hours
Core courses		
EGM 511	Leading and Managing Projects	3
IES 511	Environmental Protocols	4
IES/ENG 529	Environmental Communication	3
IES 605	Introduction to the Professional Service Project	2
IES 610	Professional Service Project	4
IES 611	Environmental Problem Solving and Analysis	2
STA 672	Statistical Modeling and Study Design	4
Professional Experience		
IES 640	Internship (or IES 677)	1
or IES 670	Environmental Practicum	
IES 665	IES Internship or Practicum Development	1
Concentration (12 hours in your choice of one of five Areas of Concentration)		12
1. Applied Ecology & Conservation		
Principles of Ecology & Conservation (3 or 6 hrs)		
BIO 567	Conservation Biology	
BIO 671	Population and Community Ecology	
BIO 672	Ecosystem and Global Ecology	

Landscape & Spatial Analysis (at least 3 hrs)

GEO 541	Geographic Information Systems
GEO 542	Advanced Geographic Information Systems
GEO 544	GIScience Techniques in Landscape Ecology
GEO 548	Techniques and Applications of Remote Sensing

Taxonomic & Field Courses (0 or 3 hrs)

BIO 508	Ornithology
BIO 510	Mammalogy
BIO 553	Animal Physiological Ecology
BIO 563	Limnology
BIO 565	Animal Behavior
IES 512	Tropical Ecosystems of Costa Rica
MBI 575	Microbial Ecology: Exploration of the Diverse Roles of Microorganisms in Earth's Ecology

Social, Economic & Policy Dimensions (at least 3 hrs)

ECO 506	Environmental Economics
GEO 554	Urban Geography
IES 519	Environment, Society & Justice
IES 550	Environmental Law
IES 594	Sustainability Perspectives in Resources and Business

2. Land & Water Resources**Land Resources (0-6 hrs)**

BIO 538	Soil Ecology and Sustainable Use
GLG 535	Soils and Paleosols

Water Resources (0 to 6 hrs)

BIO 563	Limnology
CPB 505	Industrial Environmental Control
GEO 525	Hydrogeography
GEO 526	Watershed Management
GLG 508	Introduction to Hydrogeology
GLG 528	Hydrogeological Modeling: Groundwater Flow and Contaminant Transport and Fate
GLG 596	Isotopes in Environmental Processes

Landscape & Spatial Analysis (at least 3 hrs)

GEO 541	Geographic Information Systems
GEO 542	Advanced Geographic Information Systems
GEO 544	GIScience Techniques in Landscape Ecology
GEO 548	Techniques and Applications of Remote Sensing

Climate & Global Processes (0 to 3 hrs)

BIO 672	Ecosystem and Global Ecology
GLG 536	Paleoclimatology
GLG 537	Paleontology in Conservation

Social, Economic & Policy Dimensions (at least 3 hrs)

ECO 506	Environmental Economics
GEO 554	Urban Geography

IES 519	Environment, Society & Justice
---------	--------------------------------

IES 550	Environmental Law
---------	-------------------

IES 594	Sustainability Perspectives in Resources and Business
---------	---

3. The Transport, Fate & Control of Pollution**Environmental Engineering (at least 3 hrs)**

CPB 505	Industrial Environmental Control
CPB 541	Pollution Prevention in Environmental Management
CPB 542	Air Pollution Control

Contaminant Fate and Transport (at least 3 hrs)

GLG 502	Geomicrobiology
GLG 508	Introduction to Hydrogeology
GLG 528	Hydrogeological Modeling: Groundwater Flow and Contaminant Transport and Fate
GLG 596	Isotopes in Environmental Processes
MBI 575	Microbial Ecology: Exploration of the Diverse Roles of Microorganisms in Earth's Ecology

Air, Land & Water Transport Systems (at least 3 hrs)

BIO 563	Limnology
BIO 672	Ecosystem and Global Ecology
GEO 525	Hydrogeography
GEO 526	Watershed Management
GLG 508	Introduction to Hydrogeology
GLG 528	Hydrogeological Modeling: Groundwater Flow and Contaminant Transport and Fate

Social, Economic & Policy Dimensions (at least 3 hrs)

ECO 506	Environmental Economics
GEO 554	Urban Geography
IES 519	Environment, Society & Justice
IES 550	Environmental Law
IES 594	Sustainability Perspectives in Resources and Business

4. Energy & Environment**Energy & Engineering Systems (at least 3 hrs)**

CPB 541	Pollution Prevention in Environmental Management
CPB 542	Air Pollution Control

Building & Urban Systems (at least 3 hrs)

ARC 506	Seminars (B: Energy and Sustainability and C: Sustainable Design)
ARC 513	Environmental Control Systems I
GEO 551	Urban and Regional Planning
GEO 554	Urban Geography

Interdisciplinary professional experience or research leading to an internship or practicum.

Environmental Contamination, Climate & Global Processes (at least 3 hrs)

BIO 672	Ecosystem and Global Ecology
GLG 502	Geomicrobiology

GLG 528	Hydrogeological Modeling: Groundwater Flow and Contaminant Transport and Fate
GLG 536	Paleoclimatology
GLG 596	Isotopes in Environmental Processes
MBI 575	Microbial Ecology: Exploration of the Diverse Roles of Microorganisms in Earth's Ecology
Social, Economic & Policy Dimensions (at least 3 hrs)	
ECO 506	Environmental Economics
GEO 554	Urban Geography
IES 519	Environment, Society & Justice
IES 550	Environmental Law
IES 594	Sustainability Perspectives in Resources and Business
5. Sustainability in Management & Planning	
Landscape Analysis and Urban Planning (3-6 hrs*)	
GEO 541	Geographic Information Systems
GEO 542	Advanced Geographic Information Systems
GEO 548	Techniques and Applications of Remote Sensing
GEO 551	Urban and Regional Planning
GEO 554	Urban Geography
GEO 559	Advanced Urban and Regional Planning
Management and Information Systems (3-6 hrs*).	
Note: Many MKT, MGT, FIN and other Business Courses may have undergraduate prerequisites. Undergraduate credit hours do not count towards the MEn degree.	
MGT 551	Operations Planning and Scheduling
MGT 553	Quality Management Systems
STA 583	Analysis of Forecasting Systems
Economic and Policy Dimensions (at least 3 hrs)	
ECO 506	Environmental Economics
GEO 554	Urban Geography
IES 519	Environment, Society & Justice
IES 550	Environmental Law
IES 594	Sustainability Perspectives in Resources and Business
Satisfactory completion and defense of an internship, practicum or thesis	
Total Credit Hours	36

NOTE: All combined students are required to take at least 8 credit hours of graduate work in the M.En. program after obtaining their undergraduate degree.

Esports Management Certificate

The Esports Management Graduate Certificate is a one-year, mostly online program, which provides a comprehensive understanding of the esports ecosystem and the best practices for management of a professional esports team and supporting businesses. The certificate is a total of eight courses: Two semesters of three, two-credit-hour courses, surrounded by three credit hours of actual tournament

organization experience. The courses provide an esports foundation in all aspects of tournament organization, branding/marketing, sponsorship, logistics, team management, recruiting, finance, global issues, publishers, history, business models, media rights/legal, and of course, broadcasting.

Code	Title	Credit Hours
IMS 570	Introduction to Esports	2
IMS 571	Esports Broadcasting	2
IMS 572	Esports Event Management	2
IMS 573	The Business of Esports	2
IMS 574	Special Topics in Esports	2
IMS 575	Esports Brand Management	2
IMS 576	Esports Event Practicum	2
IMS 578	Esports Ecosystems	1
Total Credit Hours		15

Esports Management - Master of Esports Management

The Master of Esports Management is a one-year, mostly online degree, which provides a comprehensive understanding of the esports ecosystem and best practices for management and leadership positions within the esports industry. The courses provide an esports foundation in all aspects of tournament organization, facility management, branding/marketing, sponsorship, logistics, team management, performance psychology and coaching, recruiting, finance, global issues, publishers, history, business models, media rights/legal, and of course, broadcasting. In addition, students gain actual esports tournament organization experience.

Program Requirements

Code	Title	Credit Hours
Select all of these:		
IMS 570	Introduction to Esports	2
IMS 571	Esports Broadcasting	2
IMS 572	Esports Event Management	2
IMS 573	The Business of Esports	2
IMS 574	Special Topics in Esports	2
IMS 575	Esports Brand Management	2
Take these 2 courses:		
SLM 635	Strategic Management of Sport Organizations	3
SLM 636	Sport Communities & Public Relations	3
Take 2 of these courses:		
SLM 513	Sport Economics	
SLM 517	Legal Issues in Sport Leadership and Management	
SLM 545	Esports Performance Psychology and Coaching	
SLM 572	Sport Administration	
Select 6 Credit Hours:		
IMS 576	Esports Event Practicum	6

or KNH 640 Internship

Total Credit Hours 30

French- Master of Arts

For information, contact:
 Director of Graduate Studies
 Department of French and Italian
 207 Irvin Hall, 513-529-7508
www.MiamiOH.edu/frenchitalian

Admission Requirements

Applicants must complete the online application form and submit the following materials: official transcripts, two letters of recommendation, a personal statement, and a writing sample of 10-15 pages in French. One of these letters should be written by someone who can vouch for the applicant's abilities in French, if this is not the applicant's native language. International students must submit proof of English proficiency (80 or higher on the TOEFL) as well as official translations of their academic transcripts. The Graduate Record Examination (GRE) is recommended but not required. Deadline for application is January 1.

Program Requirements

The M.A. in French requires a minimum of 30 semester hours of coursework, a reading list examination, and a thesis. The normal length of the program is four semesters plus two summers. Students take two graduate seminars each semester (one 500- and one 600-level course). In the first semester of study, graduate assistants also take a required pedagogy seminar and teaching workshop, FRE 691. All students are required to take our theory proseminar, FRE 614, offered once every other year. During summer terms, faculty advisors supervise students as they work independently, either preparing for their reading list exam, or finalizing their master's thesis. Graduate students may participate in our five-week summer study abroad program in Dijon (contingent on budgetary approval). There, they take graduate seminars, teach and/or serve as assistants to the program director. Students must pass a comprehensive reading list examination in their third semester of study to be in good standing. During the fourth semester of study, students draft and revise a thesis of at least 50 pages, which represents an original contribution to scholarship in French and Francophone studies. Candidates for the M.A. defend their thesis in May, complete revisions to their thesis, and file for an August degree.

Geography- Master of Arts

For information, contact:
 Director of Graduate Studies
 Department of Geography
 118 Shideler Hall, 513-529-5010
www.MiamiOH.edu/geography

The M.A. in Geography is a small program with 10-12 students in residence each year. With 14 permanent faculty, the student to faculty ratio of around 1 to 1 provides students with excellent access to faculty. Graduate faculty are strongly committed to teaching, advising, and research collaboration with graduate students.

Geography integrates social and natural sciences through geospatial and other techniques to address the challenges and opportunities of

sustainable development. The MA in Geography prepares students with advanced geographical thinking and methods for solving tomorrow's social and environmental problems today. A flexible and personalized curriculum builds foundational understanding of space, place, and environment, applied through specialized approaches to global development, urbanization and planning, environmental management, or geospatial. All students undertake individualized inquiry -- research thesis or internship/practicum -- that develops specialized expertise and research-management skills, which they communicate in a high-quality manuscript or report.

This academic program emphasizes intellectual growth, critical analysis and communication, and professional development. Students are prepared to engage linked social-environmental problems in real-world decision making, positioning them for leadership in mapping a more sustainable future. Alumni have found impactful public, non-profit, and private-sector careers in sustainable development, conservation, geospatial technology, business analytics, and more, as well as admission/funding in top Ph.D. programs and jobs in academia.

Research and Support Facilities

The department has two computer labs, a planning project space, and the Geospatial Analysis Center (GAC) with state-of-the-art commercial GIS, remote sensing, GPS, and open source geospatial hardware and software (including ArcGIS, ENVI, R, QGIS, and Google Earth Engine). The GAC is supported by a large format plotter. A hydrogeography lab is resident in the department. Additionally, there is a microclimatology/precipitation chemistry station at the nearby Ecology Research Center, three stream monitoring stations at Hueston Woods State Park, and access to the Institute for Food sustainable farm. An extensive collection of aerial photos, historical maps, and open source and commercial multispectral, synthetic aperture radar, and lidar remote sensing data is available for graduate research support.

Admission Requirements

Six courses, including introductory human geography, introductory physical geography, cartography or GIS, a quantitative methods course, and two additional advanced courses, are generally required. Deficiencies may be made up after admission. In addition, a statement of purpose/research interests and three letters of recommendation must be provided.

Requirements: Master of Arts

The Master of Arts degree has both a thesis and internship option. Both options require a minimum of 36 hours.

Code	Title	Credit Hours
Core course work		
GEO 601	Seminar in Research Techniques	3
GEO 602	History of Geographic Thought	4
GEO 604	Research Project Development	3
Electives		14-20
Thesis/Internship credit		6-12
Total Credit Hours		36

Before the end of the first year, a formal oral presentation of the thesis/internship proposal is required. This program culminates in the defense of a thesis or internship report.

Geographic Information Sciences Certificate

For information, contact the Department of Geography, Shideler Hall Room 118B, 513-529-5010.

This certificate program focuses on the theory and techniques of geographic information science (GISci). Geographic Information Science (GISci) is a suite of techniques for collecting, analyzing, and communicating information through geographic information systems (GIS), satellite and aerial imaging (Remote Sensing), global positioning systems (GPS), and related technologies. GISci is applied to problems in fields ranging from environmental science to urban planning to business decision-making. This certificate program builds qualifications for employment and/or further study in GISci.

Program Requirements

(12 credit hours)

Code	Title	Credit Hours
Required courses		
GEO 541 or GEO 610	Geographic Information Systems ¹ Research in Geography	3
GEO 542	Advanced Geographic Information Systems	3
GEO 543	Python Programming for Geospatial Applications	3
GEO 548	Techniques and Applications of Remote Sensing	3
Total Credit Hours		12

¹ Students who start program with Intro GIS knowledge may start with GEO 542 and finish with GEO 610.

Geology- Master of Arts, Master of Science, Doctor of Philosophy

For information, contact:
Gail Burger, Accounting Technician
Department of Geology & Environmental Earth Science
118 Shideler Hall, 513-529-8183
www.MiamiOH.edu/geology

Research and Support Facilities

In addition to standard laboratory and computer equipment, the department houses research laboratories for the investigation of a variety of earth materials and processes including high- and low-temperature mineralogy/geochemistry, geomicrobiology, radiogenic and stable isotope geochemistry, and high-end computational laboratories. Many of these laboratories support material preparation and analysis using state-of-the-art instrumentation including: inductively-coupled plasma optical emission spectrometer (ICP-OES), high-resolution (magnetic sector) ICP mass spectrometer (HR-ICP-

MS), multi-collector ICP-MS (MC-ICP-MS), laser ablation (LA), multi-collector thermal ionization mass spectrometer (TIMS), HPLC ion chromatograph, atomic force/scanning tunneling microscope (AFM), single-crystal and powder x-ray diffractometers, hand-held XRF, optical cathodoluminescence (CL), electrophoretic mobility analyzer, streaming potential analyzer, and portable seismometers. Additional shared facilities on campus include microbiology laboratories, scanning and transmission electron microscopy laboratories, and remote sensing and GIS computer laboratories. In addition, collaborations with numerous research laboratories and institutions provide access to facilities not available on campus. The Department maintains active field programs around the world, including a field station in Wyoming.

Admission Requirements

Prospective students must have an undergraduate major in geology or a related science, including at least one semester of college chemistry, physics, and calculus. Deficiencies in background, as determined by a faculty committee, may be made up after admission. Either TOEFL or IELTS scores are required for all foreign applicants. In addition, a statement of career objectives and research interests, a resume and three letters of recommendation must be provided.

Geology- Master of Arts

The Master of Arts degree is a non-thesis program requiring 30 credit hours of coursework, at least 15 hours of which must be in geology. Students may select up to 15 credit hours of coursework in cognate disciplines, with the approval of their committee. Students must pass an oral examination prior to receipt of the degree.

Geology- Master of Science

The Master of Science degree is a thesis program requiring a minimum of 30 credit hours with a minimum of 24 semester hours of course work plus six semester hours of credit for thesis. Before the end of the first year, a formal oral presentation of the thesis proposal is required. This program culminates in the defense of a thesis based on original research.

Geology- Doctor of Philosophy

The Ph.D. requires completion of 60 semester hours beyond the M.S. degree or its equivalent, of which at least 15 semester hours are earned through graduate-level science coursework. Before the end of the third semester of the program, Ph.D. candidates take written and oral comprehensive examinations administered by the student's advisory committee. The dissertation prospectus may be presented after the candidate has successfully passed the comprehensive examination and advanced to Ph.D. candidacy, but prior to the end of the fourth semester. The prospectus is to take the form of a proposal to an external funding agency to support the dissertation research. The prospectus must be presented in both written form and as an oral public defense. The program culminates in an oral public defense of a dissertation based on original research.

Gerontology- Master of Gerontological Studies, Doctor of Philosophy

For information, contact:
Director of Graduate Studies

Scripps Gerontology Center
396 Upham Hall, 513-529-2914
www.scripps.MiamiOH.edu

The MGS and Ph.D. programs are offered through the Department of Sociology and Gerontology with support from the Scripps Gerontology Center. The Certificate Program is offered through the Scripps Gerontology Center.

Gerontological Studies- Master of Gerontological Studies

Core courses are offered in gerontology, with additional courses available in other departments. This program is designed for students whose interests and career goals include research or applied work in the field of gerontology.

The program requires 37 semester hours, including course work, a practicum in the field of aging, and a culminating paper based on student interests.

Application Requirements

Admission is based on evaluations by the graduate faculty. Applicants must have a minimum undergraduate grade point average of 3.00 on a 4.00 scale. Applicants must submit:

1. academic transcripts,
2. general test scores on the Graduate Record Examination (GRE),
3. a minimum of three recommendation letters evaluating the student's academic capability, potential for success in graduate studies, and professional promise,
4. a personal statement indicating past academic and/or professional experiences, future career goals, and reasons for interest in gerontology, and
5. a resume or CV.

Program Requirements

Core courses are offered in gerontology, with additional courses available in other departments. This program is designed for students whose interests and career goals include research or applied work in the field of gerontology.

The program requires course work, a practicum in the field of aging, and a critical inquiry paper based on student interest.

(37 semester hours)

Code	Title	Credit Hours
GTU 602	Perspectives in Gerontology	3
GTU 608	The Logic of Inquiry	4
GTU 609	Qualitative Research Methods	3
GTU 611	Linking Research and Practice	3
GTU 641	Organizations and the Aging Enterprise	3
GTU 667	Policy and Politics of Aging	3
GTU 705	Oral and Written Communication for Gerontologists	3
GTU 708	Quantitative Methods and Statistics	4
GTU 640	Internship	0

Choice of electives (include but not limited to):		11
GTU 556	Aging & Health	
GTU 579	Research on Inequality in Aging & Health	
GTU 615	Readings in Gerontology	
GTU 620	Supervised Research or Reading on Selected Topics in Gerontology	
KNH 685	Physical Activity and Nutrition in Aging	
POL 567	Public Budgeting	
SLM 571	Sport, Leisure, and Aging	
Total Credit Hours		37

Social Gerontology- Doctor of Philosophy

Our doctoral program encourages students to integrate knowledge and research methods from a range of behavioral and social sciences in their study of social gerontology. Our program builds scholars and educators who can meet the challenges, demands, and opportunities presented by global aging. As a graduate of the doctoral program, students are prepared to teach and conduct research in institutions of higher education, and hold positions in policy or service organizations.

Application Requirements

Required application materials are academic transcripts, Graduate Record Examination (GRE) scores, a letter or statement describing career objectives and areas of interest in gerontology, an interview, and letters of recommendation. Applications may be submitted by those who have earned a bachelor's degree and those who have earned or are in the process of completing a master's degree. Those entering with a bachelor's degree are required to begin their studies by fulfilling the current core requirements for the Master of Gerontological Studies (MGS) Program (43 semester hours). Students are accepted into the doctoral program from a range of disciplines. Faculty will work with the student to determine which MGS core courses must be taken as part of their doctoral studies.

Program Requirements

In addition to the general requirements specified by the Graduate School, requirements for the Ph.D. in Social Gerontology include 60 post-master's degree credit hours consisting of 40-42 credit hours of coursework (with a grade of B- or higher in the required courses); satisfactory performance on oral and written qualifying examinations; submission of an acceptable dissertation; and satisfactory performance on a final oral examination (dissertation defense).

Any course applied to the MGS degree cannot also be applied to the PhD degree.

Code	Title	Credit Hours
Required Courses		
GSC 601	College Teaching Enhancement Program	1
GTU 609	Qualitative Research Methods	3
GTU 702	Knowledge Construction & Advanced Theory	3

GTY 705	Oral and Written Communication for Gerontologists	3
GTY 708	Quantitative Methods and Statistics	4
GTY 718	Statistical Modeling in Gerontology	3
GTY 745	Sociology of Aging	3
GTY 850	Doctoral Dissertation Research ¹	16
Complete a minimum of 4 credits from the following:		
GTY 709	Advanced Qualitative Research & Methods	4-6
or GTY 750 & GTY 751	Special Topics in Advanced Quantitative Methodology in Aging Research and Categorical Modeling in Aging	
Elective Courses		18-20
Select enough elective courses to meet the minimum 60 hours requirement.		
Electives include, but are not limited to the following:		
GTY 602	Perspectives in Gerontology	
GTY 608	The Logic of Inquiry	
GTY 611	Linking Research and Practice	
GTY 615	Readings in Gerontology	
GTY 620	Supervised Research or Reading on Selected Topics in Gerontology	
GTY 667	Policy and Politics of Aging	
GTY 705	Oral and Written Communication for Gerontologists	
GTY 747	Demography & Epidemiology of Aging	
GTY 790	Pre-Candidacy Doctoral Research in Gerontology	
Total Credit Hours		60

¹ Minimum 16 credit hours, maximum 60.

History- Master of Arts

For information, contact:
 Director of Graduate Studies
 Department of History
 254 Upham Hall, 513-529-5121

Admission Requirements

Combined Bachelor of Arts/Master of Arts Program

Undergraduate students may apply to participate in the combined bachelors/master's program. This program allows you to pursue a master's degree in an accelerated manner while pursuing your bachelor's degree. Students develop expertise in historical thinking, historical research, historical sub-fields, and writing and teaching history. Please contact the department for more information about the combined program.

Master of Arts

You must have an undergraduate GPA of at least 3.00 with successful completion of undergraduate history courses. You must submit a statement about your field of interest and career objectives, an academic writing sample, and three letters of recommendation.

Program Requirements Master of Arts

Thirty-six semester hours are required. The basic curriculum includes:

Code	Title	Credit Hours
HST 601	Historical Methods	3
HST 602	History and Theories	3
HST 603	Research Seminar I	3
HST 604	Research Seminar II	3
HST 670	Colloquium in History ¹	3,3
HST 677	Independent Studies	3
HST 700	Research for Master's Thesis or Project	6
Total Credit Hours		27

¹ Select this course 2 times for a total of 6 hours.

In addition, students must select one three-course module from the following. These modules are designed to provide students with skill sets appropriate to a range of academic and professional options once they complete the Master's degree.

Art History

Code	Title	Credit Hours
Select three of the following:		9
ART 506	Art Since 1980	
ART 587	Art of the Early 20th Century	
ART 589	Postwar to Postmodern, 1945-1980	
ART 680	Graduate Seminar in Art History	
Total Credit Hours		9

Geographic Information Systems (GIS)

Code	Title	Credit Hours
GEO 541	Geographic Information Systems	3
GEO 542	Advanced Geographic Information Systems	3
Elective		3
GEO 543	Python Programming for Geospatial Applications	
GEO 544	GIScience Techniques in Landscape Ecology	
GEO 548	Techniques and Applications of Remote Sensing	
Total Credit Hours		9

Gerontology

Code	Title	Credit Hours
GTY 608	The Logic of Inquiry	4
GTY 609	Qualitative Research Methods	3
Elective		3

GTY 611	Linking Research and Practice	
GTY 641	Organizations and the Aging Enterprise	
GTY 667	Policy and Politics of Aging	
GTY 708	Quantitative Methods and Statistics	
Total Credit Hours		10

Interactive Media Studies

Code	Title	Credit Hours
IMS 540	Interactive Media Studies Practicum	4
ENG/IMS 511	Visual Rhetoric	3
Elective to be approved by the Director of Graduate Studies		3
Total Credit Hours		10

History

Code	Title	Credit Hours
HST 670	Colloquium in History	3
HST 677	Independent Studies	3
Elective		3
Total Credit Hours		9

Students will be able to pursue one of three options in competing the degree:

1. Thesis. This is a written product in which students must demonstrate mastery of a specific historiography and a body of original research. Six semester hours of credit (HST 700) are required to complete the thesis, with an oral examination upon completion.
2. Non-thesis project. This might take the form of a museum exhibit or an innovative presentation of extensive archival research. It will have a clear and prominent written component. Six semester hours of credit (HST 700) are required with an oral examination upon completion.
3. Examination. This option requires the student to take comprehensive finals in three related areas, one in the major field and two in minor fields, defined in conjunction with the advisor. The exams are both written and oral. Six semester hours of credit are required with this option as well; they must be chosen from: HST 677, HST 670, HST courses at 500-level.

Language requirements for M.A. students are determined by their faculty advisor; hours taken for licensure in a language do not count toward a degree.

Graduate assistants are required to enroll in HST 645 College Teaching of HST Survey (0 credits), which is offered each year during the week before the fall semester begins.

Instructional Design and Educational Technology Certificate

The Graduate Certificate for Instructional Design & Educational Technology intended to provide instructional designers and P-12

educators with core knowledge about the processes involved in the design, development and integration of technology-based instructional media, methods and systems. This certificate will provide educators with foundational knowledge about the instructional design process by integrating research from behavioral psychology, cognitive psychology, learning theories, arts-based and critical/cultural theoretical perspectives of teaching and learning. Through the sequence of courses, learners will integrate the theoretical foundations within the methods of design, integration, and formative and summative evaluation. This certificate is appropriate for both active P-12 practitioners seeking professional development and individuals who aspire to hold positions that require knowledge of instructional design for education and training.

Program Requirements

Code	Title	Credit Hours
Select the following:		
EDP 631	Foundations of Instructional Design and Technology	3
EDP 632	Instructional Design Theory and Models	3
EDP 633	Formative/Summative Evaluation of Learning Design	3
Select two of the following:		6
EDP 537	Blended and Online Learning Design	
EDP 583	Game-based Learning Design	
EDP 636	Diversity, Learning & Technology	
EDP 643	Interactive Design	
Total Credit Hours		15

Instructional Design and Technology- Master of Arts, Master of Education

For information, contact:

Department Chair
Department of Educational Psychology
201 McGuffey, 513-529-6621
www.MiamiOH.edu/edp

Educational Technology- Master of Education

The Miami University online graduate program in Educational Technology (M.Ed.) prepares K12 teachers (with licensure) in the design, development, and meaningful integration of technology and media to enhance learning. This online program is designed to foster teacher-leaders in the design and integration of technology and digital media for value-added learning. This program supports both novice and advanced technology users by promoting each teacher's individual needs and supporting each teacher's practice. This program consists of 10 courses and may be completed in 12-14 months. Part-time students are also very welcome. Students completing the program will also earn the Computer/Technology Endorsement.

Admission Requirements

Admission to the master's degree program requires:

1. acceptance by the Graduate School,
2. a vita or resume detailing education and work experience as well as personal relevant experience,
3. a brief essay (500-750 words) on a topic pertinent to your professional reasons for pursuing the degree,
4. official transcripts, and
5. two letters of recommendation from faculty, professional colleagues or other persons who can provide insight about your potential for graduate study and interpersonal skills. Candidates for this position also need to hold current K-12 licensure and provide signed statement that you have no record of conviction for a felony (state of Ohio requirement for practice in schools).

To apply for the Master of Education, Educational Technology degree program, go to the graduate school application portal found on the graduate school page via the link below <http://miamiOH.edu/graduate-studies/admission/index.html>. Complete the application, then upload the required program materials listed here. Once you are admitted, you will be required to mail an official transcript to the graduate school at:

Graduate School
Miami University
501 E. High Street
Room 102 Roudebush Hall
Oxford, OH 45056

Applications accepted any time, however, recommended due dates are as follows:

- December 1 (Spring Admission)
- April 1 (Summer Admission)
- July 1 (Fall Admission)

Program Requirements

The Master of Education (M.Ed.) option requires a minimum of 30 credit hours (including the 6 educational technology coaching endorsement courses and 1 thesis project course). All courses are offered online.

Code	Title	Credit Hours
EDP 537	Blended and Online Learning Design	3
EDP 583	Game-based Learning Design	3
EDP 631	Foundations of Instructional Design and Technology ¹	3
EDP 632	Instructional Design Theory and Models ¹	3
EDP 633	Formative/Summative Evaluation of Learning Design ¹	3
EDP 636	Diversity, Learning & Technology ¹	3
EDP 643	Interactive Design ¹	3
EDP 645	Curriculum and Technology ¹	3
EDP 648	Capstone Project	3

EDP 669	Qualitative Research in Educational Psychology	3
Total Credit Hours		30

¹ Computer/Technology Endorsement Courses

Instructional Design & Technology- Master of Arts

The Miami University online graduate program in Instructional Design and Technology is designed to prepare and foster practitioners in instructional design, learning technology and educational media for various settings, including business, industry, higher education, government, military, and health care. The curriculum allows students to develop knowledge and skills in instructional design, learning technology, and educational media skills. Students interested in working as instructional designers for non-P-12 environments such as corporate, higher education, industry, government, military, and health care should pursue the Masters of Instructional Design (M.A.).

Admission Requirements

Admission to the master's degree program requires:

1. acceptance by the Graduate School,
2. a vita or resume detailing education and work experience as well as personal relevant experience,
3. a brief essay (500-750 words) on a topic pertinent to your professional reasons for pursuing the degree,
4. official transcripts, and
5. two letters of recommendation from faculty, professional colleagues or other person who can provide insight about your potential for graduate study and interpersonal skills.

To apply for the Master of Education, Educational Technology degree program, go to the graduate school application portal found on the graduate school page via the link below <http://miamiOH.edu/graduate-studies/admission/index.html>. Complete the application, then upload the required program materials listed here. After you have submitted all of the necessary program materials, you will be contacted for an (online) interview. Once you are admitted, you will be required to mail an official transcript to the graduate school at:

Graduate School
Miami University
501 E. High Street
Room 102 Roudebush Hall
Oxford, OH 45056

Applications accepted any time, however, recommended due dates are as follows:

- December 1 (Spring Admission)
- April 1 (Summer Admission)
- July 1 (Fall Admission)

Program Requirements

The Master of Arts (MA) option requires a minimum of 30 credit hours. All courses are offered online.

Code	Title	Credit Hours
Instructional Design Core Courses		
EDP 537	Blended and Online Learning Design	3
EDP 583	Game-based Learning Design	3
EDP 631	Foundations of Instructional Design and Technology	3
EDP 632	Instructional Design Theory and Models	3
EDP 633	Formative/Summative Evaluation of Learning Design	3
EDP 636	Diversity, Learning & Technology	3
EDP 639	Trends in Learning Design and Analytics	3
EDP 643	Interactive Design	3
EDP 669	Qualitative Research in Educational Psychology	3
EDP 648	Capstone Project	3
Total Credit Hours		30

Endorsement: Computer/Technology Endorsement

The Computer/Technology Endorsement is a seven-course online graduate sequence of courses designed to prepare K-12 teachers to foster teacher-leaders and facilitators in leveraging the power of technology and media to engage students in meaningful learning. In addition, this endorsement is designed to foster teacher-leaders to guide and support students and colleagues in integrating technology and media for digital age teaching and learning.

(18 hours)

Code	Title	Credit Hours
EDP 631	Foundations of Instructional Design and Technology	3
EDP 632	Instructional Design Theory and Models	3
EDP 633	Formative/Summative Evaluation of Learning Design	3
EDP 636	Diversity, Learning & Technology	3
EDP 643	Interactive Design	3
EDP 645	Curriculum and Technology	3
EDP 648	Capstone Project	3-6
Total Credit Hours		21-24

Kinesiology, Nutrition, and Health - Master of Science in Kinesiology, Nutrition, and Health

The graduate program in Kinesiology, Nutrition, and Health is designed to prepare students for a wide variety of health-related professional programs and career options, including medicine, nutrition, health promotion, physical/occupational therapy, nursing,

chiropractic, clinical exercise physiology, biomedical research, and doctoral programs in Kinesiology and related fields. Multidisciplinary, evidence-based coursework emphasizes exercise physiology, biomechanics, motor control, health promotion, and nutrition for health and performance. Additionally, graduates from this program build the skills, maturity, and competency necessary for the professional world. Students are active in human subjects research and internship experiences. These activities require a significant level of maturity and professionalism. Current laboratory equipment allows students and faculty to assess body composition, physical activity level, cardiorespiratory fitness, dietary intake, biological indices of muscle and cardiometabolic health, motion analysis, ground reaction force, motor control, and muscular strength and endurance.

Program Requirements Exercise and Health Science Track

Code	Title	Credit Hours
Required Courses		
KNH 621	Research Foundations in Kinesiology and Health	3
Select one of the following:		3
EHS 667	Behavior Statistics	
EHS 668	Behavior Statistics II	
KNH 623	Qualitative Research Approaches in Kinesiology, Nutrition, and Health	
Exercise and Health Science Pick-List		9
KNH 503	Professional Practices in Dietetics	
KNH 509	Nutrition for Sports and Fitness	
KNH 542	Strength Training and Conditioning	
KNH 582	Exercise Prescription: Healthy Individuals & Individuals with Chronic Diseases/Disorders	
KNH 583	Advanced Motor Control and Learning	
KNH 654	Physical Activity Motivation	
KNH 668	Advanced Physiology and Biophysics of Human Activity	
KNH 685	Physical Activity and Nutrition in Aging	
KNH 688	Advanced Biomechanics	
KNH 647	Obesity and Weight Management	
Exit Options		6
Thesis Exit Option: 6 credit hours		
KNH 700	Thesis, M.A.	
Non-Thesis Exit Option: 6 credit hours from the following:		
KNH 620	Research Problems	
KNH 640	Internship	
Electives		9
Total Credit Hours		30

Public Health Education and Health Promotion Track

Code	Title	Credit Hours
Required Courses		
KNH 621	Research Foundations in Kinesiology and Health	3
Select one of the following:		3
EHS 667	Behavior Statistics	
EHS 668	Behavior Statistics II	
KNH 623	Qualitative Research Approaches in Kinesiology, Nutrition, and Health	
Public Health Education and Health Promotion Pick-List		9
KNH 524	Public Health Disparities Past and Current	
KNH 534	Public Health Communication and Marketing	
KNH 541	Environmental Public Health	
KNH 553	Seminar in Kinesiology and Health	
KNH 562	Public Health Planning and Evaluation	
KNH 611	Behavioral Approaches to Health Promotion and Education	
KNH 612	Theoretical Foundations of Health Promotion and Education	
Exit Options		6
Thesis Exit Option: 6 credit hours		
KNH 700	Thesis, M.A.	
Non-Thesis Exit Option: 6 credit hours from the following:		
KNH 620	Research Problems	
KNH 640	Internship	
Electives		9
Total Credit Hours		30

Learning Sciences and Human Development - Master of Education

For information, contact:
 Department Chair
 Department of Educational Psychology
 201 McGuffey, 513-529-6621
www.MiamiOH.edu/edp

This interdisciplinary program of study focuses on the processes involved in human learning and development and how those processes impact families and communities.

The program requires 30 semester hours, with 18 in the Core and 12 in a Concentration Area. Each Concentration Area is designed in consultation with a faculty advisor and must fall within the purview of Learning Sciences; human development and family studies; or research methods, data analysis, and psychometrics.

The program does not require previous licensure or certification. However, those who already have teacher certification/licensure will

obtain a greater depth of understanding of educational issues and teaching practice.

Admission Requirements

Admission to the educational psychology master's degree program requires:

1. acceptance by the Graduate School,
2. three letters of recommendation, and
3. a brief essay on a topic pertinent to your professional reasons for pursuing the degree.

To apply for the Master of Education, Educational Psychology degree program, go to the graduate school application portal found on the graduate school page via the link below <http://miamiOH.edu/graduate-studies/admission/index.html>.

Complete the application, then upload the required program materials listed here. Once you are admitted, you will be required to mail an official transcript to the graduate school at:

Graduate School
 Miami University
 501 E. High Street
 Room 102 Roudebush Hall
 Oxford, OH 45056

Undergraduate/Graduate Program Option (4 + 1)

Students who are majoring in Family Science and Social Work and Psychology have the option to complete the Master's in Learning Sciences and Human Development as an extension of their undergraduate programs. A 4+1 program allows students to complete their undergraduate and graduate degrees in a shortened time-frame. For information on the details of this program, contact the Department of Educational Psychology.

Program Requirements

This program requires 30 semester hours (18 hours in core requirements and 12 hours in an Individualized Focus Area). A culminating research project is required.

Learning Sciences and Human Development Program

(30 semester hours)

Code	Title	Credit Hours
Learning Sciences and Human Development Core		
Required core courses		
EDP 601	Advanced Educational Psychology	3
EDP 603	Theories of Human Learning	3
EDP 607	Educational Measurement and Evaluation	3
EDP 651	Educational Research	3
EDP 652	Educational Research Practicum	3
EHS 667	Behavior Statistics	3

Individualized Focus Area

These courses are selected in consultation with faculty advisor. 12

EDL 614	Family-Community-School Partnerships
EDL 621	Foundations of Multi-Cultural Education
EDP 632	Instructional Design Theory and Models
EDP 635	Theories of Human Development
EDP 655	Theory and Problems in Educational Measurement
EDP 656	Education of Individuals with Exceptionalities
EDP 662	Social, Emotional, and Behavioral Assessment
EDP 669	Qualitative Research in Educational Psychology
EDP 688	Introduction to Data Management and Analysis
EDP 689	Advanced Data Analysis
EDP 690	Seminar in Educational Psychology
EHS 668	Behavior Statistics II
FSW 518	Program Development and Evaluation
FSW 551	Interpersonal Violence
FSW 562	Family Policy and Law
FSW 566	Interpersonal Perspectives on Adulthood and Aging
FSW 575	Family Theories
FSW 581	Adolescent Development in Diverse Families: Ages 13-25
PSY 551	Cognitive Neuroscience
PSY 574	Advanced Cognitive Processes
PSY 630	Seminar in Social Psychology

Total Credit Hours 30

Management - Master of Science in Management

The Master of Science in Management provides students with the knowledge and skills to excel in today's dynamic and fast-paced business environment. The program will serve a broad set of students, from all non-business majors, who have recently fulfilled all requirements for a baccalaureate degree. Students will develop managerial knowledge and skills that are based on the fundamentals of business disciplines. Knowledge is integrated with experiential learning, analytical thinking, strategic behavior, creative thinking, business communication, leadership, teamwork and ethics. Students will gain knowledge and learn skills that will enable them to contribute new knowledge and insights that informs business practice.

Program requirements

Code	Title	Credit Hours
------	-------	--------------

Required courses:

ECO 618	Game Theory and Decisions	1.5
ACC 611	Accounting for Managers	3.0

ISA 628	Information Technology and Analytic's Role in the Enterprise	1.5
ISA 629	Leveraging IT and Data Across the Business	1.5
MGT 627	Supply Chain and Operations Management	3.0
MKT 618	Marketing Management	3.0
FIN 625	Managerial Finance	3.0
MGT 610	Strategic Human Capital Management	1.5
ISA 641	Data Discovery Through Business Analytics for Managers	2.0
MKT 633	Digital Marketing	1.0
ESP 652	Applied Entrepreneurial Mindset: Creativity & Innovation	1.5
BUS 601	Consulting Capstone	6.0
MGT 650	Leadership, Teams, and Ethical Decision Making	1.5

Total Credit Hours 30

Mathematics- Master of Arts in Teaching, Master of Science

For information, contact:

Director of Graduate Studies

Department of Mathematics

123 Bachelor Hall, 513-529-5818

<http://www.cas.MiamiOH.edu/math/>

Admission Requirements

A Bachelor's degree with an undergraduate major in mathematics or permission of the director of graduate studies is required and a GPA of 2.75 or higher.

Mathematics- Master of Science

Program Requirements

(32 semester hours)

Code	Title	Credit Hours
Required courses		
MTH 541	Real Analysis	3
MTH 591	Introduction to Topology	3
MTH 621	Abstract Algebra I	4
MTH 641	Functions of a Real Variable	4
Select three of the following:		9-10
MTH 632	Advanced Optimization	
MTH 638	Advanced Graph Theory	
MTH 655	Advanced Differential Equations	
MTH 691	Introduction to Algebraic Topology	
In consultation with Graduate advisor, select additional hours to total 32		9
Total Credit Hours		32-33

Up to 6 of the 32 hours may come from outside mathematics, with the approval of the graduate committee.

15 of the 32 semester hours must be 600-level MTH courses. No thesis required.

Mathematics- Master of Arts in Teaching Program Requirements

This is primarily a summer program for certified/licensed teachers. Courses are offered on a three-year revolving basis in the summer terms, except for one online course in the Fall of even-numbered years. Required are 30 semester hours of graduate mathematics and education content including:

Code	Title	Credit Hours
Required courses:		
MTH 508	Mathematical Problem Solving with Technology	3
MTH 604	Discrete Mathematics for Secondary School Teachers	3
MTH 605	Calculus for Secondary School Teachers	3
MTH 606	Geometry for Secondary School Teachers	3
MTH 607	Algebra for Secondary School Teachers	3
MTH 609	Data Analysis and Inference for Secondary School Teachers	3
MTH 689	Research in Math Education	3
	Three elective courses (9 hours) selected to improve the candidate's ability to teach mathematics.	9
	Candidates must conduct an independent reflective self-study as a final project.	
Total Credit Hours		30

Mechanical Engineering- Master of Science

For information, contact:

Graduate Program Director
Department of Mechanical and Manufacturing Engineering
56 Garland Hall, 513-529-0710
CECgrad@MiamiOH.edu
<http://MiamiOH.edu/cec/academics/departments/mme/academics/graduate-studies/index.html>

Introduction

The Master of Science in Mechanical Engineering prepares students for future engineering practice that requires a higher level of mastery in mechanical engineering. It is best suited for individuals with backgrounds in mechanical engineering or related areas such as materials science, biomedical engineering or physics. The degree includes core courses in mathematical modeling, dynamical systems and control, thermal-fluid systems, and mechanics and mechanical behavior of materials as well as diverse options for courses in science, engineering, and mathematics.

The degree is offered with thesis and non-thesis options. All students are required to complete graduate coursework as defined below.

- Students in the thesis option must earn a total of **24 credit hours** in concentration and elective courses (with a minimum of **15 credit hours** of concentration courses), two credit hours in graduate seminar and six credit hours of master's thesis, for a minimum of 32 total credit hours.
- Students in the non-thesis option must earn a **total of 30 credit hours** in concentration and elective courses (with a **minimum of 18 credit hours of concentration courses**), one credit hour in graduate seminar and three credit hours of a graduate research project, for a minimum of 34 total credit hours.

Program Requirements

Students must complete one of the following two options:

Option 1- Research option (thesis)

The research option requires completion of a minimum of 32 credit hours of graduate study and any additional hours needed to satisfy prerequisites. The distribution of hours is summarized as follows:

Code	Title	Credit Hours
Concentration and elective courses - see below (minimum of 15 credit hours of concentration courses) ¹		24
MME 610	Graduate Seminar (take twice)	1,1
MME 700	Research for Master's Thesis	6
Total Credit Hours		32

¹ At least 3 credit hours must be MME 600-level from the list of concentration courses.

Option 2 - Course intensive option (non-thesis)

The course intensive option requires the completion of a minimum of 34 credit hours and any additional hours needed to satisfy prerequisites. The distribution of hours is summarized as follows:

Code	Title	Credit Hours
Concentration and elective courses - see below (minimum of 18 credit hours of concentration courses) ¹		30
MME 610	Graduate Seminar	1
MME 704	Non-Thesis Project	3
Total Credit Hours		34

¹ At least 3 credit hours must be MME 600-level from the list of concentration courses.

Concentration Courses

Code	Title	Credit Hours
MME 503	Heat Transfer ¹	3
MME 512	Advanced Mechanics of Materials ¹	3
MME 513	Introduction to Compressible Flow ¹	3
MME 536	Control of Dynamic Systems ¹	3

MME 570	Special Topics in Mechanical Engineering ²	1-4
MME 595	Introduction to Applied Nonlinear Dynamics ¹	3
MME 613	Computational Fluid Dynamics	3
MME 615	Advanced Vibration	3
MME 621	Finite Element Analysis	3
MME 623	Mechanical Behavior of Materials	3
CPB/MME 612	Engineering Analysis	3

¹ Students who have taken the 400-level version of this course or its equivalent must select from among other concentration/elective courses.

² Student can take special topics which are pre-approved by the department for graduate level courses

Elective Courses

Students select elective courses in consultation with their faculty advisor.

Code	Title	Credit Hours
CPB 512	Chemical Engineering Thermodynamics ¹	3
CPB 514	Mass Transfer and Unit Operations ¹	3
CPB 518	Biological Transport Phenomena ¹	4
CPB 519	Biomaterials ¹	3
CPB 611	Transport Phenomena in Engineering	3
CSE 543	High Performance Computing & Parallel Programming ¹	3
CSE 609	Programming for Engineers and Scientists	3
CSE 616	Simulation of Physical Systems	3
ECE 525	Digital Signal Processing ¹	3
ECE 601	State Variables for Engineers	3
MTH 532	Optimization ¹	3
MTH 535	Mathematical Modeling Seminar ¹	3
MTH 632	Advanced Optimization	3
PHY 537	Intermediate Thermodynamics and Introduction to Statistical Physics ¹	4
PHY 551	Classical Mechanics ¹	4
PHY 583	Mathematical Methods in Physics ¹	4
STA 501	Probability ¹	3
STA 504	Advanced Data Visualization ¹	3
STA 563	Regression Analysis ¹	4
STA 566	Experimental Design Methods ¹	4

¹ Students who have taken the 400-level version of this course or its equivalent must select from among other concentration/elective courses.

Mental Health Intervention Graduate Certificate

This certificate program will equip learners with not only theoretical knowledge of mental health intervention and counseling, but also

applied helping skills to support individuals' well-being and mental health. The certificate does not lead to any licensures or professional certifications.

Program Requirements

Code	Title	Credit Hours
Required Courses		
EDP 671	Counseling Theories	3
EDP 672	Helping Skills in Mental Health Intervention	3
Select two of the following:		6
EDP 596	Behavioral Interventions: Theory, Principles, and Techniques	
EDP 654	Counseling Practicum	
EDP 662	Social, Emotional, and Behavioral Assessment	
FSW 591	Seminar in Family and Child Studies	
FSW 668	Treatment of Substance Use Disorders	
FSW 688	Clinical Interventions in Social Work	
SLM 633	Psychological Interventions in Sport	
Total Credit Hours		12

Microbiology- M.S., Ph.D.

For information, contact:
 Director of Graduate Studies
 Department of Microbiology
 212 Pearson Hall, 513-529-5422
 microbiology.MiamiOH.edu

Research and Support Facilities

The department provides excellent research facilities and modern instrumentation that supply resources for flow cytometry, DNA sequencing and analysis, bioinformatics, microarrays, computer facilities, high performance liquid chromatography, fluorescence microscopy, and access to confocal microscopy and scanning and transmission electron microscopy.

Admission Requirements

Admission is based on evaluations of each applicant by the department graduate studies committee and faculty approval. You must provide the admission committee with:

1. an academic record of undergraduate and graduate performance,
2. scores of the Graduate Record Examination (GRE),
3. three letters of recommendation, and
4. a one to two page statement describing research and career goals.

A personal interview is encouraged for M.S. and Ph.D. applicants. The department accepts students with a good background of college study in the biological sciences and chemistry with a foundation in microbiology.

Research opportunities and facilities are available in the major areas of these disciplines: microbial genetics, immunology, pathogenic

microbiology, microbial physiology, microbial ecology, molecular biology, bioinformatics, and animal virology.

Microbiology- Master of Science Program Requirements

(30 semester hours)

The Master of Science in Microbiology requires a minimum of 30 semester hours in graduate credits.

Thesis Option

Upon graduation, M.S. students pursuing the thesis option will have fulfilled the following requirements:

- Completed four courses chosen from groups I-III below, representing each group.
- Completed additional courses in groups I-IV below and/or Research for Master's Thesis (MBI 700) as deemed appropriate by the advisor and thesis committee.
- Enrolled in Graduate Seminar (MBI 690) each semester.
- Passed an oral defense of a thesis proposal, approved by a thesis committee of graduate faculty.
- Conducted a research project approved by the thesis committee and present the project as a written dissertation and in a public seminar.

Non-Thesis Option

Upon graduation, M.S. students pursuing the non-thesis option will have fulfilled the following requirements:

- Completed four courses chosen from groups I-III below, representing each group.
- Completed additional courses in groups I-IV below to complete the 30 semester hours.
- Enrolled in MBI 690 each semester.
- Passed a final examination based on one's graduate courses.

Group I - Molecular Biology, Structural Biology, and Bioinformatics

Code	Title	Credit Hours
MBI 525	Microbial Physiology	4
MBI 545	Microbial Genetics	3
MBI 564	Human Viruses	3
MBI 585	Bioinformatics Principles	3

Group II - Medical Microbiology, Microbial Ecology, and Cellular Microbiology

Code	Title	Credit Hours
MBI 505	Medical Bacteriology	4
MBI 514 or MBI 515	Immunology Principles Immunology Principles and Practice	3-4
MBI 535	Medical Mycology	3
MBI 575	Microbial Ecology: Exploration of the Diverse Roles of Microorganisms in Earth's Ecology	4
MBI 595	Bacterial Cellular and Developmental Biology	3

Group III - Advanced Courses

Code	Title	Credit Hours
MBI 605	Advanced Molecular Biology	3
MBI 606	Advanced Cell Biology	3
MBI 672	Ecosystem and Global Ecology	4

Group IV - Electives

Code	Title	Credit Hours
BIO 581	Theory of Electron Microscopy	3
BIO 582	Scanning Electron Microscopy Laboratory	2
BIO 583	Transmission Electron Microscopy Laboratory	3
CHM 532	Fundamentals of Biochemistry	4
CSE 564	Algorithms	3
MBI 566	Bioinformatics Computing Skills	3
MBI 615	Communicating Science: Papers, Proposals, and Presentations	2
MBI 677	Independent Studies (Up to six credit hours would count towards the degree)	0-6
MBI 750	Advanced Topics in Microbiology	1-3
STA graduate level courses		1-3

Microbiology- Doctor of Philosophy Program Requirements

The degree of Doctor of Philosophy in Microbiology requires a minimum of 60 semester hours in graduate credits beyond the M.S. degree or its equivalent.

Upon graduation, doctoral students will have fulfilled the following requirements:

- Completed 3 courses from groups I and II, representing both groups, and 2 courses from group III.
- Completed additional courses in groups I-IV and/or Research for Doctoral Dissertation (MBI 850) as deemed appropriate by the advisor and dissertation committee.
- Enrolled in Graduate Seminar (MBI 690) or Molecular Biology Seminar (MBI 650) each semester.
- Enrolled in a literature-intensive course each academic year.
- Passed a written and oral comprehensive examination administered by a committee of graduate faculty.
- Passed an oral defense of a dissertation proposal, approved by a dissertation committee of graduate faculty.
- Conducted a research project approved by the dissertation committee, presented the project as a written thesis and in a public seminar, and submitted a manuscript based on the project for publication in a refereed journal.
- Passed an oral examination by the dissertation committee in defense of your dissertation.

Doctoral students entering with an M.S. may bypass some or all of the requirements from courses in groups I-IV by demonstrating proficiency in them.

For Ph.D. students interested in strengthening their teaching credentials, the department offers the opportunity for Ph.D. candidates to teach one semester of an introductory lecture course in microbiology under the supervision of a member of the microbiology faculty. This experience can also count towards the Certificate Program in College Teaching.

Music Performance - Master of Music

For information, please contact the Director of Graduate Studies, Department of Music, 109 Presser Hall, 513-529-3014, www.MiamiOH.edu/music.

Admission Requirements

In addition to the Graduate School requirements, the department requires the following to be uploaded in the Graduate School online application:

1. A transcript showing a bachelor's degree in music or undergraduate courses equivalent to a bachelor's degree in music.
2. A statement of 250-500 words describing the personal and professional objectives to be served by a master's degree from Miami University.
3. Letters from three people recommending admission to graduate study in music.
4. Live audition of performance in the principal performing medium is strongly recommended; a video recording may be submitted to the Department of Music if travel proves too difficult for the applicant. Audition repertoire for voice students must be memorized and include five selections of both songs and arias. Presentation of works in English, German, French, and Italian are required.

Continuing Status

For music performance majors, a diagnostic test is given early in the graduate program to confirm prerequisite competence in music theory and aural skills. Means for addressing deficiencies are recommended by the Music Theory area coordinator.

Recital Requirement

To fulfill degree requirements for MUS 690:

1. Register for MUS 690 with the major applied music instructor.
2. Perform the complete recital for a three-member jury at least two weeks prior to the scheduled public performance date. This process is known as the pre-recital hearing. The jury decides by simple majority vote if the student is adequately prepared for the public performance.
3. If a student does not pass the pre-recital hearing, the recital will be delayed until the student can demonstrate competency. A student must pass a recital hearing prior to presenting a public performance.
4. Present the public performance in a Miami University performance venue. The major applied music instructor assigns a letter grade for the recital.

Exit Procedure

In addition to course requirements, the Threshold Performance and submission of the Signature Blueprint portfolio are required. Guidelines for both are available on the Graduate Music Program Canvas course. These requirements are rendered through MUS 631, Scholarly Thresholds for Emerging Performers (STEP).

The Signature Blueprint portfolio is established during the first semester of study, through MUS 621, in consultation with the Graduate Committee and the Director of Graduate Studies. The portfolio, a cumulative project, is reviewed by faculty throughout the degree. Formal feedback and advising will be provided. The Signature Blueprint is formally submitted in MUS631. The Threshold Performance should be conceptually linked to the Signature Blueprint portfolio. This performance is given in the final semester of study. The Threshold Performance requires recital hearing procedures identical to MUS 690.

Program Requirements

Special requirements: All full-time students must participate in a major ensemble in their primary performance medium each semester of residency.

Woodwinds, Brass, and Percussion

(37 semester hours)

Code	Title	Credit Hours
MUS 621	Inquiries in Music Research	3
MUS 631	Scholarly Thresholds for Emerging Performers	3
MUS 661	Graduate Analysis	3
MUS 644	Applied Music	3,3,3,3
MUS 682	Repertory	2
MUS 690	Graduate Recital (Including pre-performance hearing)	2
	Graduate-level course in musicology	3
	Free elective	3
Ensemble Requirement		4
All full-time students must participate in a major ensemble in their primary performance medium each semester of residency. Select from:		
MUS 630C	Symphony Orchestra	
MUS 630F	Symphonic Band	
MUS 630G	Wind Ensemble	
Chamber Music Requirement		2
All students must participate in at least two chamber experiences. Select from:		
MUS 630H	Chamber Music Brass	
MUS 630I	Chamber Music Strings	
MUS 630J	Chamber Music Piano	

MUS 630R	Chamber Winds	
Total Credit Hours		37

Strings

(39 semester hours)

Code	Title	Credit Hours
MUS 621	Inquiries in Music Research	3
MUS 631	Scholarly Thresholds for Emerging Performers	3
MUS 661	Graduate Analysis	3
MUS 644	Applied Music	3,3,3,3
MUS 682	Repertory	2,2
MUS 690	Graduate Recital (Including pre-performance hearing)	2
Graduate-level course in musicology		3
Free elective		3

Ensemble Requirement 4

All full-time students must participate in a major ensemble in their primary performance medium each semester of residency. Select from:

MUS 630C	Symphony Orchestra	
MUS 630F	Symphonic Band	
MUS 630G	Wind Ensemble	

Chamber Music Requirement 2

All students must participate in at least two chamber experiences. Select from:

MUS 630H	Chamber Music Brass	
MUS 630I	Chamber Music Strings	
MUS 630J	Chamber Music Piano	
MUS 630R	Chamber Winds	

Total Credit Hours 39**Piano**

(39 semester hours)

Code	Title	Credit Hours
MUS 621	Inquiries in Music Research	3
MUS 631	Scholarly Thresholds for Emerging Performers	3
MUS 661	Graduate Analysis	3
MUS 644	Applied Music	3,3,3,3
MUS 557	Piano Literature	3
MUS 558	Piano Literature	3
MUS 690	Graduate Recital (Including pre-performance hearing)	2
Graduate-level course in musicology		3
Free elective		3

Ensemble Requirement

All full-time students must participate in a major ensemble in their primary performance medium each semester of residency. Pianists fulfill this requirement with one (1) registration of chamber music, one (1) registration of graduate accompanying, AND two (2) additional registrations from the following list: chamber music, accompanying, or playing piano in a large ensemble.

Chamber music - select one from: 1

MUS 630H	Chamber Music Brass	
MUS 630I	Chamber Music Strings	
MUS 630J	Chamber Music Piano	
MUS 630R	Chamber Winds	

Graduate accompanying: 1

MUS 620	Graduate Accompanying	
---------	-----------------------	--

Chamber, accompanying, or ensemble - select two from: 2

MUS 620	Graduate Accompanying	
MUS 630B	Men's Glee Club	
MUS 630C	Symphony Orchestra	
MUS 630D	Choraliers	
MUS 630F	Symphonic Band	
MUS 630G	Wind Ensemble	
MUS 630H	Chamber Music Brass	
MUS 630I	Chamber Music Strings	
MUS 630J	Chamber Music Piano	
MUS 630Q	Chamber Singers	
MUS 630R	Chamber Winds	

Total Credit Hours 39**Voice**

(41 semester hours)

Special requirements: All full-time students must participate in a major ensemble in their primary performance medium each semester of residency.

Code	Title	Credit Hours
MUS 621	Inquiries in Music Research	3
MUS 631	Scholarly Thresholds for Emerging Performers	3
MUS 661	Graduate Analysis	3
MUS 644	Applied Music	3,3,3,3
MUS 682	Repertory	2,2
MUS 520	Vocal Coaching	1,1
MUS 690	Graduate Recital (Including pre-performance hearing)	2
Graduate-level course in musicology		3
Free elective		3

Choral Ensemble Requirement 4

All full-time students must participate in a major ensemble in their primary performance medium each semester of residency. Select from:

MUS 630B	Men's Glee Club	
MUS 630D	Choraliers	

MUS 630Q	Chamber Singers	
Opera Production Requirement		
Two (2) registrations of MUS 526 OR one (1) registration of MUS 525 and one (1) registration of MUS 526 are required.		
MUS 526	Opera Production	1
Select one of the following:		
MUS 525	Great American Songbook Project	1
MUS 526	Opera Production	
Total Credit Hours		41

Nursing, Nursing Practice - Master of Science in Nursing, Doctor of Nursing Practice

Nursing - Master of Science in Nursing

The MSN program is designed for Bachelor of Science in Nursing (BSN) prepared nurses at all levels of experience who are seeking to move forward into advanced nursing practice. The program will appeal to registered nurses who prefer online flexibility in education, but who also desire some face-to-face instruction for high-level skills and advanced technology. Applicants must be BSN graduates (or anticipated graduation) from a Commission on Collegiate Nursing Education (CCNE) or Accreditation Commission for Education in Nursing (ACEN) accredited institution by the start of the MSN program.

The MSN program offers three tracks of study, with respective designation on transcripts. Courses will be delivered in an online format; however, each track will have at least one on-campus course requirement lasting 2 days.

The Family Nurse Practitioner track will prepare graduates to become advanced practice providers with a primary care, family population focus. This track will require 45 credits, including 630 precepted clinical hours, and will prepare students to deliver evidence-based, culturally competent, primary health care to individuals within the context of family and community. Graduates will be eligible to sit for national Family Nurse Practitioner certification exams (AANP or ANCC).

The Nurse Educator track will prepare nurses to develop curricula within changing healthcare systems, adapt and teach for diverse learners, develop clinical and classroom evaluation strategies, and adopt effective evidence-based practices in academics as well as clinical healthcare settings. Nurse Educator students will complete 33 credit hours, including a minimum of 210 precepted practicum hours. Graduates will be eligible to sit for the Nurse Educator Certification exam and to teach at the university level as well as in clinical settings.

The Nurse Executive Leadership track is designed to develop the knowledge, leadership abilities, and interpersonal and interprofessional skills to improve the healthcare system. Students in this track will complete 33 credit hours, including a minimum of 210 precepted practicum hours. Graduates will be prepared to lead in the delivery of safe, timely, efficient, equitable, and patient-centered care, and to employ advocacy strategies to influence policy across the healthcare system. Graduates will also meet the education

eligibility requirements to sit for certification exams in executive nursing leadership.

Program Requirements

Code	Title	Credit Hours
Core Courses		
NSG 642	Individual and Organizational Leadership in Healthcare	3
NSG 644	Informatics, Quality & Safety in Healthcare	3
NSG 646	Clinical Prevention and Population Health	3
NSG 648	Research and Evidence-based Practice	3
Focus:		21-33
Family Nurse Practitioner (33 hours)		
NSG 602	Advanced Pathophysiology for the APN	
NSG 604	Advanced Pharmacology	
NSG 606	Advanced Health Assessment and Clinical Diagnostics	
NSG 610	Primary Care of Women Across the Lifespan	
NSG 674	Healthcare Delivery Systems	
NSG 612	Primary Care of Children and Adolescents	
NSG 614	Primary Care of Adults I	
NSG 616	Primary Care of Adults II	
NSG 618	Primary Care Skills I: Diagnostics and Procedures	
NSG 620	Primary Care Skills II: Billing, Coding, and Care Management	
NSG 622	Family Nurse Practitioner Clinical I	
NSG 624	Family Nurse Practitioner Clinical II	
NSG 626	Family Nurse Practitioner Capstone Clinical III	
NSG 630	FNP Synthesis	
Nurse Educator (21 hours)		
NSG 650		
NSG 652		
NSG 654		
NSG 656		
NSG 658		
NSG 660		
NSG 662		
NSG 664		
NSG 668		
Nurse Executive Leadership (21 hours)		
NSG 670	Healthcare Budgeting and Economics	
NSG 672	Data, Health Analytics and Forecasting in Healthcare	
NSG 674	Healthcare Delivery Systems	
NSG 678	Human Resource Management in Healthcare	

NSG 680	Diversity, Equity and Inclusion in Healthcare
NSG 682	Professional Partnerships and Communication Strategies
NSG 684	Nurse Executive Leadership Practicum I
NSG 686	Nurse Executive Leadership Capstone Practicum II
NSG 688	Nurse Executive Leadership Synthesis
Total Credit Hours	33-45

Nursing Practice - Doctor of Nursing Practice

The Doctor of Nursing Practice (DNP) degree is designed to build upon prior learning acquired through an MSN program. The focus of this DNP program is to prepare advanced practice nurses for roles in organizational/ systems leadership and innovative and evidence-based approaches for increasingly complex leadership roles. This program will be completely online with the exception of site-based practicum experiences. The program outcomes and curriculum are aligned with the current DNP Essentials developed by the American Association of Colleges of Nursing and the proposed DNP Essentials under consideration for adoption.

The DNP program requires 35-38 overall credits, which aligns closely with other DNP programs in the state of Ohio (State DNP alternatives attached). The DNP curriculum includes 18 credits of core courses including role seminars. Five credits are practicum courses, focused on comprehensive, systematic assessment of complex organizational environments with a focus on quality improvement and quality outcomes. Nine credits will be DNP Project courses, focusing on a Practice change initiative. Students will design, implement, and evaluate a quality improvement strategy to create and sustain change at the organizational and policy level. Three to six credit hours will remain for elective courses focused on a specialty area or additional clinical hours.

Program Requirements

Code	Title	Credit Hours
NSG 702	Evidence-based Scholarly Practice and Inquiry	3
NSG 704	Planning, Managing, and Evaluating Programs and Projects	3
NSG 706	Organizational Systems, Outcomes, and Quality Management	3
NSG 708	Health Policy in DNP Practice	3
NSG 710	Finance and Economics in DNP Practice	3
NSG 712	DNP Role Seminar I	1
NSG 714	DNP Role Seminar II	1
NSG 716	DNP Role Seminar III	1
NSG 718	DNP Practicum I	2
NSG 720	DNP Practicum II	3
NSG 722	DNP Project I	3
NSG 724	DNP Project II	3
NSG 726	DNP Project III	3
Elective Options		3-6

NSG 690 DNP Elective: Independent Study
Evidence-based Practice Project

NSG 650	Non-Nursing Graduate-level course
Total Credit Hours	35-38

Philosophy- Master of Arts

For information, contact:
Director of Graduate Studies
Department of Philosophy
212 Hall Auditorium, 513-529-2440
www.units.MiamiOH.edu/philosophy/grad_program/index.shtml

Research and Support Facilities

In addition to university resources, the department has a lecture series and an extensive library, which is especially strong in books on feminist thought. Computers are available for philosophy graduate assistants to use for course work. Students also have shared offices available for their use.

Admission Requirements

Admission requirements include three letters of recommendation, transcript, Graduate Record Examination (GRE), a statement of purpose, and a writing sample.

Combined Bachelor/Master's Program

High-achieving undergraduate majors can apply for admission to the combined BA/MA program, in which students can earn a BA and an MA in 5 years. To be eligible to apply for the combined degree program, students must have completed at least 64 credit hours with a minimum GPA of 3.25 and have completed at least half of the department credit hour requirements for the major. Please contact the department's Director of Graduate Studies for more information about this option.

Program Requirements

(46 semester hours)

This program requires full-time enrollment and includes a minimum of ten 4 credit-hour graduate courses in philosophy plus two research seminars and one teaching practicum. This is typically done in two years by taking three graduate courses each fall semester and two graduate courses plus the graduate research seminar each spring semester, with the addition of the teaching practicum in the spring semester of the second year. For the research seminar, students select one essay from their courses each year to develop into an extended paper worthy of submission for publication, and defend that paper in an oral exam. While the exam focuses on the paper, it also tests the student's mastery of those fields of philosophy related to the paper. The teaching practicum introduces students to the pedagogy of philosophy by practicing and reflecting upon the fundamentals of grading, teaching, giving a lecture, directing a discussion group and preparing a syllabus as these activities specifically apply to the discipline.

Physician Associate Studies - Master of Medical Science

Miami University has applied for Accreditation - Provisional from the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA). Miami University anticipates matriculating its first class in May of 2023, pending achieving Accreditation - Provisional status at the September 2022 ARC-PA meeting. Accreditation - Provisional is an accreditation status granted when the plans and resource allocation, if fully implemented as planned, of a proposed program that has not yet enrolled students appear to demonstrate the program's ability to meet the ARC-PA Standards or when a program holding accreditation-provisional status appears to demonstrate continued progress in complying with the Standards as it prepares for the graduation of the first class (cohort) of students.

The Master of Medical Science degree, Physician Associate Studies, provides academic and clinical instruction necessary to become a healthcare clinician, leader, and researcher, capable of performing within a range of specialties in a dynamic healthcare industry. The degree prepares students to sit for the board examination of the National Commission on Certification of Physician Assistants and to seek state licensure as a physician assistant. This is a full-time program that can be completed in 27 months.

Program Requirements

Code	Title	Credit Hours
PAS 601	Introduction to the Healthcare Professions (Physician Associate)	1
PAS 602	Patient Engagement and Documentation	2
PAS 603	Evidence Based Medicine and Clinical Research	3
PAS 604	Clinical Bioethics and Professional Conduct	1
PAS 611	Pharmacology	2
PAS 612	Introduction to the Human Body and Pathophysiology of Disease--Lecture	7
PAS 613	Preventive Medicine and Nutrition	2
PAS 614	Introduction to Clinical Point-of-Care Ultrasound I	2
PAS 621	Behavioral Health	3
PAS 622	Dermatology	2
PAS 623	Immunology and Infectious Disease	3
PAS 624	Hematology and Oncology	3
PAS 625	Otolaryngology, Ophthalmology, and Dentition	3
PAS 626	Cardiovascular Medicine	9
PAS 627	Endocrinology	3
PAS 628	Genitourinary/Nephrology	3
PAS 629	Pulmonology	4
PAS 631	Gastroenterology	5
PAS 632	Musculoskeletal System and Rheumatologic Diseases	6
PAS 633	Neurology	4
PAS 641	Women's Health	3

PAS 642	Medical Emergencies and Trauma	4
PAS 643	Pediatrics	3
PAS 644	General Surgical Management	1
PAS 645	Geriatric Patients	1
PAS 651	Integrated Healthcare Systems: Law, Policy, and the Professional	2
PAS 652	Professional Development Seminar I	1
PAS 662	Professional Development Seminar II	1
PAS 672	Professional Development Seminar III	1
PAS 673	Clinical Point-of-Care Ultrasound II	1
PAS 681	Clinical Medicine Rotation: Family Practice	3
PAS 682	Clinical Medicine Rotation: Structured General Medicine	1
PAS 683	Clinical Medicine Rotation: Internal Medicine	3
PAS 685	Clinical Medicine Rotation: Emergency Medicine	3
PAS 686	Clinical Medicine Rotation: Structured Emergency Medicine	1
PAS 687	Clinical Medicine Rotation: Obstetrics and Gynecology	3
PAS 688	Clinical Medicine Rotation: Pediatrics	3
PAS 689	Clinical Medicine Rotation: General Surgery	3
PAS 691	Clinical Medicine Rotation: Behavioral Health	3
PAS 692	Clinical Medicine Rotation: Orthopedics	3
PAS 693	Elective Clinical Medicine Rotation	1
PAS 695	Capstone Graduate Project	1

Total Credit Hours **114**

Physics- Master of Science

For information, contact:
 Director of Graduate Studies
 Department of Physics
 217 Kreger Hall, 513-529-5625
<http://www.MiamiOH.edu/physics>

Research

The department has ongoing experimental research programs in Quantum Optics & Information; Condensed Matter & NanoPhysics; Biophysics; as well as Atomic, Molecular & Optical Physics, Astrophysics, and Physics Education Research. Theoretical and computational work is done in Quantum Optics and Information, Atomic Physics, and Astrophysics.

Program Requirements

For the **thesis option**, a minimum of 30 semester hours of graduate course work, research, and thesis credit is required. You must complete at least two 600-level courses in physics other than PHY 610 and a minimum of six hours of PHY 700. Before registering for PHY 700, you must write a thesis proposal and defend it before your

thesis committee. Subsequent completion and defense of the thesis are required.

For the **non-thesis option**, a minimum of 36 semester hours of graduate credit is required. You must complete at least four 600-level courses in physics other than PHY 610. Credit earned in PHY 700 may not be counted toward the minimum 36 semester hours. The student must also pass a comprehensive examination for the non-thesis option.

For the **thesis or non-thesis option**, you are expected to show proficiency in the areas of quantum physics, classical mechanics, electromagnetic theory, statistical physics, and mathematical, computational, and laboratory techniques used in physics. Evidence of proficiency is successful completion of courses at 500- or 600-level or equivalent. Graduate course work is selected in consultation with the thesis director (for the thesis option) and graduate program director. Your program of study must be approved in writing by the graduate program director.

Political Science- Master of Arts

For information, contact:
 Director of Graduate Studies
 Department of Political Science
 218 Harrison Hall, 513-529-2000
<http://MiamiOH.edu/politicalscience>

Admission Requirements

Combined Bachelor/Master's Program

Undergraduate students may apply to the combined BA/MA Program where they can earn a MA Degree while completing their BA Degree. To apply for the combined degree program, students must have completed 64 hours toward the BA with a 3.25 GPA and must have completed 17 hours of political science course work (with a 3.50 GPA), including at least 9 hours at the 300 level or above. Please contact the department's Director of Graduate Studies for more information.

Master of Arts

You may enter this program only in the fall term; apply by **April 1**. Admission requirements include:

- at least 18 semester hours of undergraduate work in political science or at least 12 semester hours in political science and 12 in other social sciences, including a survey course in the American political system or introduction to political science;
- at least a 3.00 (4.00 scale) grade point average (GPA) in the above undergraduate course work;
- three letters of recommendation;
- Graduate Record Examination (GRE is optional) general test scores;
- a letter or statement describing career objective and fields of interest in political science.
- a writing sample.

Program Requirements

The Master of Arts in Political Science at Miami University is a terminal degree for students intending to pursue careers in politics at all levels of government and in nongovernmental organizations. The MA program is designed to equip students with the analytical skills and

substantive knowledge necessary for engaging in applied politics, public affairs, and public policy study. Students in the MA program are exposed to the discipline of political science, specifically focusing on how political science theories underpin the systematic study of the behavior of political actors and processes in the American context and globally. Special emphasis is placed on developing the student's understanding of the frameworks for active participation in governance, issue advocacy, law and legal affairs, and public policy research, while developing the research, analytical and writing skills essential for public leaders.

31 graduate hours required, including:

Code	Title	Credit Hours
Core Courses		
POL 601	Foundations of Political Analysis	3
POL 603	Introduction to Quantitative Methods	2
POL 604	Public Policy Research	2
POL 606	Final Project for Master's Degree	3
Human Subjects Research Certification		
Concentration		
Select a minimum of 9 hours of political science graduate course work from one of the following groups:		9
American Political System/Political Theory		
POL 511	American Political Thought	
POL 519	Civil Society and Modern Politics	
POL 559	Capstone Seminar on the American Political System	
Comparative Political Systems/International Relations		
POL 523	European Union: Politics and Policies	
POL 530	Seminar on Comparative Political Systems	
POL 540	Havighurst Colloquium	
POL 571	Then International System	
POL 589	Conflict Management in a Divided World	
POL 630	Seminar: Comparative Political Systems	
Public Administration and Policy Analysis		
POL 560	Seminar on Public Administration and Policy Analysis	
POL 566	Public Policy Analysis	
POL 567	Public Budgeting	
POL 568	Public Personnel Administration	
POL 640	Internship	
Electives		
Select 12 hours of political science graduate course work, 9 hours of which must be outside the concentration ¹		12
Total Credit Hours		31

¹ This may include up to 6 hours of graduate course work from outside the department with the approval of the graduate studies committee. Internship experience while in the program may count for up to 6 hours with the approval of the graduate studies committee.

Psychology- Master of Arts, Doctor of Philosophy

For information, contact:
Director of Graduate Studies
Department of Psychology
100 Psychology Building, 513-529-7224
MiamiOH.edu/psychology/grad.html

For information on school psychology, see the educational psychology section.

Admission Requirements

The M.A. and Ph.D. are offered in the areas of clinical psychology; social psychology; and brain, cognitive, and developmental science (BCD). You may enter the program fall semester only; apply by **December 1**. Minimum requirements include at least one course in mathematics, one in statistics, and one laboratory course in psychology; three letters of recommendation; and acceptable scores on the Graduate Record Examination (GRE).

Psychology- Master of Arts Program Requirements

The master's degree, offered only as a requirement toward the Ph.D., requires a minimum of 30 semester hours, including 24 semester hours of course work and research plus six hours of thesis. A thesis and oral examination are required. Requirements

include the following:

Code	Title	Credit Hours
PSY 601	Statistics and Methods I	3
PSY 602	Statistics and Methods II	3
PSY 603	Proseminar in Psychology I	1
PSY 604	Proseminar in Psychology II	1
PSY 700	Research for Master's Thesis	6-12
Other courses depending on the area of concentration and background.		16
Total Credit Hours		30-36

Course List

Specific programs (Clinical Psychology, Social Psychology, BCD) typically impose additional requirements. Please consult the department website for specific details.

There is no terminal master's degree program.

Psychology- Doctor of Philosophy Program Requirements

The M.A. and Ph.D. are offered in the areas of clinical psychology; social psychology; and brain, cognitive, and developmental science (BCD).

Permission to prepare for the comprehensive examination and pursue a dissertation is granted by vote of the graduate faculty based upon evaluations of your academic performance, research capability,

and professional qualities. This vote is normally taken upon successful completion of the master's thesis.

Requirements for the Ph.D. include a minimum of 90 semester hours:

Code	Title	Credit Hours
Master's degree		30
Course work and research		44
Dissertation		16
Total Credit Hours		90

Required courses include those listed above for the master's degree; one of the following: PSY 694, PSY 696, PSY 697, PSY 698, or any class that counts toward the Statistical Programming or Advanced Methods requirement of the Graduate Certificate in Applied Statistics. The Applied Statistics Certificate courses are listed here: <http://www.miamioh.edu/cas/academics/departments/statistics/academics/graduate-certificate/applied-statistics/index.html>; successful completion of the comprehensive examination; a dissertation and final oral examination; and additional courses and other requirements depending on your area of concentration and background. In addition to the requirements of the department and graduate school, each specific program (Clinical Psychology, Social Psychology, BCD) typically imposes additional requirements. Please consult the department website for specific details.

You must demonstrate motivation and ability to accomplish independent and original research, high academic performance, and professional qualities and standards of conduct appropriate to the discipline.

Reading Endorsement Certificate

The Reading Endorsement Certificate is designed for education-major undergraduate and graduate students, recent graduates, and in-service teachers who aim to develop strong, culturally relevant/sustaining teaching practices that support diverse students in their multi-literacy development, and who wish to position themselves strategically for employment as literacy leaders.

The Reading Endorsement Certificate coursework aligns with the coursework required for seeking a graduate-level Reading Endorsement in the State of Ohio, but does not guarantee Ohio endorsement. The coursework may also apply toward the completion of an M.Ed. in Literacy and Language. The Reading Endorsement Certificate consists of a five-course sequence that provides the very latest in research and expertise for working with emergent and striving readers and includes a supervised practicum.

Program Requirements

Code	Title	Credit Hours
Foundations Coursework		
TCE 603	Language, Literacy and Culture	3
TCE 646	Reading and Writing in Content Areas	3
Skill-Based Coursework		
One of the following courses may be taken to fulfill skill-based coursework requirement:		3

TCE 242P	Phonics and Literacy Instruction for Teachers	
TCE 442M	Phonics and Reading Improvement for Middle Childhood	
TCE 642	Phonics and Reading Improvement for the Reading Teacher	
Assessment Coursework		
TCE 632	Literacy Assessment and Instruction	3
Practicum Coursework		
TCE 635	Clinical Literacy Practicum	4
Total Credit Hours		16

School Psychology- Master of Science, Specialist in Education

For information, contact:
 Department Chair
 Department of Educational Psychology
 201 McGuffey, 513-529-6621
<http://www.MiamiOH.edu/edp>

Professional Entry Program

This program leads to the specialist in education degree as well as to licensure as a professional school psychologist. A master's degree is also earned during the course of study. Assessment, intervention and consultation training; school-based practicum experiences; and a full-time supervised nine- to 10-month internship are included in this three-year program. Your program of study must be approved by the department; minor substitutions can be approved. After you complete 31 hours in the foundation component and pass a comprehensive examination, you are awarded an M.S. degree and admitted to candidacy for the Ed.S. degree. After completing requirements for the professional practice component, which includes 43 hours of applied coursework (including an internship experience and research project), you receive an Ed.S. degree.

Admission Requirements

Admission to the school psychology specialist program requires:

1. acceptance by the Graduate School,
2. optional: Graduate Record Exam (GRE) score. Those who choose to take and submit scores for the General test, please request that your scores be sent directly to Miami University.
3. three letters of recommendation specifically addressing your interpersonal skills and potential for advanced graduate study, and
4. an essay of 500-750 words addressing your reasons for pursuing a career in school psychology.

To apply for the Master of Science, Specialist in Education degree program, go to the Graduate School application portal found on the graduate school page via the link below <http://miamiOH.edu/graduate-studies/admission/index.html>. Complete the application, then upload the required program materials listed here. Once you are admitted, you will be required to mail an official transcript to the Graduate School at:

Graduate School
 Miami University

501 E. High Street
 Room 102 Roudebush Hall
 Oxford, OH 45056

The deadline for admission to the school psychology program is January 15. This is a competitive program that typically admits 10-12 students, per year.

Program Requirements

Code	Title	Credit Hours
Foundation Component		
EDP 596	Behavioral Interventions: Theory, Principles, and Techniques	3
EDP 603	Theories of Human Learning	3
EDP 604	Role and Function of the School Psychologist	3
EDP 611	Psychoeducational Assessment and Interventions I	5
EDP 651	Educational Research	3
EDP 652	Educational Research Practicum	3
EDP 656	Education of Individuals with Exceptionalities	3
EDP 662	Social, Emotional, and Behavioral Assessment	3
EDP 695	Supervised Public School Experience for School Psychology Students	2
EDP 667	Behavioral Statistics I	3
Professional Practice Component		
EDP 556	Advanced Seminar in Evaluation with Evidence-Based Interventions	3
EDP 612	Psychoeducational Assessment and Interventions II	5
EDP 620	Research Project	3
EDP 650	Seminar in Special Education	3
EDP 654	Counseling Practicum	4
EDP 660	Practicum in School Psychology Practice	4
EDP 666	Educational Consultation, Collaboration, and Community Psychology	3
EDP 672	Helping Skills in Mental Health Intervention	3
EDP 795	Internship for Educational Specialist Degree in School Psychology	6
EDP 796	Internship for Educational Specialist Degree in School Psychology	6
Elective Requirement ¹		3
Total Credit Hours		74

¹ A 3 credit hour course in the following departments will apply toward this elective requirement: PSY, EDP, EDL, FSW, SPA, TCE.

Social Work - Master of Social Work

For information, contact:

Department of Family Science and Social Work
101 McGuffey Hall, 513-529-2323, MASW@miamioh.edu
(MASW@miamioh.edu)
<https://miamioh.edu/graduate-school/>

Admission Requirements

All prospective graduate students seeking admission to the Master of Social Work (MSW) Program at Miami University should go directly to the Miami University Graduate School to begin an application. Applicants will need to submit the Miami University graduate application, college and university transcript(s), resume, and a personal statement regarding their professional goals and accomplishments. Each of the aforementioned items should be uploaded in the Graduate School application. Students admitted to the Traditional MSW Program are expected to have an overall GPA of 3.00 or higher. Students admitted to the Advanced Standing MSW Program are expected to have an overall GPA of 3.25 or higher, as well as an undergraduate degree in Social Work obtained within the last 5 years.

Program Requirements

Miami University's MSW program seeks to prepare students to become advanced generalist social work professionals who use critical thinking skills, as well as social work knowledge, theories, skills, values and ethics. Our program focuses on building the capacity of our graduates to engage, assess, intervene and evaluate across multiple system levels (individuals, families, groups, organizations, and communities). Our courses and field education program provide the necessary knowledge and skills to successfully empower our graduates for a successful social work career.

Emphasis in the graduate social work program is placed on the best practices and skills needed to enrich human diversity, promote social and economic justice, alleviate oppression in urban and rural areas. Our curriculum integrates foundational courses and with field placements and the opportunity to specialize (e.g., work with children and families).

The foundation courses provide those students with an undergraduate degree outside of the social work field with the knowledge, values, and skills required for generalist social work practice. Students admitted into the Advanced Standing program (i.e., our accelerated program for students who have earned an undergraduate degree within the past five years) are exempt from taking the foundation courses.

Building upon the foundation courses are the Advanced Generalist concentration classes. Students in the program will develop expertise to use a range of prevention and intervention methods in practice with individuals, families, groups, organizations, and communities. Students will also apply ethical principles, critical thinking and build on the strengths and resiliency of all human beings by engaging in research-informed practice.

Traditional Program Students

(57 credit hours)

Code	Title	Credit Hours
FSW 515	Culturally-Informed Practice	3
FSW 602	Diverse Families in Context	3
FSW 611	Social Welfare Policy I	3
FSW 613	Social Work Ethics: Social Work Ethics, Professionalism and Self Care	3
FSW 616	Graduate Social Work Research I	3
FSW 617	Human Behavior in the Social Environment I	3
FSW 621	Social Work Practice I	3
FSW 622	Social Work Practice II	3
FSW 641	Advanced Social Work Practice	3
FSW 642	Advanced Policy Analysis for Social Work	3
FSW 664	Social Work Field Education I	3
FSW 668	Treatment of Substance Use Disorders	3
FSW 688	Clinical Interventions in Social Work	3
FSW 716	Graduate Social Work Research II	3
FSW 717	Social Work Capstone	3
FSW 723	Social Work Assessment and the DSM	3
FSW 724	Social Work Agency Administration	3
FSW 765	Social Work Field Education II	3
FSW 766	Social Work Field Education III	3
Total Credit Hours		57

Advanced Standing Students

(34 credit hours)

Code	Title	Credit Hours
FSW 602	Diverse Families in Context	3
FSW 619	Evaluating Clients & Programs	4
FSW 641	Advanced Social Work Practice	3
FSW 642	Advanced Policy Analysis for Social Work	3
FSW 668	Treatment of Substance Use Disorders	3
FSW 688	Clinical Interventions in Social Work	3
FSW 717	Social Work Capstone	3
FSW 723	Social Work Assessment and the DSM	3
FSW 724	Social Work Agency Administration	3
FSW 765	Social Work Field Education II	3
FSW 766	Social Work Field Education III	3
Total Credit Hours		34

Field Education

Field education is the signature pedagogy of the MSW Program. All competencies and practice behaviors are applied and practiced in the field placement. Students demonstrate mastery of the practice behaviors by working collaboratively with the course instructors, field instructor, and Masters level social worker who acts as the field supervisor.

Students admitted to the Advanced Standing MSW program will complete a minimum of 500 hours of field education across two

semesters. Students admitted to the Traditional MSW Program will complete 900 hours of field education across three semesters.

Spanish- Master of Arts

For information, contact:
 Director of Graduate Studies
 Department of Spanish and Portuguese
 268 Irvin Hall, 513-529-4500
www.MiamiOH.edu/spanport

The graduate program in Spanish at Miami University offers students the opportunity to earn the Master's Degree through advanced study of Spanish and Spanish American culture and Spanish linguistics. Faculty's interests and areas of research comprise Spain, Spanish-America, and a Trans-Atlantic perspective from a variety of literary, cinematic, and cultural studies standpoints. Graduate students are therefore able to concentrate on specific areas of study according to their interests.

Admission Requirements

You must have an undergraduate GPA of at least 3.25. Applications are on a rolling basis, but you are encouraged to express your interest to the graduate adviser as soon as possible. Funding opportunities may be available. To apply you will need a letter of application in Spanish (statement of purpose), copies of academic transcripts, and two letters of recommendation.

Combined Bachelor of Arts/Master of Arts Program

The combined BA/MA program allows highly qualified students to simultaneously pursue both a bachelor's and a master degree in Spanish. Areas of interest can include Peninsular literature, film and culture; Latin American literature, film and culture; Spanish linguistics; and individualized studies. If you are interested contact the graduate director as soon as possible and ask for more information and a brochure.

Admission requirements

Upon earning a minimum of 64 hours and having a cumulative GPA of 3.25 (GPA in Spanish of 3.50) students may apply. Applications are on a rolling basis, but you are encouraged to express your interest to the graduate adviser as soon as possible. Funding opportunities may be available.

In the 4th and 5th years, at least 30 semester hours of graduate courses will be completed toward the graduate degree component, six three-credit courses or seminars plus four three-credit courses of SPN 600 or above. Students will have two options:

1. Write a MA theses or
2. Written and oral Comprehensive Examination and complete a Research Tutorial.

It is strongly recommended that six (6) semester hours (SPN 700) be devoted to work on the thesis during the Fall and Spring semesters of the second year, or for students selecting the Comprehensive Exam, SPN 677 in either semester. At the end of the Fall Semester, students must complete a second draft of their theses.

Program Requirements: Master of Arts

(30 semester hours)

At least 30 semester hours of graduate courses will be completed: six three-credit courses or seminars plus four three-credit courses numbered 600 or above. Students will have two options:

1. Write a MA thesis or
2. Complete a written and oral Comprehensive Examination and complete a Research Tutorial.

For the thesis option, it is strongly recommended that six (6) semester hours of SPN 700 be devoted to work on the thesis during the Fall and Spring semesters of the second year. For the examination option, students should take six (6) hours of SPN 677 in either semester.

Special Education- Master of Education

For information contact:
 Department Chair
 Department of Educational Psychology
 201 McGuffey, 513-529-2767
www.SEOH.MiamiOH.edu

The degree serves two purposes:

1. provide required coursework to lead to initial teaching license in mild/moderate special education; and
2. provide advanced coursework for teachers already licensed in special education.

Within the licensure component of the degree, there are options for both educators who are currently licensed and for students who do not currently hold a teaching license in any area. The degree program is offered in a fully online format. Each course in this program includes online course work and 3 required synchronous class sessions held virtually on Saturdays at the beginning, middle, and end of the course session.

Admission Requirements

Admission to the master's degree program requires:

1. acceptance by the Graduate School,
2. official transcripts,
3. two letters of recommendation from professional contacts, specifically addressing your potential for advanced graduate study, and
4. a brief essay (500-750 words) that describes your reasons for pursuing a career in special education

To apply for the Master of Education, Special Education degree program, go to the graduate school application portal found on the graduate school page via the link below <http://miamiOH.edu/graduate-studies/admission/index.html>. Complete the application, then upload the required program materials listed here. Once you are admitted, you will be required to mail an official transcript to the graduate school at:

Graduate School

Miami University
501 E. High Street
Room 102 Roudebush Hall
Oxford, OH 45056

The application deadline for fall term admission is **June 15** for international applicants, and **August 1** for domestic applicants.

Program Requirements

Resulting in a Master's degree or M.Ed with Intervention Specialist (Mild/Moderate) licensure.

M.Ed. degree only:

- 18 credit hours from Special Education Core, Autism Electives, or Literacy Electives in consultation with program academic advisor.
- 12 hours from Graduate Research Courses.

M.Ed. + Licensure:

This option is for students who currently hold a teaching license and wish to add K-12 Mild/Moderate Intervention Specialist Licensure.

- 24 credit hours of Special Education Core
- 1 credit hour Supervised Field Experience.
- 12 credit hours from Graduate Research Courses

M.Ed. + Initial Licensure

This option is for students who are seeking an initial teaching license.

- 24 credit hours of Special Education Core
- 12 credit hour Supervised Field Experience.
- 12 credit hours from Graduate Research Courses

Code	Title	Credit Hours
Special Education Program Core		
EDP 571	Literacy Seminar: Clinical	3
EDP 578	Collaboration and the Law in Special Education	3
EDP 586	Methods I: Learners with Mild/Moderate Disabilities	3
EDP 591	Methods II: Learners with Mild to Moderate Disabilities	3
EDP 596	Behavioral Interventions: Theory, Principles, and Techniques	3
EDP 650	Seminar in Special Education (EDP 650A and EDP 650K)	6
EDP 656	Education of Individuals with Exceptionalities	3
Graduate Research Courses		
All 12 credit hours below are required for M.Ed. Degree		
EDP 601	Advanced Educational Psychology	3
EDP 607	Educational Measurement and Evaluation	3
EDP 651	Educational Research	3
EDP 652	Educational Research Practicum	3
Literacy Electives		
TCE 603	Language, Literacy and Culture	3

TCE 632	Literacy Assessment and Instruction	3
TCE 642	Phonics and Reading Improvement for the Reading Teacher	3
TCE 646	Reading and Writing in Content Areas	3
Special Education Electives		
EDP 579	Autism: Introduction and Current Research	3
EDP 582	Autism Spectrum Disorder: Best Practice in Teaching Strategies	3
EDP 584	Autism Spectrum Disorder: Social and Communication Development	3
EDP 585	Autism Spectrum Disorder: Positive Behavior Supports and Interventions	3
EDP 650	Seminar in Special Education (EDP 650B: Assistive Technology)	3

Field Experience

EDP 605F	Supervised Field Experience: Mild/Moderate Intervention Specialist	1-12
----------	--	------

12 credit hours of EDP 605F are required for students who do not hold a current teaching license.

1 credit hour of EDP 605F is required for students who currently hold a teaching license and have successfully completed a student teaching placement previously.

Speech-Language Pathology - Master of Arts, Master of Science

For information, contact:
Director of Graduate Studies
Department of Speech Pathology and Audiology
2 Bachelor Hall, 513-529-2500
www.MiamiOH.edu/spa

Admission Requirements

You must have an undergraduate degree in speech-language pathology and audiology and have a 3.20 minimum cumulative grade point average (GPA) (4.00 scale) in your undergraduate course work. If you have a B.S. or B.A. in a related discipline, you must take undergraduate prerequisite course work in speech pathology and audiology prior to admission and/or may inquire about provisional graduate status. In addition to meeting the minimum academic admission requirements you must submit:

1. Graduate Record examination (GRE) test scores,
2. information about scholarships, awards, accomplishments, clinical observation/experience, leadership, volunteer, research and/or work experience,
3. three recommendations, and
4. a personal statement.

The graduate program in Speech Pathology provides academic study and extensive hands-on experience in a variety of settings. Students may pursue either a non-thesis (Master of Science, M.S.) or a thesis option (Master of Arts, M.A.) in Speech-Language Pathology. The degree program is accredited by the Council on Academic

Accreditation in Audiology and Speech-Language Pathology (CAA) of the American Speech-Language-Hearing Association.

Program Requirements

When you are admitted into the graduate program in speech pathology, you must maintain an overall GPA of 3.00. In addition, you may receive no more than two grades of C of any type for two required courses (not exceeding a total of six hours for both courses) at 500 level or above. You must also meet the requirements for academic and clinical knowledge and skills as required for certification in the profession of speech-language pathology as well as complete a thesis or a final research project.

Program Requirements: Master of Arts

This program requires a minimum of 49 semester hours in appropriate courses, including six hours of credit for thesis.

Code	Title	Credit Hours
Required Courses		
SPA 621	Neurogenic Language Disorders	3
SPA 622	Voice and Resonance Disorders	3
SPA 625	Best Practices for the School-Based Speech-Language Pathologist	3
SPA 627	Pediatric Language and Autism Spectrum Disorders	3
SPA 629	Organic Speech Disorders: Motor Speech Disorders	2
SPA 631	School Age Language and Literacy	3
SPA 633	Phonological and Articulation Disorders	3
SPA 641	Advanced Studies in Fluency Therapy	2
SPA 651	Dysphagia across the Lifespan	3
SPA 671	Neurogenic Cognitive Disorders	3
SPA 672	Seminar in Neuroanatomy	1
SPA 635	Special Topics in Medical Speech-Language Pathology	2
SPA 720	Seminar in Speech Disorders	1
SPA 653	Normal Deglutition Across the Lifespan	1
Administrative Course		
SPA 626	Seminar in Pediatric Documentation/Administration (Take twice)	1
Clinical Requirement		
Complete each course twice		
SPA 620	Advanced Clinical Practice	1-8
SPA 750	Professional Field Experience	1-10
Research Thesis		
SPA 700	Research for Master's Thesis	6
Student Teaching		
SPA 605	Speech, Language, Pathology & Audiology in School Setting	3-15

Program Requirements: Master of Science

This degree requires a minimum of 49 semester hours in the appropriate coursework, including credit for an empirically-based or evidence-based graduate research project or examinations as determined by the graduate faculty.

Code	Title	Credit Hours
Required Courses		
SPA 614	Evidence Based Practice in Communication Sciences and Disorders	3
SPA 621	Neurogenic Language Disorders	3
SPA 622	Voice and Resonance Disorders	3
SPA 625	Best Practices for the School-Based Speech-Language Pathologist	3
SPA 627	Pediatric Language and Autism Spectrum Disorders	3
SPA 629	Organic Speech Disorders: Motor Speech Disorders	2
SPA 631	School Age Language and Literacy	3
SPA 633	Phonological and Articulation Disorders	3
SPA 641	Advanced Studies in Fluency Therapy	2
SPA 651	Dysphagia across the Lifespan	3
SPA 671	Neurogenic Cognitive Disorders	3
SPA 672	Seminar in Neuroanatomy	1
SPA 635	Special Topics in Medical Speech-Language Pathology	2
SPA 653	Normal Deglutition Across the Lifespan	1
SPA 720	Seminar in Speech Disorders	1
Administrative Course		
SPA 626	Seminar in Pediatric Documentation/Administration (Take twice)	1,1
Clinical Requirement		
Complete each course twice.		
SPA 620	Advanced Clinical Practice	1-8
SPA 750	Professional Field Experience	1-10
Student Teaching		
SPA 605	Speech, Language, Pathology & Audiology in School Setting	3-15

Sport Analytics Certificate

The Graduate Certificate in Sport Analytics is designed for students who are interested in pursuing a career in sport analytics or adding data decision-making skills to existing careers. Students will learn about database management, analysis, and data visualization in sport performance and sport business analytics. This certificate is applicable to those in the fields of sport management, coaching, sport marketing, sales and sponsorship, strength and conditioning, and sport administration.

Program Requirements

Code	Title	Credit Hours
Take Both Courses:		
SLM 637	Sport Business Analytics	3
SLM 638	Sport Performance Analytics	3
Select Two Courses: (6 credit hours)		6
SLM 635	Strategic Management of Sport Organizations	
SLM 636	Sport Communities & Public Relations	
SLM 513	Sport Economics	
SLM 516	Sport Marketing	
SLM 538	Principles of Effective Coaching	
SLM 572	Sport Administration	
Total Credit Hours		12

Sport Analytics - Master of Sport Analytics

The Master of Sport Analytics is designed for students who are interested in pursuing a career in sport analytics or adding data decision making skills to existing careers. Students will learn about database management, data mining, analysis, and ways to communicate with data in sport performance and sport business analytics. This degree program prepares students to apply sport analytics in the fields such as sport management, coaching, sport marketing, performance evaluation, and sport administration.

Program Requirements

Code	Title	Credit Hours
Required Courses		
ISA 512	Data Warehousing and Business Intelligence	3
ISA 514	Managing Big Data	3
ISA 591	Introduction to Data Mining in Business	3
ISA 616	Communicating with Data	3
or STA 616	Communicating with Data	
SLM 637	Sport Business Analytics	3
SLM 638	Sport Performance Analytics	3
Select Two Courses:		6
SLM 635	Strategic Management of Sport Organizations	
SLM 636	Sport Communities & Public Relations	
SLM 513	Sport Economics	
SLM 516	Sport Marketing	
SLM 538	Principles of Effective Coaching	
SLM 572	Sport Administration	
Internship: (select 6 credit hours of SLM 640)		6
SLM 640	Internship	
Total Credit Hours		30

Sport Leadership and Management - Master of Science in Sport Leadership and Management

This Master's program is focused on the study of leadership in sport, with supporting interdisciplinary knowledge in sport psychology, cultural studies of sport, sport management, and related cognate areas. Students gain the knowledge and skills needed to become competent, transformative leaders in the fields of sport and education. The program prepares students for leadership roles in higher education, coaching, athletic administration, student-athlete development, sport psychology, and consulting through required coursework, independent experiences in research, teaching, consulting, coaching, and administrative internships.

Program Requirements

Code	Title	Credit Hours
Required Course:		
SLM 621	Research Foundations in Sport Leadership and Management	3
Select One of the Following:		3
EHS 645	Introduction to Qualitative Research Methodologies	
EDP 667	Behavioral Statistics I	
EHS 667	Behavior Statistics	
EHS 668	Behavior Statistics II	
GTU 609	Qualitative Research Methods	
KNH 623	Qualitative Research Approaches in Kinesiology, Nutrition, and Health	
SLM 623	Qualitative Methodological Research Approaches in Sport Leadership and Management	
Select Four of the Following:		12
SLM 632	Psychological Foundations of Sport	
SLM 633	Psychological Interventions in Sport	
SLM 634	Social Psychology of Sport and Exercise	
SLM 635	Strategic Management of Sport Organizations	
SLM 636	Sport Communities & Public Relations	
SLM 673	Developmental Perspectives on Youth Sport Participation	
SLM 676	Cultural Studies of Sport	
For Thesis Students Only: (6 credits hours)		
SLM 700	Research for Master's Thesis	
Electives		6 or 12
Thesis students take 6 credit hours of SLM 700 and 6 credit hours of elective coursework. Select electives from KNH 583, KNH 654, or any SLM 500 or 600-level course, or other graduate course approved by advisor.		

Non-thesis students take 12 credit hours of elective coursework. Select electives from KNH 583, KNH 654, or any SLM 500 or 600-level course, or other graduate course approved by advisor.

Total Credit Hours **30**

Sport Management Certificate

For information, contact:

Director of Graduate Studies
Department of Sport Leadership & Management
118 Laws Hall, 513-529-7526
www.MiamiOH.edu/slam

The Sport Management Graduate Certificate is designed to prepare students for management and leadership positions within the sport industry. With a focus on sport administration and strategic management of sport organizations, this graduate certificate program seeks to develop forward thinking and innovative leaders for the future of the sport industry.

Program Requirements

Code	Title	Credit Hours
Take all three courses:		
SLM 572	Sport Administration	3
SLM 635	Strategic Management of Sport Organizations	3
SLM 636	Sport Communities & Public Relations	3
Select one of the following courses:		3
SLM 513	Sport Economics	
SLM 514	Facilities and Event Management in Sport	
SLM 516	Sport Marketing	
SLM 517	Legal Issues in Sport Leadership and Management	
Total Credit Hours		12

Sport Psychology Certificate

For information, contact:

Director of Graduate Studies
Department of Sport Leadership & Management
118 Laws Hall, 513-529-0237

SLAMDEPT@miamioh.edu
www.MiamiOH.edu/slam

The Sport Psychology Graduate Certificate focuses on the study of psychological and social factors that influence sport and physical activity participation. Sport psychology involves the study of human thought, emotion, and behavior in recreational and competitive sport. This includes the study of individual processes such as motivational orientations, self-efficacy, and stress/anxiety, as well as social factors such as group processes, coaching, and leadership effectiveness.

Program Requirements

Code	Title	Credit Hours
Select the following:		
SLM 632	Psychological Foundations of Sport	3
SLM 633	Psychological Interventions in Sport	3
SLM 634	Social Psychology of Sport and Exercise	3
Select one of the following:		3
KNH 654	Physical Activity Motivation	
SLM 673	Developmental Perspectives on Youth Sport Participation	
SLM 676	Cultural Studies of Sport	
Total Credit Hours		12

Statistics - Master of Science in Statistics

For more information, contact:

Director of Graduate Studies
Department of Statistics
311 Upham Hall, 513-529-7828
<http://www.units.MiamiOH.edu/sta/>

Admission Requirement

An undergraduate degree with at least a 3.00 (of 4.00) grade point average and strong performance in calculus (at least equivalent to multidimensional calculus), linear algebra, and a probability / mathematical statistics course is required.

Program Requirements

(32 semester hours)

Code	Title	Credit Hours
STA 502	Statistical Programming	3
STA 504	Advanced Data Visualization	3
STA 563	Regression Analysis	4
STA 566	Experimental Design Methods	4
STA 651	Advanced Statistical Methods I	3
STA 652	Advanced Statistical Methods 2	3
STA 660	Practicum in Data Analysis	3
STA 664 & STA 665	Theory of Statistics and Theory of Statistics	6
Select three additional hours of the following:		3
STA 527	Introduction to Bayesian Statistics	
STA 567	Statistical Learning	
STA 583	Analysis of Forecasting Systems	
Total Credit Hours		32

No thesis is required.

Student Affairs in Higher Education- Master of Science

The SAHE master's degree program prepares students for leadership positions in student affairs in higher education. The curriculum includes a 15 credit-hour core that address foundations of student affairs, student development theory, foundations of research, educational leadership/organizational development, and diversity, equity and dialogue; a 3 credit-hour additional inquiry requirement; a 7 credit-hour concentration in either student development theory, student affairs leadership, inquiry in education, or diversity, equity and culture; 7 hours of professional development and field experience; and 10 hours of electives.

Admission to the Student Affairs in Higher Education master's degree program is based on undergraduate grade point averages, a personal statement, experiences relevant to student affairs, four letters of recommendation, and an interview.

Program Requirements

(36 semester hours)

Code	Title	Credit Hours
Core		
EDL 654	Foundations of Educational Research in Higher Education	3
EDL 660	Seminar in Student Affairs/Higher Education ¹	3,3
EDL 667	Diversity, Equity, and Dialogue in Student Affairs	3
EDL 675	Student Development Theory I	3
EDL 676	Foundations of Student Affairs in Higher Education	3
EDL 697	Higher Education Administration	3
EDL 706	Educational Leadership and Organizational Development	3
EDP 672	Helping Skills in Mental Health Intervention	3
Field Experience and Professional Development		
EDL 656G	Field Experience Exploration	3
EDL 656I	Field Experience Synthesis	3
Electives		
	Select 3 hours of electives that may include, but are not limited to, additional Professional Development and Field Experience hours, independent studies, graduate courses outside of the program, and/or additional SAHE classes outside of the required course load.	3
Total Credit Hours		36

¹ Students take 3 credit hours of EDL 660 for two semesters.

Teaching English to Speakers of Other Languages (TESOL) Endorsement Graduate Certificate

The Graduate Teaching English to Speakers of Other Languages (TESOL) Endorsement Certificate provides those holding valid teacher licenses with the knowledge, skills, and experiences need to meet the challenges of teaching of English learners (ELs) in PK-12 classrooms. The Graduate TESOL Endorsement Certificate consists of a four course focus sequence with opportunities for application of knowledge and skills gained in a teacher's own classroom or school.

Program Requirements

Code	Title	Credit Hours
TCE 612	TESOL in PK-12: Culture, Policy, & Second Language Acquisition	3
TCE 614	TESOL Instructional Methodologies	3
TCE 617	TESOL in PK-12: Literacy Development	3
TCE 619	TESOL in PK-12: Current Issues in TESOL	3
Total Credit Hours		12

Teaching of Writing Certificate

The Teaching of Writing certificate focuses on developing expertise in the theory and reflective practice of teaching writing for K-12 teachers, including those preparing to teach college credit plus English courses. The certificate requires a 6 credit hour course in the Teaching of Writing and 12 credit hours of MAT or other English department graduate electives. The Teaching of Writing certificate will provide the 18 hours in English necessary to meet the ODE general requirement for teaching CCP English. The certificate includes composition theory and elective courses in the MAT in English program.

Program Requirements

Code	Title	Credit Hours
ENG 622	The Teaching of Writing	6
	12 elective hours of English graduate courses at the 600 level (including Ohio Writing Project courses)	12
Total Credit Hours		18

Women's, Gender, and Sexuality Studies Certificate

For information, contact:
Madelyn Detloff via email at detloffmm@miamioh.edu
or call 513-529-5333

This certificate program is available to master's and doctoral candidates in any field of study across the university. Its purpose is to enhance a disciplinary graduate degree with specialization in Women's, Gender, and Sexuality Studies. Using a multidisciplinary approach, students explore the influence of gender and other social

differences on production and dissemination of knowledge within disciplines. The program provides intensive study of a variety of feminist theories and methodologies. Courses stress interaction between theory and practice and connections between academic work and public life.

Program Requirements

(12-14 semester hours)

Code	Title	Credit Hours
Core Requirements		
WGS 601	Introduction To Women's Studies	3
WGS 602	Feminist Theory & Methodology	3
Electives		
Two 500-level courses (3-4 credit hours each) taught from a feminist perspective, including one in your major field and one in another discipline, selected with your WGS advisor.		6-8
Final Project		
Planned with and approved by your WGS advisor includes presentation.		
Total Credit Hours		12-14

Courses of Instruction

General Course Information

This section of the Bulletin lists all courses offered at the university on all campuses. With each department or area, we give in parentheses the university's abbreviation and the division offering the courses—for example, **ACCOUNTANCY (ACC-Business)** means that ACC is the abbreviation for accountancy courses and they are offered by the Farmer School of Business.

Course offerings are listed online (<http://www.MiamiOH.edu/courselist>).

Course descriptions are necessarily brief. For more information about a course, consult the instructor or the department.

Abbreviations and Terms

Note: A registration glossary is in the Registering for Courses chapter.

CAS-A, CAS-B, etc.: Course fulfills a part of that section(s) of the College of Arts and Science requirement. (Please see the College of Arts and Science section). These are CAS requirement abbreviations in the course descriptions:

CAS-A: Foreign language

CAS-B: Humanities

CAS-B-LIT: Fulfills a part of the literature requirement of CAS-B.

CAS-C: Social science

CAS-D: Natural science

CAS-D/LAB: Fulfills laboratory requirement of CAS -D (LAB must be preceded by CAS-D/to fulfill the CAS lab requirement)

CAS-E: Formal reasoning

CAS-W: Writing

CAS-QL: Quantitative Literacy

Co-requisite: Courses that must be taken during the same semester because their subject matter is similar or complementary. Co-requisites are given at the end of course descriptions.

Course sections: Courses with large enrollments are divided into sections. Sections are identified by letters, for example SLM 120A. A five-digit CRN (Course Reference Number) also identifies a course section.

Credit/no-credit course: No grades are received for these courses. You will get credit for a D- or better; you do not get credit if your grade is lower. Credit/no-credit courses are not figured in your GPA. No more than 10 percent of your course work can be taken on a credit/no-credit basis, and usually you cannot take courses in your major this way. Freshmen may register for courses on a credit/no-credit basis, providing they are concurrently enrolled for 12 semester hours for grades. After 20 percent of the class meetings, you cannot change from credit/no-credit to a letter grade or from a letter grade to credit/no-credit. See the Grades chapter for more detail.

Cross-listed course: Course where material taught crosses multiple disciplines. The course may or may not be offered by two or more departments during the same term.

Department Topics Courses: are permanently approved courses and usually carrying a zero ending course number. The goal of these courses is to provide the opportunity:

1. to offer emerging material not covered in existing courses;
2. to make effective use of a traditional classroom setting for the development and piloting of a new course for several terms or semesters; or
3. to cover material for which a visiting faculty member has expertise. Any single topic may be offered for a duration of up to 8 consecutive academic terms. Once that period of time has expired, the course on that topic should undergo permanent course approval on its own merits.

Field Experience (FE): Field experience is planned, paid work activity which relates to an individual student's occupational objectives, such as geology or archaeology, and which is taken in lieu of elective or required courses in his or her program with the permission of a faculty advisor. The experience is coordinated by a faculty member of the college who assists the student in planning the experience, visits the site of the experience for a conference with the student and his or her supervisor at least once during the quarter or semester, and assigns the course grade to the student after the appropriate consultation with the employer or supervisor.

GPA: Grade point average. See the Grades chapter for more detail.

Lab: Laboratory.

Lec. Lab.: Lecture and laboratory; used to indicate how many credit hours are earned in lecture and/or in laboratory (for example, 3 Lec. 1 Lab.).

Modifiers: are letters placed at the end of a course number which typically designate one of the following:

1. the type or teaching approach used in the course (e.g., service learning);
2. the location of the course (e.g., Luxembourg); or
3. a particular population of students (e.g., honors).

Modifiers may only be used for permanently approved courses and may be requested by emailing courseapproval@MiamiOH.edu. Examples of existing modifiers:

- Existing Departmental Topics Course
- Registration purposes (e.g., TCE 419A/TCE 519A, TCE 419P to facilitate the correct majors into the course)
- Honors - noted with H
- Service Learning - noted with X on appropriate Miami Plan courses
- Majors only - noted with M
- CAS Writing - noted with W on sections that are CAS Writing approved, but the course with no modifier is not approved CAS Writing
- Luxembourg Campus - noted with L
- Associated Laboratory courses - noted with L (e.g. CHM 111L)

Offered infrequently: Courses may be offered every two or three years.

Practicum: A practicum is an on- or off-campus work experience which is integrated with academic instruction in which the student applies concurrently learned concepts to practical situations within an

occupational field. To assure proper coordination of the experience, the practicum is coordinated by a faculty member who visits the student at least once every two weeks, provides the final grade, and teaches at least one course on the campus.

Prerequisite: Course(s) that must be taken to provide background for the course requiring the prerequisite. Sometimes permission of the instructor or another requirement (such as graduate standing) may be a prerequisite to a course.

Semester credit hour: Unit used to measure course work. The number of credit hours is usually based on the number of hours per week the class meets; for example, a three-hour course typically meets three times a week for 50 minutes each time. One credit hour is usually assigned for two or three hours in laboratory and studio courses.

Service course: Course designed by a department to serve the program requirements of another department or division. Choose a service course carefully. It may not meet the requirements for your department.

Sprint course: Course that meets for less than the full semester or term, in periods of four, six, eight, or twelve weeks. For additional information see Course Length Options by Term.

Summer only: Offered in the summer only.

Course Numbering System

The number by which a course is designated indicates the level of the course:

000-099: Developmental courses, not creditable toward a degree.

100-299: Lower-division, undergraduate courses primarily for first – and second-year students; typically used for introductory and Miami Plan Perspectives courses.

100-199: Introductory courses.

200-299: Intermediate-level courses.

300-499: Upper-division, undergraduate courses primarily for third- and fourth-year students; typically used for advanced courses in the major and advanced requirements in the Miami Plan.

300-399: Advanced intermediate-level courses.

400-499: Advanced and capstone level courses.

500-850: Graduate level courses. Restricted to graduate degree-seeking or certificate-seeking students, or to post-baccalaureate students admitted to the graduate school under continuing graduate status. On occasion, undergraduates with senior status may seek permission to take graduate level courses with the approval of the course instructor, department chair, and the dean of the Graduate School.

599 and 699: Workshops or similar offerings. Workshops must go through an approval process each year. Workshops may be offered a maximum of five times, after which instructors must submit a proposal for permanent course approval.

700: Restricted to independent graduate study involving research or thesis for master's students.

790: Restricted to pre-candidacy doctoral research.

850: Restricted to independent graduate study involving dissertation for doctoral students.

Special Course Numbers

Course numbers at two levels (such as 433/533) may be taken either for undergraduate or graduate credit. Students must complete graduate level work and achieve graduate level learning outcomes to receive credit at the 500 level.

Course numbers separated by a comma (such as 233, 234) are related. It is possible to take one or more of the series, and they may be taken in any order (unless otherwise indicated in the course description).

Course numbers separated by a hyphen (such as 233-234) must be taken in numerical order and both must be taken to receive credit for graduation.

Independent Work: Independent work comes in two forms:

1. internship or co-operative education, and
2. independent study.

Internships and “co-ops” are a partnership between the student, the University, and employers that formally integrate students’ academic study with work or community service experience. Internships are typically of a specified and definite duration, may or may not involve credit hours, and may or may not include compensation in the forms of wages, salaries, stipends or scholarships. Co-ops may provide students with compensation from the cooperative employer in the form of wages or salaries for work performed as well as academic credit; typically, students alternate or combine periods of academic study and work experience. Internships are typically of a specified and definite duration, may or may not involve credit hours, and may or may not include compensation in the forms of wages, salaries, stipends or scholarships.

Internships

There are three types of internships for Miami students:

1. *Extra-Curricular Internships* are initiated by the student, are not required for the degree, and do not receive academic credit. Students are not enrolled in any internship course. These internships can be pursued during academic terms in which they are enrolled in other classes or during breaks between periods of enrollment. They need not be related to the student’s program of study, and no faculty supervision is needed. The University does not enter into an agreement with the Internship Sponsor. Students may list the internship on their resume, but it will not appear on their academic transcript
2. *Co-Curricular Internships* relate to the student’s program of study (e.g., major, minor, certificate program) and can be paid or unpaid. Students pursuing them are enrolled in a course (which can be 0 to 6 credits), but it is not a mandated requirement for the program of study. Students must have a completed learning plan signed by an assigned faculty supervisor. Academic credit appears on the transcript and may be offered as credit/no credit or for a letter grade. The University does not enter into an agreement with the Internship Sponsor.

3. *Curricular Internships* are a requirement for the student's declared degree or major. These internships must be for academic credit and can be paid or unpaid. Students must have an assigned faculty supervisor and learning plan. These internships appear on the transcript, and the internship course may be offered as credit/no credit or for a letter grade. Miami creates an agreement with the Internship Sponsor.

All Miami students must complete the appropriate online internship form, no matter which type of internship is being pursued. Online internship forms can be accessed at the Center for Career Exploration and Success or One Stop webpages. Students wishing to complete a curricular or co-curricular internship (credit-bearing) will be registered for the appropriate independent study or other course once the form is completed.

Independent Study

An independent study is a course taken with ongoing supervision by the instructor for rigorous learning and knowledge enhancement in a particular area of interest beyond the courses offered. The content of an independent study course should not duplicate any course available to the student.

In order to register for an Independent Study (which is not an internship 340 course), faculty must print an Independent Study Permit available on the One Stop website, complete the form, sign, and send to the department chair or regional campus coordinator before it is submitted in person to the One Stop or by campus mail to the Office of the University Registrar who will assign a full term or sprint class section code corresponding to the beginning and end dates of the independent work experience.

Enrollment in an independent study becomes part of the student's academic load. Procedures for withdrawal from such courses are the same as for regularly scheduled courses. Independent Study courses do not carry over from one semester or term to another; a new permit must be completed and submitted each term or semester.

With the permission of the instructor, students may register for zero to six credit hours of independent study each semester or term (with no more than a total of 10 credit hours in internships and independent work per academic year).

Independent study courses should be numbered 177, 277, 377 or 477 in accordance with the student's class level (e.g., first-year students register for 177, and second year students register for 277). The 340 number should be only used for internships.

Independent Study Permits must:

- Be submitted prior to or during the first week of the semester to be assigned a full semester, summer or winter term course. Those permits submitted after the first week will be assigned the next available sprint part of term in which the work is to be completed;
- Include approvals of both the instructor and department chair;
- Indicate the course number for transcript purposes.

Permits may not be processed if they are incomplete, incorrect, or after the beginning of the last sprint part of term offered in a given semester.

100: Each department in the College of Arts and Science can offer a seminar numbered 100, cross-listed with at least two departments.

This course number is reserved especially to allow students and faculty a chance to learn how different disciplines deal with the same problem. The 100 course has one or two semester hours of credit; you cannot receive more than four semester hours credit for all courses numbered 100. These courses may not be offered every year.

300: This course, Special Topics, is offered according to student request together with instructor permission. It carries one to three semester hours of credit; you cannot receive more than six semester hours of credit for this course.

177, 277, 377, and 477: These courses are designated for independent study. You can register for zero to six hours of independent study each semester (no more than 10 per year). Registration for each course is in accordance with the course's class level (177 for first-year material, 277 for second-year material, etc.). Independent study projects must be approved by the instructor and the department chair. Students completing experiential learning in association with a Miami Plan course will register for 177E, 277E, 377E or 477E. Students completing research for independent study purposes will register with an R modifier in the appropriate 177R, 277R, 377R or 477R. Students completing Extended Study or Service Learning in association with a Miami Plan course will register for one credit hour with an X modifier the appropriate 177X, 277X, 377X or 477X.

340: This course is for internships. It can be worth up to 20 semester hours of credit depending on the agreement between student and instructor.

199, 299, 399, 499/599 and 699: These numbers are used for workshops or similar offerings. Workshops must go through an approval process each year. Some departments/programs utilize workshop numbers ending in 97, 98 or 99 based upon volume and frequency of workshop offerings.

640: This course is for graduate internships. It can be worth up to 12 semester hours of credit depending on the agreement between student and instructor. A maximum of 6 hours may count toward a graduate degree.

677: This course is used for departments/programs without an established Independent Study course number. You can register for 0-6 credit hours of independent study each semester (no more than 10 per year). Registration for each course is in accordance with the level of instruction. Independent study projects must be approved by the instructor and the department chair/program director.

700: This number is used for Master's thesis research credit.

790: This number is used for Pre-candidacy doctoral research.

850: This number is used for Doctoral Dissertation credit.

Semester Credit Hours

Semester credit hours are indicated in parentheses following the course title; for example, **282 Art and Politics** (3). Some courses carry variable credit, a range of credit hours for courses such as independent study, special topics, thesis hours, etc. The maximum number of hours you can earn in the course may also be indicated, for example, (3; maximum 6).

Frequency of Offerings

Information on frequency of offerings is provided to assist you in advance planning. These are normative patterns for program scheduling and are subject to change without notice based on student demand and other programmatic priorities.

Accountancy (ACC)

ACC 177. Independent Studies. (0-6)

ACC 211. Accounting for the Non-Business Major. (3)

Introduction to basic accounting and management concepts for an individual who would like to own, manage or start a business one day. Focus is on the most important areas a user (not a preparer) of financial statements needs to know to effectively run or manage a business such as the following: interpreting financial statements, knowledge of simple and useful tax concepts, analyzing budgeting, assessing cash flow, and making business decisions using financial data. Not open to business majors.

ACC 221. Introduction to Financial Accounting. (3)

Introduction to the purposes of financial statements and the recognition, measurement, and disclosure concepts and methods underlying financial statements. Focus is on preparing, using and interpreting financial statements and on understanding the impact of transactions and events on financial statements and financial ratios.

ACC 222. Introduction to Managerial Accounting. (3)

Introduction to the uses of accounting information provided to managers in production, service, and resale businesses. Focus is on classifying, measuring, and analyzing product and service costs for decision making, preparing budgets, and evaluating performance.

ACC 256. Accountancy Career Exploration and Planning. (1)

This course will explore the historical, current and possible future role of the accounting profession in the domestic and global economy. Students will understand the various standard setters and opportunities for the accounting profession to interact and influence the outcomes of business organizations. This course will assist accountancy majors to explore career interests in future accountancy positions within public accounting, private industry or governmental positions. Specifically, the course will focus on helping students understand the variety of career opportunities available to accounting majors. The course will assist students with understanding the key career planning and job searching opportunities at Miami University. Students will be exposed to the timeline and types of events they can expect in the interview process and will be informed about how best to prepare for and be successful in executing each.

ACC 277. Independent Studies. (0-6)

ACC 301. CBL Corporate Governance & Executive Leadership Lab. (1)

This lab allows students in the later stage of their CBL experience to understand how executives and board of directors seize opportunities and manage risks associated with achieving strategic objectives and engaging stakeholders to create long-term shareholder value. Prerequisite: Acceptance into The Issac and Oxley Center for Business Leadership and completion of MGT 101 and MGT 102, which are the Buck Rodgers Individual and Team weekend labs, respectively.

ACC 321. Intermediate Financial Accounting. (3)

Study of the conceptual framework and standard-setting process followed by the application and evaluation of generally accepted accounting principles underlying financial statements. Focus is on recording and reporting intermediate-level transactions and events in accordance with authoritative standards related to the recognition, measurement, and disclosure of assets, liabilities, owners' equity, revenues, expenses, gains, and losses. Prerequisites: ACC 221 and ACC 222.

ACC 333. Managerial Accounting. (3)

Focuses on the interactions between firm strategy and accounting information, with an emphasis on employee decision-making and analytical tools. Examines these topics in a variety of contexts, such as budgeting and forecasting; performance measurement, management, and incentives; product and service costing; or transfer pricing. Prerequisites: ACC 221 and ACC 222.

ACC 340. Internship. (0-20)

Available to Farmer School of Business (FSB) majors and minors. Available for 0 credit hour during spring, summer and fall terms. Available for 1 credit hour during summer terms only. For one hour of credit, student must secure a sponsoring FSB faculty member within his/her major or minor to supervise the internship and accompanying required internship reflection paper. ACC 340 is not available during winter term. Students are to work through their respective academic departments to enroll in the course. Credit/no credit only. Note: FSB students may earn a maximum 2 credit hours toward graduation for BLS/BUS/ECO/ESP/FIN/ISA/MGT/MKT 340. Prerequisite: 55 earned hours and permission of department.

ACC 343. Federal Income Tax Accounting. (3)

Study of the basic features of the federal income tax system. Focuses on the determination of taxable individuals and corporations and on the effects of tax laws and regulations on decision making. Prerequisites: ACC 221 and ACC 222.

ACC 361. Modeling Business Processes in Accounting Information Systems. (3)

Introduction to accounting information systems (AIS) as an enterprise-wide information system for business processes and internal controls. The course focuses on hands-on learning experiences with current and emerging technologies. The course also builds students' business acumen in databases and data analytics. Prerequisites: ACC 221 and ACC 222. Prerequisite or Co-requisite: ISA 235.

ACC 370. Applied Accounting Research. (1-3; maximum 3)

This course provides students with the opportunity to apply their knowledge of accounting along with their research, team and communication skills to real world problems. The typical mode of learning will be a case competition requiring students to work in a team to research and propose a solution to an accounting issue. The cases used in this course are developed from actual situations faced by accountants. In many cases, students will be judged on their proposed solutions by a panel of accounting professionals. Prerequisite: ACC 221.

ACC 377. Independent Studies. (0-6)**ACC 422/ACC 522. Financial Accounting Research. (3)**

Study of professional research methods and resources used for financial accounting and reporting. Focuses on the application of research methods and resources, through case analyses, to determine applicable recognition, measurement, and disclosure standards for advanced-level transactions and events.

Prerequisite: ACC 321.

ACC 445/ACC 545. Advanced Tax. (3)

Study of the federal tax consequences of the formation and operation of corporations, partnerships, and S corporations. The course also provides a basic understanding of the legal tax research process and how to access online and evaluate the various sources of federal income tax law.

Prerequisite: ACC 343.

ACC 446/ACC 546. Taxes and Business Strategy. (3)

This course will help students develop a basic understanding of how taxation affects various business decisions, including those related to forming a business and raising capital, expanding through acquisitions, divesting lines of business, and expanding internationally. The ultimate goal of this course is to help students to develop an approach to thinking about taxes that will be valuable even as laws or specific business settings change. Prerequisite: ACC 321.

ACC 448/ACC 548. Information for Business Valuation and Decisions. (3)

This course helps students develop a framework for analyzing financial information when making business valuation and capital allocation decisions.

Prerequisite: ACC 321.

ACC 452. Internal Auditing. (3)

Focuses on the theory and practice of auditing within organizations. Covers internal auditing standards, overview of operational, performance and compliance type audits, and the application of common internal audit techniques. Prerequisites: ACC 333 and ACC 361.

ACC 453/ACC 553. Financial Statement Auditing. (3)

Introduction to financial statement audits conducted by independent public accountants. Emphasizes the technical knowledge and skills required by entry-level auditors to meet professional standards, plan and perform audits, and communicate results.

Prerequisites: ACC 321 and ACC 361.

ACC 461. Accounting for Business Combinations. (3)

Accounting for mergers and acquisitions with emphasis on preparation of consolidated financial statements. The course also covers accounting for business entities operating as partnerships. Prerequisite: ACC 321.

ACC 462/ACC 562. Mergers & Acquisitions. (3)

This course will provide students with a broad and example driven understanding of the fundamental concepts of Mergers & Acquisitions (M&A). Students will learn why M&A transactions occur, the importance of historical M&A transactions and cycles, key M&A terms and the typical activities that occur throughout the M&A process. The course will focus heavily on the due diligence process typically conducted by accounting and finance specialists. Prerequisite: ACC 321.

ACC 468/ACC 568. Accounting for Not-for-Profit and Governmental Organizations. (3)

Analysis of accounting standards and case studies for not-for-profit organizations and governmental entities. Emphasizes reporting transactions unique to not-for-profit/governmental sectors with a focus on fund accounting. Assesses organizational performance against unique missions and goals using financial information.

Prerequisite: ACC 221 and ACC 222.

ACC 477. Independent Studies. (0-6)**ACC 480/ACC 580. Accounting and Business Ethics. (3)**

Focuses on gaining an understanding of ethical decision-making and professional judgment in accounting and business when a professional is faced with ethical dilemmas. The course covers various ethical frameworks and decision-making tools that can be utilized during values conflicts within an organization or with clients.

Prerequisites: ACC 221 & ACC 222.

ACC 490. Current Topics in Accounting and Auditing. (1-3; maximum 6)

Since accounting exists in an ever-changing environment, this course will expose students to the latest issues in financial accounting, managerial accounting, tax, auditing and accounting systems. The format for the course will depend on the specific topic being addressed in the course.

Prerequisites: ACC 221, 222 and 321.

ACC 495/ACC 595. Accounting Analysis. (3)

This course is intended to assist accounting students with the development of integrative and higher order skills through the review of data analytics. The course is heavily focused on problem solving and analysis. SC.

Prerequisites: FSB Business Core - ACC 221, 222; ECO 201,202; MGT 291; MKT 291; FIN 301; ISA 235.

ACC 611. Accounting for Managers. (3)

This course explores how accounting information is used by managers to make internal business decisions, to create financial plans, and to evaluate actual performance relative to those plans. It also explores how managers analyze financial statements for internal management purposes.

ACC 628. Advanced Issues in Financial Accounting and Reporting. (3)

This course covers a selected set of advanced issues in financial accounting, including merger and acquisition and its implications for financial reporting, the use of financial derivatives for trading and/or hedging purposes and related accounting treatments, and other topics that are of high relevance and importance to business entities' financial accounting and reporting in current business environment. Prerequisite: Enrollment in Master of Accountancy program.

ACC 635. Financial Leadership in Organizations. (3)

Examines the roles of the CFO in the financial leadership of organizations, particularly in the areas of guidance and governance. Focuses on CFO interactions with various stakeholders, and the support role that various functional areas within the organization play to assist the CFO. Investigates differences in CFO-stakeholder interactions and support roles across various types of organizations and over time within one firm. Analysis of the knowledge and skills that financial professionals must bring to leadership roles within organizations.

ACC 650. Fraud Examination. (3)

Study of the process of locating, investigating and documenting fraud in a business environment. In addition to learning about several common types of fraud schemes, students will learn how and why occupational fraud is committed, how fraudulent conduct can be deterred, and how allegations of fraud should be investigated and resolved within the current legal environment.

Prerequisite: Enrollment in Master of Accountancy Program.

ACC 653. Assurance Services. (3)

Focuses on fundamentals and emerging issues related to the practice of auditing and involves researching and resolving practice-oriented problems. In addition to other relevant topics, the course covers audit sampling, EDP auditing, and computer-assisted audit techniques.

Prerequisite: Enrollment in Master of Accountancy Program.

ACC 655. Control of Accounting & Reporting Risk. (3)

Study of the process of identifying, measuring and controlling strategic and business process risk utilizing accepted accounting frameworks from both internal and external perspectives. The concepts studied in this course are the theoretical foundation for business risk auditing approaches being utilized by international accounting firms. The process of designing effective risk management strategies and controls are examined within specific industries and accounting settings.

Prerequisite: Enrollment in Master of Accountancy Program.

ACC 677. Independent Studies. (0-6)**ACC 695. Integrative Accounting Capstone. (3)**

Integration of auditing, accounting systems, financial accounting, managerial cost accounting, and income tax accounting.

Prerequisite: Enrollment in Master of Accountancy Program.

Aerospace Studies (AES)

AES 110. Leadership Laboratory. (1)

Introduction and orientation to the Air Force through study and supervised practice of customs and courtesies, drill and ceremonies, and development of basic leadership skills. Provides orientation to life and work of an Air Force junior officer and officer career opportunities. Instruction, typically including field trips to Air Force installations, conducted within framework of an organized cadet corps with a progression of experiences to develop leadership potential. Limited to qualified cadets pursuing an Air Force commission.

Co-requisite: AES 121.

AES 111. Leadership Laboratory. (1)

Continues introduction and orientation to Air Force and ROTC program through study and supervised practice of customs and courtesies, drill and ceremonies, development of basic leadership skills, and junior officer responsibilities and career opportunities. Instruction conducted via direct student involvement in organized cadet corps activities and progressive cadet experiences designed to develop leadership potential. Limited to qualified cadets pursuing an Air Force commission.

Co-requisite: AES 122.

AES 121. Heritage and Values of the United States Air Force. (1)

Fall semester survey course addresses basic topics relating to the Air Force and its role in national defense. Focuses on military standards, customs and courtesies, officership, career opportunities and benefits. Reviews the organization and mission of the Air Force and its role in achieving U.S. national objectives. Examines the Air Force major command structure, its heritage and includes an introduction to the military style of communicative skills.

AES 122. Heritage and Values of the United States Air Force. (1)

Continuation of AES 121. Further addresses basic topics related to the Air Force and airpower. Focuses on the evolution of the Air Force, the principles of war, the Department of the Air Force organization and resources, and interpersonal communications and their impact on military operations. Develops fundamental military-oriented oral and written communicative skills. Prerequisite: AES 121 or permission of instructor.

AES 177. Independent Studies. (0-6)**AES 210. Leadership Laboratory. (1)**

Provides fundamental training and experience in Air Force military management and leadership techniques via direct student participation in organized cadet corps activities and exercises with continued emphasis on developing leadership potential. Instruction includes customs and courtesies, drill and ceremonies, and knowledge of junior officer responsibilities and career opportunities. Limited to qualified cadets pursuing an Air Force commission.

Prerequisite: AES 110, 111, or permission from instructor.

Co-requisite: AES 221.

AES 211. Leadership Laboratory. (1)

Provides continuation of fundamental training and learning experiences in Air Force military management and leadership techniques in organized cadet corps leadership development activities and exercises. Instruction includes Air Force customs and courtesies' drill and ceremonies, and knowledge of junior officer responsibilities and career opportunities. Limited to qualified cadets pursuing an Air Force commission.

Prerequisite: AES 110, 111, or permission from instructor.

Co-requisite: AES 222.

AES 221. Team and Leadership Fundamentals. (1)

Survey course designed to provide a fundamental understanding of both leadership and team building. Overview of the many layers of leadership to include listening, understanding one's self, being a good follower and problem solving efficiently; application of leadership perspectives in team building activities and discussions on conflict management. Students will demonstrate basic verbal and written communication skills in this course.

AES 222. Team and Leadership Fundamentals. (1)

Continuation of AES 221. Survey course designed to provide a fundamental understanding of both leadership and team building. Overview of the many layers of leadership to include listening, understanding one's self, being a good follower and problem solving efficiently; application of leadership perspectives in team building activities and discussions on conflict management. Students will demonstrate basic verbal and written communication skills in this course.

Prerequisite: AES 221 or permission from instructor.

AES 277. Independent Studies. (0-6)**AES 310. Leadership Laboratory. (1)**

Provides intermediate-level management training and learning experiences through practical application of military management techniques in organized cadet corps leadership development activities. Limited to qualified cadets pursuing Air Force commission. Co-requisite: AES 331.

AES 311. Leadership Laboratory. (1)

Continues intermediate-level management training and learning experiences of military management techniques in organized cadet corps leadership development activities. Limited to qualified cadets pursuing an Air Force commission.

Prerequisite: AES 310.

Co-requisite: AES 332.

AES 331. Leading People and Effective Communication. (3)

Study of the skills and knowledge necessary for leader development and effective supervision. Examines critical thinking, change management, priority management, bias and cross-cultural competence. Explores various case studies on leadership, management, airmanship and ethics. Emphasizes Air Force communication skills in writing and briefing.

AES 332. Leading People and Effective Communication. (3)

Continuation of AES 331. Examines aspects of leadership and communication as it relates to the individual and the group. Topic highlights include mentoring, feedback and organizational climate. Explores self-awareness, professionalism and stress management and resiliency techniques. Examines ethical issues in the context of the Air Force officer's leadership authority, responsibility, and accountability while focusing on ways to develop effective leadership and management skills. This course continues to emphasize Air Force communication skills in writing and briefing.

Prerequisite: AES 331 or permission of instructor.

AES 340. Internship. (0-20)**AES 377. Independent Studies. (0-6)****AES 410. Leadership Laboratory. (1)**

Provides advanced-level management training and learning experiences through practical application of military leadership principles in organized cadet corps leadership development activities. Strong emphasis on professionalism and officership. Limited to qualified cadets pursuing an Air Force commission.

Prerequisite: AES 311.

Co-requisite: AES 431.

AES 411. Leadership Laboratory. (1)

Continues advanced-level management training and learning experiences through practical application of military leadership techniques in organized cadet corps leadership development activities. Strong emphasis on professionalism and officership. Limited to qualified cadets pursuing an Air Force commission.

Prerequisite: AES 410.

Co-requisite: AES 432.

AES 431. National Security/Leadership Responsibilities/Commissioning Preparation. (3)

Examines the basic elements of national security policy and process. Focuses on air, space and cyberspace operations; selected roles of the military in society; and, current domestic and international issues affecting the military profession. Examines functions and operations of the Department of Defense, the Air Force and other military services. Focuses on several global hot spots and analyzes their impact on U.S. national security. Examines other defense/security issues, such as nuclear operations, terrorism, deployments and the concept of civilian control of the military.

AES 432. National Security/Leadership Responsibilities/Commissioning Preparation. (3)

Covers advanced leadership topics, ethics, and Air Force doctrine for prospective Air Force officers about to assume active duty. Special topics focus on the military as a profession, the oath of office, military justice, the military evaluation system, career progression and assignments, benefits and current issues affecting military professionalism. Within this structure, continued emphasis is given to refining communication skills. SC.

Prerequisite: AES 431 or permission from instructor.

AES 477. Independent Studies. (0-6)

American Culture & English Program (ACE)

ACE 051. Academic English Structure and Application. (4)

For non-native, English speaking students, a one-semester course for students in need of more support in the development of English language proficiency. Designed to enhance international students' interpersonal communication and research skills which are essential in an academic setting. Project-based format focusing on acquisition and usage of skills: understanding and application of language and text structures, peer-collaboration, critical thinking and analysis. Only open to conditional admission students in ACE Program.

ACE 112. Advanced Communications Strategies: Speaking and Listening for Academic Contexts. (5)

For non-native, English speaking students, intensive practice in spoken English in an academic context; includes discussion, formal presentations, understanding lectures and note-taking; to promote advancement of language fluency as well as acculturation to the American classroom experience; also includes casual spoken English. Only open to conditional admission students in ACE Program.

ACE 113. Reading and Writing in Academic Contexts. (4)

For non-native, English speaking students, an intensive reading and writing course focusing on reading comprehension, textual analysis, vocabulary, composing, and rhetoric. Students learn critical skills needed for success in academic writing. Open only to conditional admission students in ACE Program.

ACE 310. Special Topics in American Academic Culture for International Students. (1-3; maximum 6)

Orientation to American academic culture for international students. Primary emphasis on strategies, practices, and conventions of academic writing and speaking/presenting. Variable topics include: strategies for academic writing and discussing/presenting; practical grammar; collaboration and team work; citation practices; written genres common in various disciplines. Open only to international students.

ACE 612. Advanced Communication Strategies for Graduate International Students. (5)

For non-native, English speaking graduate students, intensive instruction and practice in oral English, both listening and speaking, in graduate-level academic and professional contexts. Includes conversation, discussion, formal presentation and lecturing, interviewing, working in teams with speakers of different languages, and note-taking.

ACE 613. Advanced Reading and Writing for Graduate International Students. (4)

For non-native, English speaking graduate students, an intensive reading and writing course focusing on English vocabulary development, reading comprehension and analysis, composing and rhetoric. Students learn critical skills needed for success in academic writing.

ACE 619. Advanced Speaking and Presentation for Graduate International Students. (2)

For non-native, English speaking graduate students, an intensive course in English speaking, pronunciation, and presentation, with an emphasis on improving accuracy, fluency, comprehensibility, and clarity of speech, particularly for instructional contexts.

American Studies (AMS)

AMS 135. Understanding Jazz, Its History and Context. (3)

History of jazz in the United States from its origins to the present. Emphasis placed on developing aural perceptions of stylistic differences between historical periods and significant performers. IIA, IIB, IIIB. PA-3A, PA-4C. Cross-listed with MUS.

AMS 177. Independent Studies. (0-6)**AMS 183. Images of America. (3)**

Investigating the power and influence of visual art imagery, either about, targeted to, or made by diverse segments of historic and contemporary American society and how this imagery has helped or hindered our coming together as a diverse nation. Explores the use of art stereotypes as a basis for evaluation, how visual components help define culture, the decoding of cultural codes and how the idea of taste and aesthetics influences the way we see ourselves and others. IC, IIA, IIB. PA-3A, PA-3B, PA-4B. Cross-listed with ART.

AMS 205. Introduction to American Cultures. (3)

Explores what it means to be "American." As an introduction to the interdisciplinary study of American cultures and identities, past and present, it examines key ideas, events, texts, images, objects, places, and other reflections of American cultures and identities. Students will consider how the meaning and significance of American and American identity has been defined, discussed and debated from multiple perspectives. IIB. PA-3B, PA-4A. CAS-B.

AMS 206. Approaches to American Culture. (3)

Examines a specific topic or case study, e.g., a form of cultural expression, a place, a historical moment, a social movement, and an identity group. Emphasis is placed on interdisciplinary skills, teaching students to analyze and inter-relate different kinds of texts to explore the idea of culture. ADVW. PA-1C. Prerequisite: AMS 205 or AMS 207.

AMS 207. America: Global and Intercultural Perspectives. (3)

Explores the local dimensions of globalization by focusing on how global networks and practices affect life and culture in the United States. Students examine the theoretical and practical questions associated with membership in local communities, in the US as a nation-state, and in the global community at large. IIB, IIIB. PA-3B, PA-4C. CAS-B.

AMS 211. Writing with Purpose: Interdisciplinary Inquiry and Communication. (3)

This is an intermediate level course which enables students to investigate and discuss interdisciplinary practices of knowledge creation and dissemination. Students will practice a variety of writing and other communication strategies necessary for the effective dissemination of ideas to interdisciplinary audiences and the general public, and can expect to gain experience in working with a wide spectrum of interdisciplinary research, tools and methods while engaging intellectually in interdisciplinary modes of thinking, reading, listening, and speaking. ADVW. PA-1C. Cross-listed with AAA/CRE/LAS/WGS.

AMS 216. Introduction to Public History. (3)

Introduction to the major issues addressed by historians who work in the public sphere, with emphasis on the creation of a shared public past and the disciplines that comprise the field of public history. Cross-listed with HST.

AMS 222. Italian American Culture. (3)

The course explores the history of Italian immigration in America, focusing on the development of Italian American communities across the land and the contributions that Italian Americans have made to American society and culture. Students examine and discuss the dynamics of immigration, assimilation, ethnicity, and diversity. Taught in English. IC. PA-4B. Cross-listed with FST 222 and ITL 222.

AMS 241. Religions of the American Peoples. (3)

A wide-ranging introductory survey of ways that different religions practiced in the United States may shape the lives of your future colleagues, clients, or neighbors in areas including dress, diet, sexuality, finances, health, attitudes toward science and technology, and the lived experience of time (routines, holidays, life-cycle events). You'll gain critical perspective on how people construct and negotiate their religious identities. And you'll investigate an issue, challenge, or opportunity that religion creates in whatever field of work you are preparing to enter. IC. PA-4B. CAS-B. Cross-listed with REL.

AMS 246. Native American Literature. (3)

Survey of published Native American fiction, poetry, memoir, drama, and non-fiction from the mid-19th century to the present. Explores cultural contexts and emphasizes an interdisciplinary approach that includes historical, sociological, and anthropological as well as literary perspectives. IC, IIB. PA-3B, PA-4B. CAS-B-LIT. Cross-listed with ENG 246.

AMS 248. Asian American Literature. (3)

Survey of Asian American writing (including the novel, poetry, drama, nonfiction, etc.) from the early 20th century to the present. Addresses immigration experiences, growing up in America, and writing as cultural expression. Course uses an interdisciplinary approach to the study of literature, drawing on history, sociology, ethnic studies, and current trends in American literary studies. IC, IIB, IIIB. PA-3B, PA-4A. CAS-B-LIT. Cross-listed with AAA 248 and ENG 248.

AMS 277. Independent Studies. (0-6)**AMS 281. Americans in Berlin: An Interdisciplinary Study-Abroad Workshop. (6)**

This interdisciplinary workshop will expose students to the confluence of several global issues in one location: Berlin, Germany. Berlin has been a magnetic destination for American artists, entertainers, authors, politicians, and entrepreneurs from the 1920s to the present moment. Particularly contested and influential has been the encounter between Germans and Americans in Berlin during the Cold War (1945-1989), as the city became the center of the conflict between two political systems. Students will explore the various cultural, political, and economic dimensions of this long-lasting relationship, and will visit sites dedicated to the research and preservation of cultural memory in both parts of this formerly divided city. We will also study the role of the United States in Germany's and Berlin's unification, in the transition of the West German capital from Bonn to Berlin, and in the transformations that took place in the post-unification period.

Cross-listed with GER 281.

AMS 285. Introduction to African American Music. (3)

This course is an overview of the musical practices of African Americans and how this array of musical sounds, performance practices, and modes of dissemination correlate with the evolving consciousness of Blackness. Emphasis is placed on the evolution of Black folk practices into specific forms of popular music and classical (concert) music. IC, IIA. PA-3A, PA-4A.

Cross-listed with MUS 285.

AMS 301. American Identities. (3)

Focusing on a specific theme, topic or issue, the course explores social and cultural identity, intercultural exchange, and public culture in the United States. The course connects theory and practice through collaborative and interactive research and learning in American Studies. Approaches include service learning, field research, experiential learning, or applied research. EL, IC. PA-4B.

AMS 302. Immigrant America. (3)

Examination of U.S. immigration and emigration in historical and contemporary perspective. Using a transnational lens, the course explores a range of topics related to American culture, identity, politics, and history in the context of growing global interconnectedness. IC. PA-4B.

AMS 303. Consumer Culture. (3)

This course examines the messages, meanings, practices, and products of consumer culture in the United States. It explores consumption from an interdisciplinary perspective integrating literature, politics, visual imagery, multimedia, and technology that frame the business of buying and selling of goods. Central topics include advertising and desire, the meaning of consumer goods and the construction of consumer lifestyles, as well as the developing practices of salesmanship, marketing, and public relations in historical context. Course themes will focus on the analysis and interpretation of the American practices of consumerism with an emphasis on issues of commodification, globalization, transnationalism and issues of identity. Students will explore how consumerism affects ideals of belonging, citizenship, and membership in a heterogeneous transnational America.

AMS 304. History, Memory, Tradition. (3)

Examination of the role of history, memory, and tradition in American culture, and the theoretical underpinnings of public history.

Cross-listed with HST 304.

AMS 305. American Icons. (3)

American Icons are objects, images, and symbols of identification, which represent the United States and are associated with the idea of America both at home and in the global world. The significance of American icons derives not solely from their own internal qualities, but often from the qualities and ambitions that they have come to represent for others. Through a critical examination of their creation, dissemination, and legacies, this course explores the variety of meanings that these figures and symbols have come to represent. Central themes include the relevance of the past for the present, varieties of cultural representation, the impact that different forms of representation have on their content, and the coherence of American culture. IC, IIB. PA-3B, PA-4B, SI-04.

AMS 310. Special Topics in American Studies. (1-4; maximum 16)

Topical offerings in American Studies on themes such as popular culture, material culture, ethnicity, or periods in American life such as the 1950s. May be taken for credit more than once with different content and permission of instructor.

Prerequisite: AMS 205 or permission of instructor.

AMS 310Z. Topics in Dramatic Literature and Cultural Performance. (3; maximum 6)

Topics in Dramatic Literature and Cultural Performance is a topic-driven course in theatre. Possible topics may include a given playwright such as August Wilson; a given style in theatre such as Realism or Postmodernism; or an overall specific maker of theatre such as an actor, director, or dramaturg. Students will be required to write short papers, make a public presentation, and develop a final paper or project. The course is repeatable up to 6 credit hours.

AMS 312. The American West. (3)

This class investigates the history of American expansion from the trans-Appalachian frontier to the Middle West, trans-Mississippi West, Pacific Coast, and beyond. We will especially focus on indigenous societies and settler/indigenous conflicts and relations, the lasting effects of settler colonialism, and the various cultural outcomes of this history. Materials used will include primary and secondary sources, including a textbook, memoirs, journals/diaries, and films. CAS-B.

AMS 315. Latin American Diaspora: Communities, Conditions and Issues. (3)

Study realities and challenges of Hispanic-Latino communities in Southwest Ohio in the context of transnational connections that link communities across the Americas. Incorporates Service-Learning projects and community based research. IC. PA-4B.

Cross-listed with LAS.

AMS 340. Internship in American Studies. (0-20)**AMS 348. Ethnic American Literatures. (3)**

Intensive introduction to theories of race, ethnicity, and identity through the study of American literature by ethnic minorities. IC. PA-4B. CAS-B-LIT.

Cross-listed with ENG.

AMS 352. Geographies of Urban Change. (3)

Examines the cultural, social and political dimensions of urban planning and development practices in the United States. Drawing on an array of source materials and using multiple methods of representing past places, students apply analytical tools to document the nature, extent, and significance of urban change and to communicate their understanding of the complex forces shaping urban America. PA-2A.

Prerequisites: GEO 201 or AMS 205 or GEO 101 or GIC 101 or permission of the instructor.

Cross-listed with GEO.

AMS 357. Gilded Age America. (3)

Covering the period between 1877 and about 1920, this course explores the political, economic, social, and cultural history of the era in the United States known as the Gilded Age, as well as Progressive Era responses to issues raised in that era. Pedagogy includes both lecture and hands-on experiential work with primary and secondary sources.

Cross-listed with HST.

AMS 362. The Era of the American Revolution. (3)

Origins, events, and legacies of the American Revolution with particular emphasis on political and social developments. CAS-B.

Cross-listed with HST 362.

AMS 363. The Early American Republic 1783-1815. (3)

Emphasizes the Constitution, the Federalists, and the Jeffersonians with study of Washington, Madison, Hamilton, John Adams, and Jefferson as major figures.

Cross-listed with HST 363.

AMS 367. The United States in the 1960's. (3)

Examines political, social, and cultural changes in the United States in the turbulent decade of the 1960s. Describes the consensus that existed in the 1950s, and then explores such topics as the civil rights movement, the women's movement, expansion of the welfare state, war in Vietnam, and the growth of a counterculture.

Cross-listed with HST.

AMS 371. Native American History to 1840. (3)

American Indian history from the period before European contact through the removal era of the 1830s and 1840s.

Cross-listed with HST.

AMS 377. Independent Studies. (0-6)**AMS 382. Women in American History. (3)**

Survey of the history of women's lives and roles in American society from the colonial period to present. Emphasis on examining women's individual and collective roles in private and public spheres and on exploring how specific economic and political transformations have affected women's lives. IC. PA-4B. CAS-B.

Cross-listed with HST/WGS.

AMS 386. The History and Development of Hip Hop Culture in America. (3)

Surveys development of the Hip Hop culture (rapping, graffiti art, breaking, DJing) from black vernacular forms in Africa and America. IC. PA-4B.

Prerequisite: MUS/AMS 285, MUS 385 or permission of instructor.

Cross-listed with MUS.

AMS 390. Studies In Amer Regionalism. (3; maximum 6)

Literature of the West: imaginative treatments of the American frontier and the postfrontier West, Cooper to the present; major Southern American writers from Byrd to the present. CAS-B-LIT. Cross-listed with ENG.

AMS 392. Sex and Gender in American Culture. (3)

Examination of change over time in the construction of sexual norms, attitudes, and behaviors in American culture, as well as of gender roles. Covers the period just prior to the Indian-European encounter to the present. IC. PA-4B. CAS-B.

Cross-listed with HST/WGS.

AMS 401. Senior Capstone in American Studies. (4)

A colloquium in which students undertake and complete a research or creative project in an area of American cultural studies. Emphasis is on the collaborative selection and design of issues for discussion as well as on sharing the process of project development. Required for American studies majors and minors. SC.

Prerequisite: AMS 205, nine additional hours of American studies-related course work, or permission of instructor.

AMS 435. Public History Practicum. (3)

Combines classroom study, primary and secondary source research, and fieldwork in the public sphere. Projects may include digital history projects including database projects, digital visual representations, and creation of online exhibits. Other projects may include archival research, local museum and historical society collaborative projects, and public writing.

Cross-listed with HST.

AMS 477. Independent Studies. (0-6)

Anthropology (ATH)

ATH 135. Film as Ethnography. (1)

Explores anthropological approaches to the study of human diversity and variation through the lens of ethnographic and documentary films. Exposes students to basic concepts in anthropology including cultural and linguistic relativity, globalization, and representational practices. IIIB. PA-4C. CAS-C.

Cross-listed with FST.

ATH 145. Lost Cities & Ancient Civilizations. (3)

Archaeological and anthropological approaches for understanding human cultural, social, and ecological adaptations in global prehistory. Examines similarities and differences among prehistoric peoples and civilizations and their global contexts and interconnectedness in terms of political economy and social organization; technologies, engineering, and environment; and religion and symbolic systems. IIC, IIIB. PA-2A, PA-4C. CAS-C.

ATH 155. Introduction to Anthropology. (3)

Introduction to anthropology with emphasis on understanding the social and biological contexts of human life. Topics include the biological and cultural origins of humanity, prehistory, and cultural diversity. IIC, IIIB. PA-2A, PA-4C. CAS-C.

ATH 175. Global Cultural Diversity. (3)

Provides an appreciation of human cultural, social, and linguistic variation around the world and through time. Develops anthropological and ethnographic approaches to understanding cultural differences and similarities in political, social and economic organization; marriage and family patterns; environment and beliefs systems; and other aspects of globalized human cultural life. IIC, IIIB. PA-2A, PA-4C. CAS-C.

ATH 177. Independent Studies. (0-6)**ATH 185. Cultural Diversity in the U.S.. (3)**

Anthropological and ethnographic approaches to the study of cultural, social, and linguistic variation in the United States, its territories, and borderlands. As an introduction to cultural anthropology, the course provides a foundation for understanding historical and contemporary contexts related to globalization and diaspora; ethnic, racial, and class identities; political economy and environment; belief systems; and ethnographic methodology. IIC. PA-2A, PA-4A, SI-02. CAS-C.

ATH 190. Emergent Controversies: Anthropological Perspectives. (1-4; maximum 4)

Variable topics course that introduces students to the basics of anthropology and critical thinking using analyses and case studies of controversial emerging events and hotly debated contemporary issues. IIIB, IIC. PA-2A, PA-4C.

ATH 206. Introduction to Latin America. (3)

An interdisciplinary introduction to contemporary Latin America and the Caribbean through anthropology, art, geography, environment, film, history, literature, music, politics, sports and others. IC, IIC, IIIB. PA-2A, PA-4B, PA-4C. CAS-C.
Cross-listed with LAS 208.

ATH 212. Introduction to Archaeological Theory and Methods. (4)

Introduction to theory, methods, and techniques of archaeology.

ATH 219. Introduction to Linguistics. (3)

Scope of linguistics: fundamental concepts and methods of linguistic science (phonetics, phonology, morphology, syntax, semantics, and pragmatics) in its descriptive and historical aspects. V. PA-1A. CAS-E.
Cross-listed with ENG/GER.

ATH 231. Foundations of Cultural Anthropology. (4)

Survey of major theoretical perspectives in cultural anthropology. History, themes, debates, and controversies are approached in terms of their intellectual lineage, theoretical content, fieldwork methodologies and ethics, policy applications, and global relevance. ADVW. PA-1C. CAS-C.

ATH 235. Imagining and Encountering the Anthropological Other. (3)

This course explores the emergence of 'the Other' in Western imagination in conjunction with global exploration and colonization, and the emergence of anthropology as a field for testing those imaginings. Students will be introduced and given opportunities to practice anthropology's basic methods for engaging with and learning from individuals living in cultural worlds different from their own. IIC, IIIB. PA-2A, PA-4C. CAS-C.

ATH 254. Introduction to Russian and Eurasian Studies. (3)

Examines the major developments that have shaped Russian and Eurasian culture, society and politics over the last millennium. The course incorporates perspectives from the social sciences, humanities and the fine arts. IIB. PA-3B. CAS-B.
Cross-listed with CLS 254, HST 254, POL 254, REL 254, and RUS 254.

ATH 255. Introduction to Biological Anthropology. (4)

Introduction to biological anthropology, including evolutionary theory, human origins, models of human evolution, human variation, and primatology. IVA. PA-2B. CAS-C, CAS-D.

ATH 265. Introduction to Linguistic Anthropology. (4)

Survey of theories and methods in linguistic anthropology, including history of the discipline and linguistic relativity; verbal art, language ideologies, and identities; and discourse-centered, interactional, and semiotic approaches to the ethnographic study of the language-culture-individual nexus.

ATH 277. Independent Studies. (0-6)**ATH 301. Intercultural Relations. (3)**

Development of cultural awareness; in-depth study of theory and field-based research on the cross-cultural dynamics of cross-national encounters, trends, and events.
Cross-listed with ITS.

ATH 304. Native North America: Anthropological Perspectives. (3)

Critical and interdisciplinary approaches to the anthropological and ethnographic study of the Indigenous peoples of North America, including examination of the multifaceted cultures, histories, and identities of contemporary Native American/First Nations communities. Topics include sovereignty and interdependence, colonization and resistance, linguistic and cultural vitality, and expressive culture and representational practices. IC. PA-4B.

ATH 305. Latin America: Anthropological Perspectives. (3)

Survey of the culture areas of Middle and South America including prehistory, ethnology, linguistics, and contemporary developments.

ATH 307. The Middle East: Anthropological Perspectives. (3)

Survey and analysis of various cultural groups in contemporary Southwest Asia and North Africa. IIIB. PA-4C. CASW-C.

ATH 308. South Asia: Anthropological Perspectives. (3)

Anthropologically examines contemporary South Asian societies focusing on ethnographic accounts of how people understand and manipulate their social, economic, political, ideological, religious, and technical resources to solve local and universal human problems within a context of colonialism and globalization.

ATH 312. North American Archaeology. (3)

Explores the major debates in the archaeology of North America from its first peopling through the colonial period up to the present, emphasizing intercultural connections and the diversity and variability of the major cultural traditions. Variable topics include indigenous communities; archaeology of slavery; collecting, looting, and museum representation; and cultural resource legislation.

ATH 313. Latin American Archaeology. (3)

Explores the archaeology of Central and South America through topics such as the Aztec temples, Maya hieroglyphs, and Inka Imperial roads. Students learn about Latin America from the first people to European colonialism and beyond through scientific investigation and hands-on work with artifacts. IC, IIC, IIIB. PA-2A, PA-4B. CASC.

ATH 314. Old World Archaeology. (3)

Introduction to the archaeology of Africa and Eurasia in premodern contexts in order to understand ancient lifeways and cultural interactions in the Old World. Variable topics may include the emergence of modern humans in Africa; the development of complex societies in ancient Mesopotamia and Egypt; the role of ritual and symbolism in ancient China; or the meaning of social violence in Western Europe.

ATH 325. Identity, Race, Gender, Class. (3)

Develops conceptual tools and critical perspectives that enable students to better understand and analyze the processes through which identities are constructed and experienced. Learning activities facilitate analysis of individual identities as experienced through the life cycle and across diverse cultural and subcultural contexts, and build a systematic understanding of the processes and dynamics through which identities and identity groups develop and interact. IC. PA-4B. CAS-C.

Cross-listed with CRE/LAS/WGS.

ATH 327. Pokemon and J-Pop in Global and Local Contexts. (3)

This on-line, gamified course allows students to follow one of three learning paths: Global flow theory, J-pop in global contexts, or gaming and fan culture. Students explore complex anthropological and social science concepts such as globalization, political economy, and alterity as a Pokemon character with their own specific attributes. IIC, IIIB. IC. PA-2A, PA-4B, PA-4C. CAS-C.

ATH 331. Social Anthropology. (3)

Exploration of classic and contemporary approaches to social practices and institutions, including kinship, law, political economy, religion and ritual, gender, identity, mobility and violence. CAS-C.

ATH 335L. Multiculturalism in Europe: Anthropological Perspectives. (3)

Explores diverse expressions and challenges of multiculturalism in Europe. Readings and class discussions develop anthropological tools and critical perspectives to better understand processes through which identities are constructed and experienced, and to analyze political, economic and historical dynamics through which identity groups develop and interact. Attention is given to the construction of national identities and unmarked racial, religious and sexual majorities against which minority experiences play out, and to understanding politics of difference, ideologies of integration, and processes of cultural change in particular European contexts.

ATH 337. Play, Game & Design: The Anthropology of Creativity and Innovation. (3)

Investigates the place of play in human creativity and social life. Draws on ethnography, semiotics and processual theory to explore the relationship of play to ritual, art, and games and gaming. Explores the ways games and design decisions reflect and reproduce cultural categories, including those that create social inequities. Analyzes contemporary "design thinking" and other social and cultural efforts to harness play and creativity. CAS-C.

Cross-listed with IMS 337.

ATH 340. Internship. (0-20)**ATH 345. Global Media, Ethnography, and Film. (3)**

Explores anthropological and ethnographic frameworks to the study of global media flows across boundaries, borders, and time. Examines the ways in which mediated performances, texts, and images are instrumental in building and negotiating communities, cultures, and identities. IIIB. PA-4C.

Cross-listed with FST.

ATH 348. Introduction to Medical Anthropology. (3)

Topics and theoretical approaches of medical anthropology. Explores why disease emerges within particular socio-cultural settings and how people in those settings understand and treat their ills. Topics include historical and current pandemics, culturally specific illnesses, local medical practices, and individuals' struggles with particular ills.

ATH 355. Paleoanthropology. (3)

In-depth survey of the human fossil record as interpreted in the light of modern evolutionary theory. Taught alternate years.

Prerequisite: ATH 255 or permission of instructor, or BIO 206.

Cross-listed with BIO.

ATH 358. Travelers, Migrants, and Refugees: Transnational Migration and Diasporic Communities. (3)

Explores global flows of people across national and cultural boundaries; investigates ways dispersed people build and maintain social networks, communities, and identities. IIIB. PA-4C. CAS-C.

ATH 361. Language and Power. (3)

Explores the role of linguistic performance, verbal art, and other communicative practices in negotiating power and disparate access to opportunities and resources within and among social groups. Special attention will be given to how identities, ideologies, and worldviews are linguistically created, recreated, and challenged in global contexts. IIIB. PA-4C. CAS-C.

ATH 364. Language and Culture in Native North America. (3)

Explores the multifaceted communicative and sociolinguistic practices of indigenous peoples of North America in historical and contemporary contexts. Topics include linguistic and cultural vitality; performance, popular culture, and ethnopoetics; identities and language ideologies; and emergent discursive practices. Recommended prerequisite: ATH 265 or ATH/ENG/GER 219.

ATH 366. African Oral Traditions. (3)

Explores interactions between language and culture among African peoples, especially sub-Saharan peoples. Surveys the indigenous languages of Africa, explores African meaning systems, and examines the uses of language in African societies.

ATH 368. Key Questions in Psychological Anthropology. (3)

Psychological anthropology focuses on understanding the individual within society, and thus the ways in which culture constructs and is constructed by the individual. As a subfield, psychological anthropology provides theoretical frameworks widely used throughout anthropology and perspectives useful in cross-cultural and clinical psychology. Through this course, students will have opportunities to analyze the role of culture in individual well-being, and to engage with the key questions and the associated key theoretical concepts that are driving the field forward.

ATH 377. Independent Studies. (0-6)**ATH 378. Doctors, Clinics, and Epidemics. (3)**

Explores the contemporary social, cultural, and communicative practices of biomedicine, and links these to the responses to epidemics and social hierarchies that form its European roots. Engages various understandings of clinical language, communication, and structural inequities that challenge the efficacy of medical practice.

ATH 388. Culture, Art, and Artifacts. (3)

Explores the place of artistic expression and related material culture in diverse socio-cultural contexts. It uses various analytical approaches to address the cultural aspects of origins, function, symbolism, gender, psychology, and change emphasizing non-western cultures.

ATH 390. Horizons Of Anthropology. (1-3; maximum 12)

Seminar focused on recent anthropological research.

Prerequisite: permission of instructor.

ATH 395. Primate Biology and Behavior. (3)

Taxonomic survey of the primate order including anatomy, distribution, adaptation, and morphological characteristics of various taxa. Selected primatological topics including primate conservation, reproduction and development, manipulation, and tool use. Recommended prerequisite: ATH 255 or BIO 206; junior or senior status; or permission of instructor.

Cross-listed with BIO.

ATH 403. Anthropology of Religion. (3)

Examines the study of religion anthropologically and ethnographically, exploring topics of historic interest such as conversion and pilgrimage and emerging debates such as the globalization of religion. Emphasizes the power of religion in human cultural life and its relationship to other social institutions through the study of indigenous religious traditions and major world religions. Introduces anthropological paradigms including cultural materialism, interpretive approaches, structuralism, and religion as an evolutionary adaptation. Prerequisite: ATH 155, 175, 185, 231 or 301.

ATH 405. Food, Taste, and Desire. (3)

Explores food consumption as a meaningful practice embedded in local, national, and global relations and in social, economic, and political contexts. Topics include history of food consumption; food and power; nation, the state, and food; gender, sexuality and consumption; consumption, marketing, and subjectivity; globalization; hunger and memory; need, taste, and desire; and food aesthetics, moralities, and poetics. CAS-C.

ATH 411. Applied Anthropology. (3)

New possibilities for using anthropological principles and methods in contemporary nonacademic settings.

ATH 415. Field Methods in Archaeology. (1-6; maximum 6)

Practicum course in field and laboratory methods in archaeology. Variable geographic location, content and credit hours.

ATH 416. Applying Archaeology. (3)

Capstone with variable topics and experiential learning in SW Ohio on the theories, methods, and practices of archaeology, including research design and field methods; material culture studies; and archaeology's role in cultural heritage projects and debates.

ATH 421. Senior Seminar in Anthropology. (3)

Focuses on key issues in anthropology, including a review of the tools of the discipline and anthropology's role in the future. SC.

Prerequisite: ATH 212, 231, 255, and ATH 265, senior status and anthropology major, or permission of instructor.

ATH 425. Ethnographic Field Methods. (3)

Organization, observation, measurement, and strategy in ethnographic field research.

ATH 431. Archaeology of Power. (3)

Examines social and political power in the past, from small scale societies to states and global systems. Explores theoretical approaches to diversity and inequality with case studies from around the world and throughout history that include authority, gender, race, religion, class, colonialism and empire.

Cross-listed with CLS 431.

ATH 432. Secrecy and Statecraft: Spies, Censors, and Prisoners in Authoritarian and Democratic Societies. (3)

Explores secrecy and statecraft through the anthropology of secrecy in modern authoritarian and democratic societies, including state security regimes, state and market surveillance, nuclear and scientific secrecy, and censorship. It also explores popular resistance to state power from concentration camp secrets, anti-state jokes, anti-nuclear and other contemporary anti-secrecy activism. Case studies primarily include the Soviet Union, socialist Eastern Europe, and the USA. CAS-C.

ATH 436. Havighurst Colloquium. (3)

Exploration of significant issues related to Russian and post communist affairs. Each semester focuses on a central theme or topic that is examined through presentations, readings, research, discussion, and writing. May be repeated once for credit with only 3 hours counting towards the history major.

Cross-listed with CLS 436; HST 436/HST 536/536; POL 440/POL 540/540; RUS 436/536; and REL 470A.

ATH 448. Developing Solutions in Global Health. (3)

Global health is the study of illness and health as a consequence of bio-cultural processes that are both local and global. This is a transdisciplinary capstone encouraging teamwork to understand the complexities of and develop a grant proposal to address a student-identified global health problem. SC.

Prerequisite: junior or senior status.

ATH 465. Ethnography of Communication. (3)

Practicum course on the conception, implementation, and analysis of original field research in the ethnography of communication. Provides training in research design, ethnographic and sociologist methods, and multimedia approaches to understanding how individuals and communities negotiate their place in social and cultural worlds through everyday communicative practices.

ATH 471. Ecological Anthropology. (3)

Survey of ecological methods and models used by anthropologists in the analysis of cultural-environmental relations and in conservation planning.

Prerequisite: ATH 155, 175 or 185, or permission of instructor.

ATH 477. Independent Studies. (0-6)**ATH 480. Independent Reading for Departmental Honors. (1-6)****ATH 491. Anthropology Practicum. (1-4; maximum 8)**

Taken in conjunction with a methods course, a fieldschool, or an on-site research-based learning opportunity in anthropology. Students conduct supervised research-oriented projects such as ethics, research design, internships, ethnographic participant-observation, site analysis, and data analysis. This course is a flexible offering so that faculty and students can develop learning opportunities in response to current and changing issues and needs in the discipline. Permission of the instructor.

ATH 496. Observing Primate Behavior. (4)

Theory and method in the study of primate behavior. Applied behavioral primatology entails original research projects done at an appropriate venue, e.g., Cincinnati ZOO. CAS-QL.

Prerequisite: ATH 255 or BIO 206, junior or senior status, or permission of instructor.

ATH 497. Socio-Ecology of Primates. (3)

Ethology and ecology of living prosimians, monkeys, and apes from comparative and evolutionary perspectives emphasizing field studies of natural populations. Recommended prerequisite: ATH 255 or BIO 206, junior or senior status, or permission of instructor. Cross-listed with BIO.

ATH 498. Evolution of Human Behavior. (3)

Ethology and ecology of Homo sapiens, from comparative and evolutionary perspectives, drawing on primatology, paleoanthropology, and sociocultural studies of traditional societies. SC.

Prerequisite: junior or senior status; nine advanced hours of BIO; permission of instructor.

Cross-listed with BIO 498.

ATH 677. Independent Studies. (0-6)

Applied Communication (APC)

APC 201. Introduction to Health and Risk Communication. (3)

Basic theories and approaches to studying environmental health and risk communication. Possible topics include doctor/patient communication, organizational communication in health contexts, health communication campaigns, and organizational responses to health and scientific crises.

APC 231. Small Group Communication. (3)

Theoretical issues that affect communication between members of work teams, discussion groups, and decision-making bodies. Students study these theories and related research studies and work as members of student teams to analyze critically both the theoretical and practical implications of the theories and research studies.

APC 239. Theories of Communication. (3)

Introduction to communication and rhetorical theories. Students completing this course should be able to demonstrate competence in understanding the various theories discussed and see how they fit in the field of communication.

APC 311. Science and Medicine in Public Communication. (3)

Considers lay and public understandings of medical and scientific research including the importance of framing and definition in mainstream discourse and its effects on scientific research and public policy and health education programs. SI-05.

APC 312. Computer-mediated Communication and Social Media. (3)

The purpose of this class is to teach you theories and skills related to successful communication in a society in which communication is often facilitated by new technologies. SI-03.

APC 332. Argumentation and Debate. (3)

Study of the theory and practice of constructing, analyzing, and evaluating arguments. Consideration given to various debate formats as models of argumentation.

APC 336. Advanced Interpersonal Communication. (3)

In-depth examination of interpersonal communication theories and research. Particular emphasis placed on the role of communication through the life cycle of relationships, from their initiation and maintenance to their deterioration or escalation.

Prerequisite: STC 136 or permission of instructor.

APC 339. Introduction to Organizational Communication. (3)

This course focuses on how communication affects organizational systems and performance by analyzing traditional and contemporary theories of communication within the context of modern, complex organizations (government, industry, education, etc.). Emphasis is given to the interrelationship of task performance, human interaction, and the improvement of communication within organizations.

APC 340. Internship. (0-20)**APC 341. Methods of Rhetorical Criticism. (3)**

Examination of various methods related to the description, analysis, and interpretation of communicative acts. Rhetorical approaches treated include neo-Aristotelian, dramatistic, fantasy theme, generic, and narrative methods.

APC 363. Advanced Methods in Applied Communication. (3)

Focuses on qualitative and interpretive methods of communication research. Possible topics include interviewing, ethnography, case studies, action research, textual and media criticism, interpretivist epistemology, and research ethics.

Prerequisite: ENG 111, ENG 109, or equivalent.

APC 377. Independent Studies. (0-6)**APC 401. Applied Communication Capstone. (3)**

This course brings together students' study of health communication by applying their understanding of health communication to produce an original product/outcome within the context of a course theme. This product/outcome can include a health campaign, analysis of health messages, a collaborative project, or other product/outcome deemed appropriate by the instructor and one situated within the course theme (determined by instructor). SC.

Prerequisites: APC 363, STC 262 and senior standing.

APC 428. Communication in Conflict Management. (3)

Examination of the role of communication in the management of conflict in various contexts. Stresses relevant theories and research as a basis for analyzing and understanding diverse types of conflict.

APC 438. Political Communication. (3)

Study of communication methods used in political campaigns. Special consideration of such aspects of political communication as analyzing audiences, structuring messages, developing stock speeches, political debating, selecting media, and interpersonal communication in political campaigns.

APC 450. Topics in Applied Communication. (3; maximum 9)

Study or research of issues and problems associated with communication under the guidance of a faculty member of the department.

Prerequisite: major status or permission of instructor.

Applied Social Research (ASO)

ASO 201. Introduction to Applied Social Research. (3)

Social scientists (anthropologists, geographers, psychologists, sociologists, etc.) conduct empirical research in order to explain our social world. ASO 201 is the first course in a sequence of three foundational courses (ASO 201, ASO 301, ASO 401) that will provide students with the knowledge and skills they need to design, conduct, and interpret applied social research. In ASO 201, students gain an overview of the multiple theoretical approaches guiding social research. Students will examine approaches from multiple disciplines within the social sciences to determine how research is conducted within these fields to explore, understand, and implement practical solutions to important social issues. IIC, IIIB, IC. PA-2A, PA-4B, PA-4C.

ASO 277. Independent Studies. (0-6)

ASO 340. Internship. (0-20)

ASO 377. Independent Studies. (0-6)

ASO 477. Independent Studies. (0-6)

Arabic (ARB)

ARB 101. Elementary Arabic I. (4)

Study of the Arabic alphabet and sounds system. Builds a foundation of speaking, listening, reading, and writing skills, with culturally appropriate behavior. For students with no prior study of Arabic.

ARB 102. Elementary Arabic II. (4)

Continues to build communication skills in spoken and standard Arabic. Develops a balanced knowledge of listening, speaking, reading and writing skills.

Prerequisite: ARB 101 or equivalent.

ARB 177. Independent Studies. (0-6)

ARB 201. Intermediate Modern Arabic. (3)

Strengthens listening comprehension, speaking, reading and writing skills in spoken and standard Arabic. Builds knowledge of Arabic language and culture.

Prerequisite: ARB 102 or equivalent.

ARB 202. Intermediate Modern Arabic. (3)

Builds a solid intermediate level of skill in Arabic so that students can read and discuss topics of general interest, including aspects of Arab culture.

Prerequisite: ARB 201 or permission of instructor.

ARB 230. Topics in Arabic Literature in Translation. (3)

Examines travel as a major theme in Arabic literature from the classical era to modern time. It considers four types of travel: the nomadic tradition, voyages of pilgrimage and discovery, encounters with outsiders, and Arab diasporas. All works read in English translation.

ARB 277. Independent Studies. (0-6)

ARB 301. Advanced Arabic. (3)

Focuses on advanced reading and discussion of literary and cultural topics that range from the classical period to the present day. Integrates comprehension and communication skills in spoken and standard Arabic.

Prerequisite: ARB 202 or permission of instructor.

ARB 302. Advanced Arabic. (3)

Focuses on advanced reading and discussion on literary and cultural topics that range from the classical period to the present day. Integrates comprehension and communication skills in spoken and standard Arabic.

Prerequisite: ARB 301 or permission of instructor.

ARB 311. Media Arabic. (3)

Focuses on developing student's ability to understand and use authentic materials from electronic, broadcast, and print media.

Prerequisite: ARB 301 or permission of instructor.

ARB 340. Internship. (0-20)

ARB 377. Independent Studies. (0-6)

ARB 477. Independent Studies. (0-6)

ARB 677. Independent Studies. (0-6)

ARB 680. Directed Study in Arabic Language and Literature. (1-4; maximum 12)

Prerequisite: Graduate Standing and permission of department chair and instructors.

Architecture & Interior Design (ARC)

ARC 101. Beginning Design Studio. (5)

Introduction to spectrum of influences which determine environmental form. Emphasis placed upon development of understanding and appreciation of our man-made environment. Methods of communication and development of visual vocabulary capable of understanding and expressing three-dimensional form and space emphasized. Open to majors only.

ARC 102. Beginning Design Studio. (5)

Introduction to spectrum of influences which determine environmental form. Emphasis placed upon development of understanding and appreciation of our man-made environment. Methods of communication and development of visual vocabulary capable of understanding and expressing three-dimensional form and space emphasized. Open to majors only.

Prerequisites: ARC 101 and ARC 113 or permission of instructor.

Co-requisite: ARC 114 or permission of instructor.

ARC 103. Shop Methods and Materials. (1)

An exploration and study of building materials and the tools and techniques used to shape them.

Co-requisite: ARC 101, ARC 501, ARC 601, or ARC 701.

ARC 105. Introduction to Architecture. (3)

Introduction to spectrum of influences which determine environmental form. Emphasis placed upon development of understanding and appreciation of our man-made environment. Methods of communication and development of visual vocabulary capable of understanding and expressing three-dimensional form and space emphasized. Course supports transfers into Architecture + Interior Design, and others interested in exploring Architecture + Interior Design as majors.

ARC 107. Global Design. (3)

Introduces the role and influence of design on people and environments within a contemporary global context. Open to students in all majors. IIA, IIIB. PA-3A, PA-4C.

ARC 113. Methods of Presentation, Representation and Re-Presentation. (2)

Introduction to various graphic media as tools of environmental design. Emphasis is placed on use and integration of traditional and digital media as tools of 3-dimensional analysis and synthesis in design process and representation. Includes orthographics, perspective, sketching, drafting, photography, rendering, and web design. Open to majors only.

Co-requisite: ARC 101 or by permission of Instructor.

ARC 114. Methods of Presentation, Representation and Re-Presentation. (2)

Introduction to various graphic media as tools of environmental design. Emphasis is placed on use and integration of traditional and digital media as tools of 3-dimensional analysis and synthesis in design process and representation. Includes orthographics, perspective, sketching, drafting, photography, rendering, and web design. Open to majors only.

Prerequisites: ARC 101 and ARC 113 or by permission of Instructor.
Co-requisite: ARC 102 or by permission of Instructor.

ARC 177. Independent Studies. (0-6)**ARC 188. Ideas in Architecture. (3)**

Study of the relationship between architecture and the cultural, social, and environmental contexts in which it exists through selected historical and contemporary examples. Primarily intended for non-majors. (Does not meet requirements for major in Architecture or Interior Design). IIA, IIB. PA-3A. CAS-B.

ARC 201. Architecture Studio. (5)

Design of the environment as a creative process requiring a language and methods similar yet distinct from other arts. Design projects in man-made environment at different scales, and in natural and man-made environment interface. Introduction to paths in the environmental design curriculum and career opportunities. Open to majors only.

Prerequisite: ARC 101-102.

ARC 202. Architecture Studio. (5)

Design of the environment as a creative process requiring a language and methods similar yet distinct from other arts. Design projects in man-made environment at different scales, and in natural and man-made environment interface. Introduction to paths in the environmental design curriculum and career opportunities. Open to majors only.

Prerequisites: ARC 201 and ARC 213.

Co-requisite: ARC 214.

ARC 203. Interior Design Studio. (5)

Introductory problems in interior design integrating aesthetic, social, technical, and graphic communication requirements. Emphasis on design theory, process, programming, and human factors. Focus on residential and small-scale commercial building types. Open to majors only.

Prerequisites: ARC 102 and ARC 114.

Co-requisite: ARC 213.

ARC 204. Interior Design Studio. (5)

Introductory problems in interior design integrating aesthetic, social, technical, and graphic communication requirements. Emphasis on design theory, process, programming, and human factors. Focus on residential and small-scale commercial building types. Open to majors only.

Prerequisites: ARC 203 and ARC 213.

Co-requisite: ARC 214.

ARC 211. Introduction to Landscape and Urban Design. (3)

Introduction to principles and elements of the larger environment: landscape and urban design. Co-requisite for architecture majors: ARC 202; co-requisite waived for nonmajors.

ARC 212. Principles of Environmental Systems. (3)

Understanding of the basic principles that inform the design of environmental and structural systems and their integration into building design. V. PA-1A.

Co-requisite: ARC 211, ARC 201 or 203; co-requisite and prerequisite waived for nonmajors.

ARC 213. Graphic Media III. (2)

Introduction to the use of graphic media as tools of architectural design. Emphasis placed on the integration of traditional and digital media in the design process. Includes CAD, rendering techniques, perspective, sketching and modeling.

Prerequisites: ARC 113 and ARC 114 or permission of instructor.

Co-requisite: ARC 201 or 203.

ARC 214. Graphic Media IV. (2)

Introduction to the use of graphic media as tools of architectural design. Emphasis placed on the integration of traditional and digital media in the design process. Includes 3-D modeling and rendering software, advanced rendering techniques, perspective sketching and modeling.

Prerequisites: ARC 113, ARC 114, and ARC 213 or by permission of instructor.

Co-requisite: ARC 202 or 204.

ARC 221. History of Architecture I. (3)

Thorough and systematic survey of the history of architecture, urban design, and allied arts across global contexts. Non-majors welcome. IIA, IIB. PA-3A, PA-3B.

ARC 222. History of Architecture II. (3)

Thorough and systematic survey of the history of architecture, urban design, and allied arts across global contexts. Non-majors welcome. IIA, IIB. PA-3A, PA-3B.

ARC 225. Design: Behavior, Perception, Aesthetics. (3)

Study of perception and psychological response to the built environment. Emphasis on cultural differences, design for special populations, ergonomics, and anthropometrics.

ARC 277. Independent Studies. (0-6)**ARC 301. Architecture Studio. (6)**

Study of design processes and methods of implementation in the solution of architectural and other environmental design problems at an intermediate level of complexity.

Prerequisite: ARC 201-202; open to majors only.

ARC 302. Architecture Studio. (6)

Study of design processes and methods of implementation in the solution of architectural and other environmental design problems at an intermediate level of complexity.

Prerequisite: ARC 201-202; open to majors only.

ARC 303. Interior Design Studio. (6)

Intermediate problems in interior design integrating aesthetic, social, technical, and graphic communication requirements. Emphasis on retail, institutional, hospitality, and preservation and reuse project types.

Prerequisite: ARC 203-204 or ARC 201-202; open to architecture majors with approval of instructor.

ARC 304. Interior Design Studio. (6)

Intermediate problems in interior design integrating aesthetic, social, technical, and graphic communication requirements. Emphasis on retail, institutional, hospitality, and preservation and reuse project types.

Prerequisite: ARC 203-204 or ARC 201-202; open to architecture majors with approval of instructor.

ARC 309. Furniture Design and Construction. (3)

Exploration of the process of designing, detailing, and constructing furniture and millwork. Introduction to the materials of architectural millwork and the technologies of construction. Studio exercises provide experience in both design and execution of millwork and millwork.

Prerequisite: third-year standing or approval of instructor; required for interior design majors; open to nonmajors with approval of instructor.

ARC 321. History of Interiors. (3)

Thorough and systematic survey of interior design from prehistoric times to present. Emphasis on the social and cultural influences on the design and evolution of interior environments.

Prerequisite: ARC 221-222.

ARC 340. Internship. (0-20; maximum 3)**ARC 377. Independent Studies. (0-6)****ARC 401. Architecture Studio. (6)**

Study of design processes and methods of implementation in the comprehensive solution of complex environmental design problems.

Prerequisite: ARC 301-302; open to majors only.

ARC 402. Architecture Studio. (6)

Study of design processes and methods of implementation in the comprehensive solution of complex environmental design problems.

Prerequisite: ARC 301-302; open to majors only.

ARC 402C. Senior Studio Capstone Experience. (6)

This is a culminating studio in which the exploration of professional issues is placed in dialogue with questions raised by liberal learning. Students will be expected to examine how technical and aesthetic issues interact with professional, social, political, and cultural issues. A weekly seminar component will treat a common set of readings selected to help students compare their discoveries and interrogate their perceptions about their work. SC.

Prerequisite: Intended for architecture majors who have completed 7 semesters of design studio; students with extensive training and background in related design areas may petition the studio faculty for admission and selection will be based on the strength of an interview and a design portfolio.

ARC 403. Interior Design Studio. (6)

Comprehensive studio integrating all programmatic, technical, and professional requirements of a complex project. Emphasis on space planning, systems furniture design, and the preparation of construction drawings and specifications for a commercial office project. Open to architecture majors with approval of instructor.

Prerequisites: ARC 303, 304 or ARC302.

ARC 404/ARC 504. Seminars. (1-3)

Courses in three of the primary curricular areas: communication process; history and theory; environmental systems/practice. Offerings vary. May include: housing, contemporary architecture theory and practice, vernacular architecture, urban studies, architectural theory, exploration of graphic media, advanced work in building systems, etc. Seminar descriptions available at departmental office during preregistration each semester. Nonmajors encouraged to seek course work in their area of interest.

ARC 405/ARC 505. Seminars. (1-3)

Courses in three of the primary curricular areas: communication process; history and theory; environmental systems/practice. Offerings vary. May include: housing, contemporary architecture theory and practice, vernacular architecture, urban studies, architectural theory, exploration of graphic media, advanced work in building systems, etc. Seminar descriptions available at departmental office during preregistration each semester. Nonmajors encouraged to seek course work in their area of interest.

ARC 406/ARC 506. Seminars. (1-3)

Courses in three of the primary curricular areas: communication process; history and theory; environmental systems/practice. Offerings vary. May include: housing, contemporary architecture theory and practice, vernacular architecture, urban studies, architectural theory, exploration of graphic media, advanced work in building systems, etc. Seminar descriptions available at departmental office during preregistration each semester. Nonmajors encouraged to seek course work in their area of interest.

ARC 408. Interior Design Studio. (6)

Summative studio integrating liberal learning and specialized knowledge in a single, complex project of the student's choosing. Open to interior design majors only. SC.

Prerequisite: ARC 403.

ARC 410/ARC 510. Statics & Strengths of Materials. (3)

An introduction to two dimensional engineering statics and mechanics of materials. Topics covered include the study of rigid bodies in static equilibrium and the study of the mechanics of materials with emphasis on stress and strain relationships.

ARC 411/ARC 511. Structural Design. (3)

Development of basic applied knowledge in the design of structural elements and systems using common constructional materials in accordance with relevant code requirements.

Prerequisite: ARC 410/ARC 510.

ARC 412/ARC 512. Structural Design. (3)

Development of basic applied knowledge in the design of structural elements and systems using common constructional materials in accordance with relevant code requirements.

Prerequisite: ARC 410/ARC 510.

ARC 413/ARC 513. Environmental Systems I. (3)

Understanding of the basic principles that inform the design of environmental systems, with an emphasis on the building envelope and energy-efficient systems, heat gain and loss, alternative energy systems, the design and integration of climate control systems (heating, ventilating, air-conditioning), and plumbing and fire prevention systems.

ARC 414/ARC 514. Environmental Systems II. (3)

Understanding of the basic principles that inform the design of environmental systems, with an emphasis on lighting and power/data systems. Course topics include acoustics, life-safety systems, and building service systems.

ARC 417/ARC 517. Architectural Materials. (3)

Introduction to materials and criteria for selection in architectural structures.

Prerequisite: ARC 212.

ARC 418/ARC 518. Construction Methods. (3)

Systematic approach to construction. Investigation of systems, concepts, and system building.

Prerequisite: ARC 417/ARC 517.

ARC 419. Materials of Interior Design. (3)

Exploration of the various materials and finishes available to the interior designer, their inherent characteristics, and the ways in which they can be combined into construction assemblies. Emphasis on interior finish materials and textiles.

Prerequisite: ARC 212 or permission of instructor.

ARC 424/ARC 524. Seminar on Modern Architecture in Latin America. (3)

The course combines general background readings on the subject with specific readings on a selected group of countries, architects and projects based on a thematic organization. The faculty presents introductory lectures, while class members will present the results of individual and team research and analysis as assigned. Some of the analysis will be graphical, some will be written; all presentations will require illustrations of the work(s) in question.

Cross-listed with LAS.

ARC 426/ARC 526. Architecture and Society. (3)

Examination of the relation between design professions and varying social-economic orders, with special emphasis given to the effect of this order on theory and practice of architecture. SC.

ARC 427/ARC 527. The American City Since 1940. (3)

Examination of the American city and its physical transformation since 1940. Studies how different experiences of the city are conditioned by issues of class, race, gender, culture. Arc427 is a hybrid structure with face to face and online classes taught between Oxford and Miami University's Center for Community Engagement in Over-The-Rhine (CCE-OTR). Students can be in either location.

ARC 435/ARC 535. Theory and History of Landscape Architecture. (3)

Examination of the role of the landscape architect in the environmental design process through discussion of history, methodology, and practice of contemporary landscape design.

ARC 436. Independent Research & Programming. (3)

Seminar course focuses on the cultivation and discipline necessary to conduct independent research investigating real-world issues from multiple perspectives, including gathering, analyzing, and synthesizing information from various sources in order to develop credible and valid evidence-based arguments (qualitative and quantitative research) as foundation for design decision-making. Course designed in tandem with ARC 408 Interior Design Studio; this course provides the research framework to deeply explore a topic, problem, or issue of individual interest, and to develop a formal project proposal (scope, size, scale, location, program, design intention, etc.) that will serve as the basis for a highly developed interior design solution for a complex facility in the spring interior design (capstone) studio.

Prerequisite: ARC 303 or ARC 304.

ARC 441/ARC 541. Professional Practice. (3)

Awareness of current legal problems and professional ethics relative to handling building projects from feasibility studies through development drawings, contract documents, bidding, and construction observation.

Prerequisite: fourth year standing.

ARC 444. Professional Practice in Interior Design. (3)

Investigation of processes, practices, and ethics involved in interior design profession. Course emphasizes integration of specifications, cost estimating, office and project management, and contract writing into the design process.

Prerequisite: fourth-year standing or approval of instructor.

ARC 451/ARC 551. Contemporary Architectural Theory and Practice. (3)

This seminar explores and critiques contemporary theories and practices that inform current domestic and global architectural works by considering the intellectual, cultural, and technological forces that shape them.

ARC 477. Independent Studies. (0-6)**ARC 490/ARC 590. Independent Studies. (1-3)****ARC 582. Architectural Design Studio. (6)**

Design Studio for M.Arch. Graduate Students.

ARC 583. Architectural Design Studio. (6)

Design Studio for M.Arch. Graduate Students.

ARC 601. Architecture Studio. (6)

Professional-level architectural studio; variable topics.

ARC 602. Architecture Studio. (6)

Professional-level architectural studio; variable topics.

Prerequisites: ARC 601 or by permission of instructor.

ARC 613. Graphic Media II. (2-3; maximum 3)

Course taken in the Fall in conjunction with ARC582 studio. Objective includes the full breadth of design communication techniques such as hand-based processes, digital 2D processes and 3D modeling and introduces modeling software, as well as time-based processes such as video, animation and web presentation techniques. In addition to skill based learning objectives, ARC613 supports architecture design communication based in history and contemporary theory. The graphic media sequence of ARC 612, ARC 613, ARC 614 encompass creative expressivity, design analysis and representation through analytical, orthographic, and speculative drawings, media, and models.

ARC 614. Graphic Media III. (2-3; maximum 3)

Course completed in Spring in conjunction with ARC583 studio. Objective continues the full breadth of design communication techniques such as hand-based processes, digital 2D processes and 3D modeling and modeling software, as well as time-based processes such as video, animation and web presentation techniques. In addition to skill based learning objectives, ARC614 supports architecture design communication based in history and contemporary theory. The graphic media sequence of ARC612, ARC613, ARC614 encompass creative expressivity, design analysis and representation through analytical, orthographic, and speculative drawings and models.

ARC 621. History of Architecture I. (3)

Thorough and systematic survey of the history of architecture, urban design, and allied arts across global contexts.

ARC 622. History of Architecture II. (3)

Thorough and systematic survey of the history of architecture, urban design, and allied arts across global contexts.

ARC 634. Architectural Theory. (3)

Introduction to techniques and procedures involved in methodical architectural research. Each student undertakes research project on a particular aspect of design. Open to majors only.

ARC 636. Design & Research Methods. (3)

Essentials of architectural and cultural theory and possible research methods in support of theses and scholarly activity.

Prerequisites: ARC 634 or by permission of instructor.

ARC 677. Independent Studies. (0-6)**ARC 690. Independent Studies. (1-3)****ARC 701. Pre-Thesis Design Studio. (6)**

Comprehensive, professional-level architectural studio with visiting critics. Open to majors only. (6) Students engage in design issues facilitated through a series of thesis preparatory problems during the first half of the term. Preparatory problems are conducted when possible with visiting scholars and may involve travel to engage significant scholars and design problem settings. The second half of the term involves the presentation of the written thesis research document to a panel of nationally recognized critics and a final end of the semester presentation focusing on the student's thesis program and site design.

Prerequisites: ARC 601; ARC 602 or by permission of instructor.

ARC 702. Thesis Design Studio. (6)

Students select a major field of interest and pursue in-depth study and research into special areas of concentration, such as architectural design, environmental controls, architectural structures, or urban and regional planning. Open to majors only.

Prerequisites: ARC 636; ARC 701 or by permission of instructor.

Art (ART)

ART 111. Visual Fundamentals: Design and Composition. (3; maximum 6)

This is an introductory course focusing on the elements and principles of design in two and three dimensions. Students will practice idea generation, good craftsmanship, and design vocabulary. Class will consist of discussions, presentations, quizzes, and critiques. Projects will be completed in some of the following media: paper, assemblage, cardboard, plaster, found object, Adobe Photoshop, and Adobe Illustrator. A laptop computer and Adobe Creative Suite/Cloud are required tools for this course.

ART 121. Observational Drawing. (3; maximum 6)

This studio course introduces the students to the basic theory and practice of drawing. Through variety of observational drawing activities, students will develop perceptual drawing skills; become versatile with achromatic drawing media such as graphite and charcoal; and gain conceptual and practical understanding of composing two-dimensional space. Lectures, demonstrations, critiques, and critical readings will complement the hands-on-learning process.

ART 122. Drawing II: Drawing Projects. (3)

This introductory level drawing class is designed to strengthen observational drawing skills; introduce color theory, material, and process; and develop ability to create drawings that combine imagination, observation, and technical drawing skills. Students will engage in a variety of short- and long-term drawing activities; deepen their conceptual and formal understanding of drawing; and learn from a wide range of traditional and contemporary drawings through critical readings, presentations, demonstrations, and group critiques. Prerequisite: ART 121.

ART 125. Beginning Printmaking. (1.5)

This seven week Sprint Course introduces beginning students to basics of hand printmaking. Coursework covers carving and printing woodblocks as well as monotype techniques. Learn use of printmaking tools and materials as well as designing images for printmaking.

ART 130. Lasercutting and Digital Design for Everyday Use. (1.5)

This course is an introduction to Computer Aided Design (CAD) processes and lasercutting for non-designers focusing on the techniques involved in the rapidly developing fabrication industry. By using digital fabrication tools and techniques, outcomes will focus on the creation of objects for practical application and everyday use.

ART 131. 3D Printing and Digital Fabrication for Everyday Use. (1.5)

This course focuses on learning techniques and design processes using 3D printers and associated computer software. Students will create unique design objects for practical purposes and their personal everyday use. Emphasis is placed on the techniques involved in the rapidly developing fabrication industry focusing on the modeling and creation of three-dimensional forms.

ART 140. Beginning Glass. (1.5)

Basic course to provide foundation exercises and instruction in various glass techniques such as kilnforming and some hot glass processes, ranging from fusing and beadmaking to casting.

ART 145. Beginning Sewing I. (2)

Introductory course to learn basic machine functions, fabric preparation, applied sewing skills for garment construction, e-pattern use, body measurement, basic closures and finishing.

ART 146. Beginning Sewing II. (2)

Continuation of Beginning Sewing 1. Refinement and additional development of machine sewing skills. More advanced stitching techniques, custom pattern development, draping and fitting related to garment construction, design, fitting and finishing.

Prerequisite: ART 145.

ART 147. Beginning Art Photography. (1.5)

Basic 35 mm camera operation, black and white darkroom technique and theories of photographic composition. 35mm manually adjustable camera required.

ART 149. Beginning Digital Photography. (1.5)

Intro to digital photography. Camera controls, file management, digital editing, and printing. Emphasis will be placed on composition, lighting and subject matter.

ART 151. Becoming a People-Driven Designer. (1)

An introductory course that defines the field and gives an overview of the professional design practice as well as the skills, thinking, and knowledge required of communication designers.

ART 155. Beginning Drawing. (1.5)

Basic drawing instruction to non-art majors. Exploration of line, value, media measurement, and composition.

ART 160. Beginning Ceramics. (1.5)

Basic ceramic construction, composition, and firing techniques.

ART 162. Arts of Africa, Oceania and Native America. (3)

This course is a survey of the visual and performed arts of Africa, Oceania and Native America. These regions and their arts, often relegated to the constructed category of "non-Western," will be considered from their religious, political, historical and cultural contexts. The course also explores the Western bias inherent in the study of "non-Western" art, providing students with a broader understanding to the ways in which cultures from around the world produce, employ and conceptualize what the West has conventionally label as "art." In examining sculpture, multi-media installation, festivals, masquerade, textiles, dress, ritual spaces, international artists and many more, students are exposed to alternative ways of looking at and understanding visual and performed expression. IIA, IIIB. PA-3A, PA-4C.

ART 163. Beginning Ceramics II. (1.5)**ART 165. Beginning Metals. (1.5)**

Introductory metalsmithing and design for the beginning student.

ART 170. Basic Woodworking. (1.5)

Basic course to provide foundation exercises and instruction in the use of woodworking tools and machinery.

ART 171. Visual Fundamentals: Narrative & Sequence. (3)

This is an introductory course structured as a thematic exploration that focuses on narrative and conceptual approaches to design and creative processes in two, three, and four dimensions. Students will practice idea generation, good craftsmanship, and design vocabulary. Class will consist of discussions, presentations, quizzes, and critiques. Projects will be completed in some of the following media: paper, assemblage, cardboard, plaster, found object, and digital media. A laptop computer and Adobe Creative Suite/Cloud are required tools for this course.

ART 175. Beginning Sculpture. (1.5)

Introductory techniques in sculpture for the beginning student.

ART 177. Independent Studies. (0-6)**ART 181. Concepts in Art. (3)**

Introduction to visual and thematic concepts as applied to art in various cultures and historical periods. IIA. PA-3A.

ART 183. Images of America. (3)

Investigating the power and influence of visual art imagery, either about, targeted to, or made by diverse segments of historic and contemporary American society and how this imagery has helped or hindered our coming together as a diverse nation. Explores the use of art stereotypes as a basis for evaluation, how visual components help define culture, the decoding of cultural codes and how the idea of taste and aesthetics influences the way we see ourselves and others. IC, IIA, IIB. PA-3A, PA-3B, PA-4B.

Cross-listed with AMS.

ART 187. Art and Society: Prehistoric to Medieval. (3)

This course explores the roles played by the visual arts in societies from the prehistoric to medieval periods (ca. 1300 CE), including ancient Mesopotamia, Egypt, Greece, the Roman Empire, the Byzantine Empire, the Islamic world and Medieval Europe. IC, IIA. PA-3A, PA-4B. CAS-B.

ART 188. Art and Society: Renaissance to Modern. (3)

Course covers roles played by the visual arts (painting, sculpture, drawing, etc.) in societies from the Renaissance (ca. 1300 CE) to the present day. Students will understand how the visual arts facilitate religious devotion; define group and individual identities; offer new ways to value the artistic creativity; and other functions that reveal how the visual arts across history shape, reflect, and are informed by societies different from our own. IIA. PA-3A, PA-4B. CAS-B.

ART 189. History of Western Dress. (3)

Provides an overview of Western dress from ancient times to the present. Emphasis placed on the social and cultural factors that have influenced the evolution of dress for both men and women. IIA, IIB. PA-3A.

ART 194. Introduction to Art Therapy. (3)

Introductory seminar to the field of art therapy as a career, history and origins of the field, education standards and application, and art experientials.

ART 195. Introduction to Art Education. (3)

Thematic approaches to art education will be discussed and applied through personal artmaking, lesson planning and experiences in community settings. Students will visit PK-12 schools and other educational sites and practice methods of digital documentation and reflective practice. Field experience hours required. Can be taken with ART 295 or ART 296. IIA. PA-3A.

ART 215. 3D Digital Sculpting. (3)

Digital sculpting is an essential part of 3D content creation. This course needs to be a requirement for students in the game program who want to work as an artist creating assets for video games. This course teaches industry standard software and the methodologies that game studios use when producing professional quality 3D assets for video games and other media. The course is project driven, and grades will be based on the visual quality and passion expressed in the work submitted for assignments, ability to follow instructions for submission and their ability to meet deadlines for assignments.

Cross-listed with IMS.

ART 218. 3D Shading and Texturing. (3)

In this course, students will learn the workflows necessary to create materials, textures, and shaders for physically based render systems. Students will learn how to edit shaders and materials through the creation and editing of textures in an image-editing program. Students will also be taught the theory behind physically based rendering and how it relates to rendering objects in real time through game engine technology. The course is project driven and grades will be based on the visual quality and passion expressed in the work submitted for assignments, ability to follow instructions for submission, and ability to meet deadlines for assignments. Cross-listed with IMS.

ART 221. Intermediate Drawing 1. (3)

Intermediate-level drawing problems. This intermediate drawing class focuses on the study of figure in various drawing media. Through various fast studies and extended drawing projects, students will learn to draw figures from observation; become familiarized with basic anatomy of the body; explore various media such as graphite, charcoal, soft pastel, and ink; and develop individual content through theme-based figure drawing projects. Presentations and critiques will complement the studio practice. Prerequisite: ART 121.

ART 222. Intermediate Drawing 2. (3)

Intermediate-level drawing problems. This intermediate drawing class focuses on the study of figure in various drawing media. Through various fast studies and extended drawing projects, students will learn to draw figures from observation; become familiarized with basic anatomy of the body; explore various media such as graphite, charcoal, soft pastel, and ink; and develop individual content through theme-based figure drawing projects. Presentations and critiques will complement the studio practice. Prerequisite: ART 121.

ART 227. Design Research Methods Basics. (3)

A basic introduction to primary and secondary design research methods that support the discovery of unarticulated needs and opportunities for design innovation. Learners will gain familiarity with design research methods by completing readings, presenting content analysis, and completing a design research project. Includes qualitative and quantitative methods that render data like observations, surveys, interviews, focus groups, and design outcome analyses.

ART 230. Special Lecture Topics in Art History. (3; maximum 12)

Lecture in the history of art. Subjects vary, but will deal with a special topic related to the area of expertise of the particular faculty teaching the course.

ART 231. Painting I. (3)

Introduction to the use of oil and/or waterbase media with emphasis on pictorial structure. 3 Lab. includes Lec. Prerequisite: ART 121 or permission of instructor.

ART 233. Global Perspectives on Dress. (3)

Provides the student with an overview of the study of dress with emphasis on the relationship between dress and its meaning in a variety of cultures. Dress in its physical and social environments and as an art form will be examined. IIA. PA-3A.

ART 241. Printmaking I. (3)

Studio introduction to printmaking media and processes with emphasis on intaglio, relief, lithography, silkscreen, or alternative methods in printmaking. Images will be developed through drawing, photography, digital media or collage and hand printed onto paper or other alternative substrate such as fabric or wood. Experimentation is encouraged while students develop technical mastery and independent problem solving through print. In addition to demonstrations and hands-on guidance, the course provides an expanded technical vocabulary.

ART 251. Typography. (3)

This course concentrates on design principles specific to typography. Project based topics include: design drawing, letterform constructions, and the visual enhancement of language and message. Typographic methods and terminology of both traditional and digital processes are also covered. Prerequisite: ART 252.

ART 252. Image. (3)

This course covers visual and symbolic communication, including generation of visual symbols, graphic simplification, communication of content through form, and visual metaphor. Visual problem-solving skills and concepts are addressed. Further development of technical skills.

ART 253. Design Systems. (3)

Synthesizes fundamental design and research concepts through the development of visual design for sequential viewing. Ideas of organization and clarity of communication, series and sequence, advanced typography, and visual literacy are addressed through complex systems-based projects. Prerequisites: ART 227, ART 251, and ART 252.

ART 254. Communication Design Studio 1. (3)

Investigation of the impact of technology on communication design. The influence of time and non-linear organization on a design solution will be carefully studied through various digital technologies. Prerequisites: ART 227, ART 251, and ART 252.

ART 255. Introduction to Digital Photography. (3)

This introduction course will cover the basics of digital camera operation, adjusting and manipulating images in Adobe Photoshop and digital printing methods.

ART 256. Design, Perception & Audience. (3)

An introduction to perception and audience issues for the artist/designer and those interested in art/design, to learn how audiences perceive, receive and react to visual messages. Universal design principles, usability, learning theory, communication theory and semiotics are discussed. IIA. PA-3A.

ART 257. Photography. (3)

Introduction to basic 35 mm camera operation, black and white darkroom technique and aesthetic approaches to art of photography.

ART 259. Art and Digital Tools I. (3)

This course builds a solid foundation for making and manipulating digital images and graphics, and for thinking about the cultural nature of visual materials produced with these processes and software tools. Students will critically engage with a variety of related imagery, from fine art to marketing. Technical theory is coupled with projects to provide hands-on mastery of fundamental ideas, techniques, and specific software tools. Cross-listed with IMS.

ART 261. Ceramics I. (3)

Exploring plastic materials in three-dimensional form using coil, slab, mold fabrication, and wheel throwing as an introductory experience in clay. Traditional and contemporary approaches explored. Several decorative methods and firings extend perception of the entire ceramic process. Materials fee.
3 Lab. includes Lec.

ART 264. Jewelry Design and Metals I. (3)

Exploration of three-dimensional forms in nonferrous metals. Introduction to basic metalworking processes and techniques of the jeweler and silversmith. Materials fee.
3 Lab. includes Lec.

ART 271. Sculpture I. (3)

Studio course to provide the beginning sculpture student with a foundation in critical aesthetic thinking and of methods, techniques, and materials used in the process of making sculpture. Materials fee.
3 Lab., includes Lec.

ART 276. Introduction to the Art of the Black Diaspora. (3)

Introduces visual arts produced by black artists in Africa, the U.S., and the Black Diaspora. Examines seminal creative ideas, philosophies, and movements and focuses on the work of key artists in analyzing the contextual significance of art in society. IIA, IIIB. PA-3A, PA-4C. CAS-B.

ART 277. Independent Studies. (0-6)**ART 281. Contemporary Art Forum. (1; maximum 8)**

This is a lecture-based course that focuses on the discussion of contemporary visual art and design issues and their relationship to fundamental visual art practices. Students will attend lectures by visiting artists, write reflective responses, attend one field trip to a contemporary art venue, and attend break-out discussion sessions. The course uses a credit/no credit system based on attendance and written responses to lectures. Students will be exposed to current trends and issues in the art world causing them to think critically of their place in contemporary practice of art and design.

ART 283. Modern America. (3)

A chronological survey of 20th-century American art and visual culture that examines how modern artists challenged traditions of making art and the structure of the art world and addressed issues of gender, race, and class. Explores works of art and visual representation that shaped and reflected culture through the lenses of patriotism, politics, and progress. IIA, IIB. PA-3A, PA-3B.

ART 285. Writing and the Visual Arts. (3)

A course for beginning art history majors and others interested in a critical approach to reading texts, researching, and talking about works of art. Focuses on research methods, critical thinking, reading and writing, and formal presentation techniques. Students will learn how to recognize and use art historical methodology; how to read critically in order to determine an author's thesis, argument, approach(es), and biases; and how to perform specialized research using the methods discussed in class, resulting in a class presentation and research paper. ADVW. PA-1C.

ART 286. History of Asian Art, China, Korea, and Japan. (3)

Introduction to major artistic traditions of China, Korea, and Japan. Emphasis placed on understanding the cultural foundations of Bronze Age art in East Asia, the impact of Buddhism in the region, and later painting and ceramic traditions. IIA, IIB. PA-3A, PA-4B. CAS-B.

ART 295. Elementary Art Methods. (3)

Philosophy, methodology, and application of art education at the elementary level. Planning for artistic growth and early creative development in students from Pre-K through elementary grades will be explored including thematic planning, backwards design, instructional strategies, curriculum mapping, assessment, advocacy, and arts integration. Lecture, discussion, and hands-on course for students majoring in art education. Field experience hours required. Can be taken with ART 195.

ART 296. Secondary Art Methods. (3)

Philosophy, methodology, and application of art education at the secondary level. Planning for artistic growth in students from middle to high school art education will be explored including thematic planning, backwards design, instructional strategies, curriculum mapping, assessment, advocacy, and arts integration. Lecture, discussion, and hands-on course for students majoring in art education. Field experience hours required. Can be taken with ART 195.

ART 305. 3D Character Design. (3; maximum 6)

In this course, students will create fully realized characters using 3D animation software to be implemented in a game engine. Students will learn a complete workflow for taking a character concept through all stages of a 3D character-creation process. This includes concept art, proper scene setup, 3D modeling, digital sculpting, degrading assets, UV Unwrapping, texture painting, and character rigging, posing, rendering, and importing into a game engine. The course is project driven and grades will be based on the visual quality and passion expressed in the work submitted for assignments, ability to follow instructions for submission, and ability to meet deadlines for assignments.

Prerequisites: ART/IMS 215, ART/IMS 218, and IMS 319 or permission of instructor.

Cross-listed with IMS.

ART 309. The Arts of African Peoples. (3)

Introduction to the arts of Africa and exploration of the central function of the arts in African systems of thought. The role of ancestors and deities will be explored, as will the context within which the arts are produced and used. IC, IIIB. PA-4B, PA-4C.

ART 311. Chinese Painting History. (3)

A thematic and chronological study of the various genres of Chinese painting, emphasizing major issues and artists from the Han period to the twentieth century. Recommended prerequisite: ART 286.

ART 314. The Renaissance in Italy. (3)

Surveys the visual arts of Italy from 1300 to 1500 and especially the artistic centers of Florence, Rome and Venice. Examines the individuals, corporations, as well as the various historical, social, and religious phenomena driving the production of painting, sculpture, and architecture.

ART 315. Art in the Age of Michelangelo. (3)

Information and insight toward an understanding of the major developments in the history of art from the late fifteenth through sixteenth century in Italy, centered around the long career of Michelangelo. Students will learn about Michelangelo's role in spurring the High Renaissance and Mannerist periods as well as the relationship between the artistic culture and concurrent political, social, religious, and philosophical ideas of his time. CAS-B.

ART 316. Baroque Art in Europe. (3)

This course covers the painting, sculpture and architecture of Europe from the late sixteenth century through the early eighteenth century. It will focus on the individuals, corporations, as well as the various historical, social, and religious phenomena driving the production of painting, sculpture, and architecture.

ART 317. The Arts of Colonial Latin America. (3)

Explores the art of Iberia and Latin America, with a particular emphasis on the latter, from 1492 to 1810. Topics to be examined include conquest, assimilation, integration, and resistance as it informed the predominantly religious art and urban fabric of Latin America.

Cross-listed with LAS.

ART 320. Thematic Studio. (3; maximum 12)

Topics in art/drawing methodologies that are extensions and/or applications of skills and concepts offered in previous drawing courses. Thematic subjects include such topics as animation, experimental media, and advanced drawing.

Prerequisite: ART 222 or permission of the instructor.

ART 326. Modern & Contemporary East Asian Art. (3)

This course is an investigation of the various modern and contemporary art movements in East Asia from the nineteenth century through the twenty-first century. What did the modern ideal mean in the various regions of China, Japan, Korea, and the diaspora? What forms did it take? The establishment of traditionalist movements will be equally as important to tracing the development of Asian modernism(s). Can one exist without the idea of the other? Taking art objects and their related texts as our core evidence, this course will also consider the ways that the politics, literatures, popular cultures, and pasts of modern East Asia nations have intersected with one another and with the world. Coming forward into the present, what does it mean to be an artist from East Asia in the contemporary art world of global biennials and art fairs? Key concepts will include: post-colonialism, Marxism, nationalism, socialism, gender, ethnicity, modernism, traditionalism, post-modernism, diaspora, etc.

ART 331. Painting II. (3)

Painting problems using both representational and abstract approaches in various painting media.

3 Lab. includes Lec.

Prerequisite: ART 231.

ART 332. Painting III. (3)

Painting problems using both representational and abstract approaches in various painting media.

3 Lab. includes Lec.

Prerequisite: ART 231.

ART 335. Arts of West Africa. (3)

This course examines the visual and performed expressions of West Africa, spanning from centuries-old archaeological sculpture to contemporary art and artists working today. Due to Africa's long and layered history with neighboring regions and global interactions, the course also addresses connections to North Africa, the trans-Saharan trade network, the trans-Atlantic slave trade, Diaspora cultures and international artists who identify with West Africa. West Africa is well known for its rich artistic culture: wooden sculpture, masquerades, ritual, elaborate textiles, dress, ceramics, architecture, metalwork, multi-media installation, beadwork, festivals and many more. This course explores these artistic genres, learning about the role of art in the lives of the people who make and use it. IIIB. PA-4C.

Cross-listed with CRE.

ART 340. Internship. (0-20)**ART 341. Printmaking II. (3)**

Studio introduction to printmaking media and processes with emphasis on intaglio, relief, lithography, silkscreen, or alternative methods in printmaking. Images will be developed through drawing, photography, digital media or collage and hand printed onto paper or other alternative substrate such as fabric or wood. Experimentation is encouraged while students develop technical mastery and independent problem solving through print. In addition to demonstrations and hands-on guidance, the course provides an expanded technical vocabulary.

Prerequisite: ART 241.

ART 342. Printmaking III. (3)

Studio introduction to printmaking media and processes with emphasis on intaglio, relief, lithography, silkscreen, or alternative methods in printmaking. Images will be developed through drawing, photography, digital media or collage and hand printed onto paper or other alternative substrate such as fabric or wood. Experimentation is encouraged while students develop technical mastery and independent problem solving through print. In addition to demonstrations and hands-on guidance, the course provides an expanded technical vocabulary.

Prerequisite: ART 241.

ART 352. Communication Design Studio 2. (3)

Examination and application of the materials and media for communication design. From pixels and dots to surfaces and objects, learners will explore how to work at dramatically different levels of scale of experience.

Prerequisite: ART 254.

ART 354. Design for Use. (3)

Explores how design decisions impact access for people of diverse abilities and cultures. Applies people-driven design approaches for problem definition, outcome development, and design outcome production. Special attention paid to usability, access, and how design can delight audiences while meeting their unique needs. Involves collaborative and individual project work to simulate human-centered approaches within professional design practice.

Prerequisite: ART 254.

ART 357. Photography II. (3)

Continued development of aesthetic, conceptual and technical processes in photography. Emphasis on traditional black and white film exposure, processing and printing.

Prerequisite: ART 257 or permission of instructor.

ART 358. Photography III. (3)

Continued development of aesthetic, conceptual and technical processes in photography. Emphasis on Color/Digital image processing and printing.

Prerequisite: ART 255 or permission of instructor.

ART 361. Ceramics II. (3)

Pottery, design, wheel throwing, decoration, glazing, and firing. Raw materials introduction, lectures and applied. Materials fee.

3 Lab. includes Lec.

Prerequisite: ART 261.

ART 362. Ceramics III. (3)

Pottery and sculpture design, forming, wheel throwing, decoration, glazing, and firing. Clay and glaze materials and formulations covered. Materials fee.

3 Lab. includes Lec.

Prerequisite: ART 261, 361 or permission of instructor.

ART 364. Jewelry Design and Metals II. (3)

Creative designing of two- and three-dimensional forms for contemporary jewelry and holloware. Development of basic metals processes: fabrication, raising, stone-setting, forging, casting.

Materials fee. 3 Lab includes Lec.

Prerequisite: ART 264.

ART 365. Jewelry Design and Metals III. (3)

Intermediate problems in design and process for jewelry, holloware and flatware. Materials fee. 3 Lab includes Lec.

Prerequisite: ART 364.

ART 371. Sculpture II. (3)

Studio problems based on concepts applied to various three-dimensional methods, techniques, and materials. Materials fee.

3 Lab. includes Lec.

Prerequisite: ART 271.

ART 372. Sculpture III. (3)

Intermediate studio problems based on concepts applied to three-dimensional methods, techniques, and materials. Beginning emphasis on individual direction. Materials fee.

3 Lab. includes Lec.

Prerequisite: ART 371.

ART 377. Independent Studies. (0-6)**ART 382. Greek and Roman Sculpture. (3)**

Sculpture in the Greek, Hellenistic, and Roman world. Emphasis on the development of the human figure in the Greek world with attention to sculptures of Pheidias, Praxiteles, Scopas, and Lysippos. The Roman response to the Greek Canons is evaluated and development of Roman portrait sculpture is critically reviewed.

ART 383. Greek and Roman Painting. (3)

Greek and Roman painting; examination of the development of Greek vase painting with special emphasis on red and black figure vase painting; examination of tomb paintings of Etruscan civilization with study of Roman painting from Pompeii and Herculaneum with attention to styles, perspective, methods of painting, and uses of color.

ART 384. Greek and Roman Decorative Arts. (3)

This course is designed to introduce students to the decorative arts of antiquity. Generally referred to as the minor arts or, archaeologically, small finds, the small scale and decorative arts of antiquity provide us with the majority of our evidence for art in the ancient world, but are frequently understudied. This course will introduce you to material not covered in depth in the introductory courses on ancient art.

Unlike ancient painting or monumental sculpture, the decorative arts of antiquity represent forms that the majority of people experienced, that the majority of artists created, and that provide the best evidence for workshops, stylistic transmission and movement of artists and works in antiquity. Decorative arts, therefore, give a much more complete sense of the artistic heritage of the Greco-Roman world.

ART 386. Art of the Weimar Republic. (3)

This class will trace developments in painting, photography, film, and architecture in Germany from 1918-1933. We will focus on connections between art and the historical and political events of this particularly turbulent time in Germany history. Artists to be studied include: Walter Gropius, Mies van der Rohe, Fritz Lang, Hannah Hoch, Georg Grosz, August Sander, and Laszlo Moholy-Nagy. Relevant artistic movements include: Expressionism, Dada, the Bauhaus, and New Objectivity.

ART 389. The History of Photography. (3)

This course will trace central developments in photography's history, from its nineteenth-century origins to its present digital afterlife.

Rather than attempting a comprehensive survey of the medium, we will examine a series of case studies taken from the diverse discourses in which photography functions, including art, science, law, journalism, criminology, urban planning, and entertainment. Particular attention will be paid to theoretical and methodological questions underpinning the medium. Recommended prerequisite: ART 188.

ART 390. Supplemental Problems. (1-3; maximum 6)

Supplemental problems in any one of the department's 300-level studio areas.

Co-requisite: related 300-level course and permission of instructor.

ART 391. Field Study in Art and Architecture History. (3; maximum 3)

Structured experience outside the classroom; internship or study abroad. Restricted to majors who have completed the sophomore year.

ART 395. Art Across the Curriculum. (3)

Philosophy, art education theory and cross-curricular teaching and learning methodology. Students will apply methodology to both coursework and field experience, collaborating with non-art areas. Students will design and produce lessons and sequential curriculum that takes into account both visual arts and common core standards. Upon completion of this course, students will conceptualize art as an interdisciplinary subject as well as demonstrate a competency for designing and implementing interdisciplinary art lessons. Field experience hours required. EL.

Prerequisites: ART 195, ART 295, ART 296, or permission of instructor.

ART 406/ART 506. Art Since 1980. (3)

This course surveys contemporary art from 1980 to the present. By examining major themes and critical issues, this course will chart historical genealogies and continuous threads through the incredibly diverse nature of art today. Looking at traditional media, new media, performance, and socially engaged art, this course explores the nature of artistic production in the contemporary, interconnected world. Students will regularly engage primary sources, work collaboratively on interpretive projects, and complete an original research paper and presentation.

ART 407/ART 507. Moving Image Art. (3)

Since the dawn of moving image media, artists and filmmakers have found means of artistic expression outside of both commercial entertainment and narrative cinema. This class examines this exciting history and experiences artworks that push our expectations and limits as spectators and challenge the dominant forms of film and television. Special attention is paid to creating a genealogy of experimental approaches to moving image media and connecting to art historical developments in painting, sculpture, conceptual art, and installation art as well as major social and political movements. Class includes regular screenings in addition to class discussion and lecture. Cross-listed with FST 407.

ART 419. Supervised Student Teaching in Art. (15)

Supervised teaching in a public school or approved social agency. Regularly scheduled seminars with university supervisor. Completion of assessments including edTPA and content and pedagogy exams for certification. Regular assessments by cooperating teacher for the purpose of assisting the student teacher in practice teaching. Required overall GPA of 2.80 and expected GPA of 3.00 in the major field. Cannot be taken concurrently with any other courses. SC. Prerequisite: all Professional Ed and Art Ed courses must be taken last (or second to last semester before graduation with instructor approval).

ART 431/ART 531. Painting IV. (3)

Application of concepts, techniques, and composition through various painting media. Emphasis on a personalized statement by the student.

3 Lab. includes Lec.

Prerequisite: ART 331, 332.

ART 432/ART 532. Painting V. (3)

Application of concepts, techniques, and composition through various painting media. Emphasis on a personalized statement by the student.

3 Lab. includes Lec.

Prerequisite: ART 331, 332.

ART 436/ART 536. Applied Experience Design: Walt Disney World. (3)

The Walt Disney World Resort is a leader in entertainment where multisensory design facilitates memorable guest experiences. This course will pull back the curtain to reveal how architecture, service, interaction, graphic, and interior design decisions at the resort create "magic" while also meeting functional needs and balancing complex logistics. Learners will explore experience design from a story-based, Disney perspective via two weeks of engaged online learning. This will be followed by one week of on-site, experiential learning at The Walt Disney World Resort to explore experience design in action via immersive learning activities at the parks and resorts. The course will conclude with two weeks of online study where the immersive experience will enable learners to apply Disney's approaches and attention to detail to their own design-related practices.

ART 441/ART 541. Printmaking IV. (3)

Emphasis on personal investigation in intaglio, lithography, silkscreen, or relief processes.

3 Lab. includes Lec.

Prerequisite: ART 341, 342.

ART 442. Printmaking V. (3)

Emphasis on personal investigation in intaglio, lithography, silkscreen, or relief processes.

3 Lab. includes Lec.

Prerequisite: ART 341, 342.

ART 449/ART 549. Design Career Readiness. (3)

An introduction to basic business issues relevant for designers in today's competitive marketplace, including the development of strategic marketing skills, finances, and budgeting, the creation of client contracts, basic production knowledge, and other business management issues. Students will learn about various design career pathways through regular interactions with practicing designers in communication design and experience design.

ART 450/ART 550. Letterpress Printing. (3; maximum 9)

Studio engaging with the letterpress printing process for craft, artistic expression, and as a vehicle for visual communication. The physical design process includes use of historic, experimental, and hand-created materials for print production.

ART 451. The Professional Portfolio. (3)

Includes revision of existing pieces to professional standards and the execution of work to complete the professional portfolio. Photographing of work, design, craft, organization, and presentation of the portfolio discussed. Covers topics related to the business of graphic design and the production knowledge necessary to work in today's profession.

Prerequisite: ART 352.

ART 452. Communication Design Studio 3: Degree Project. (3)

Individual projects proposed, researched, and executed. Enables students to learn how to define and limit a project, choose the best format for a particular communication goal, organize and schedule time, and set and meet interim goals. Participation in a gallery exhibit is a requirement of this course. SC.

Prerequisite: ART 451.

ART 453. Highwire Brand Studio. (4)

Multidisciplinary practicum involving students from marketing, graphic design and other relevant majors. Competing, multi-disciplinary student teams work for a semester on an actual client's current brandings and marketing communications challenge. Campaign solutions typically include primary research and market analysis, campaign strategy development and graphic design for advertising and other sales support materials. Incorporates contemporary technology and industry standard materials and research. Expertise and facilities of marketing, graphic design and other relevant majors are fully integrated within each team. Each campaign is formally presented to the client at the end of the semester. SC.

Prerequisites: ART 352 or permission of instructor.

ART 455/ART 555. A History of Design. (3)

Overview of the history and cultural context of various design disciplines. The prevalent styles and design traditions expressed in the mass-produced products of both Europe and America from the Industrial Revolution to the present.

ART 457. Photography IV. (3)

Development of a personal body of photographic work. Advanced study of experimental techniques, conceptual practice and photographic theory.

Prerequisite: ART 357, 358.

ART 458. Photography V. (3)

Advanced development of a personal body of photographic work.
Prerequisite: ART 457.

ART 460/ART 560. Special Topics Design Studio. (3; maximum 9)

A transdisciplinary design studio where undergraduate and graduate students from different design-related disciplines work collaboratively to address a range of topics via design thinking and doing. Topics change depending on instructor research agenda and interests.
Prerequisite: permission of instructor.

ART 461/ART 561. Ceramics IV. (3)

Advanced problems in ceramic design emphasizing individual creativity and requiring technical proficiency. Materials fee.
3 Lab. includes Lec.
Prerequisite: nine semester hours in ceramics.

ART 462/ART 562. Ceramics V. (3)

Advanced problems in ceramic design emphasizing individual creativity and requiring technical proficiency. Students must complete a professional portfolio of work. Materials fee.
3 Lab. includes Lec.
Prerequisite: 12 hours in ceramics.

ART 464/ART 564. Jewelry Design and Metals IV. (3; maximum 6)

Advanced design and technical problems in jewelry, holloware, flatware, and/or other areas of individual interest. Emphasis on personal expression and research, portfolio development. Materials fee.
3 Lab. includes Lec.
Prerequisite: ART 365.

ART 465. Jewelry Design & Metals V. (3)

Advanced problems in jewelry design & metals requiring individual creativity and technical proficiency. Emphasis on creative personal direction, research, and creating a professional portfolio. Materials fee.
Prerequisite: ART 464/ART 564.

ART 471/ART 571. Sculpture IV. (3)

Advanced problems in sculpture requiring skill with sculpture processes and ability to interpret ideas three-dimensionally.
3 Lab. includes Lec.
Prerequisite: ART 372.

ART 472. Sculpture V. (3)

Advanced problems in sculpture requiring skill with sculpture processes and ability to interpret ideas three-dimensionally. Emphasis on creative personal direction, professional portfolio, and research. Materials fee.
3 Lab. includes Lec.
Prerequisite: ART 471/ART 571.

ART 477. Independent Studies. (0-6)**ART 480. Seminar in Art History. (3; maximum 6)**

Seminar for advanced students. Topics vary.

ART 487/ART 587. Art of the Early 20th Century. (3)

Development of modernist painting and sculpture in Western Europe and the United States from 1900 to 1945.

ART 488/ART 588. Art in the Age of Revolution: 1789-1848. (3)

This course explores the artistic production of Europe and the United States from 1789-1848. Topics include the influence of political revolutions and colonialism, the invention of modern forms of visual culture such as photography and lithography, the traditions of academic painting, and rebellions against those traditions.

ART 489/ART 589. Postwar to Postmodern, 1945-1980. (3)

Painting, sculpture, architecture, and allied arts from 1945 through post-modernism.

ART 490. Supplemental Problems. (1-3; maximum 9)

Supplemental problems in any one of the department's 400-level studio areas.
Co-requisite: related 400-level course and permission of instructor.

ART 492. Professional Artist's Portfolio and Exhibition Experience. (3)

Supervised development of individual professional artist's portfolio and participation in a group or solo gallery exhibition. Periodic scheduled meetings with peers and faculty mentors in the individual studio areas. With permission of instructor, students who have completed a focus sequence in one of the vertical studio offerings may be permitted to enroll in this studio Capstone. SC.
Prerequisite: senior standing in one of these studio concentrations: ceramics, metals, photography, painting, printmaking, or sculpture.
Co-requisite: a 400-level studio.

ART 493. Professional Dispositions in Art Education. (3)

This capstone course is designed to engage students in the development of professional dispositions and preparation in being effective, confident, and productive in their chosen profession. Students will participate in local and national professional organizations, network with practicing professionals, hone philosophy statements and understandings, maintain a professional website, develop and utilize professional resources, and write and deliver an ARTed Talk. SC.
Prerequisite: ART 195, 295, 296, and 395 or permission of instructor.

ART 495. Art Education Practicum. (3)

Supervised participation in practicum at art education site. Students will develop proficiency in curriculum planning, instructional methodology, effective communication in and outside the classroom, and self and program assessment. Often referred to as Saturday Art, students will have the opportunity to directly plan, teach, and assess a class of K-12 students. This course can be taken with ART 493. 495 can be taken multiple times.
Prerequisites: ART 195, 295, 296, and 395.

ART 496/ART 596. Seminar on Theory for Visual Artists. (3; maximum 6)

Links theoretical contexts influential in educating visual artists to varied thematic structures and practical issues as utilized by visual artists.
Prerequisite: ART 221.

ART 498. History and Methods in Art and Architectural History. (3)

Culminating class for Art and Architecture History majors. Discussions and projects that give students the opportunity to assimilate knowledge gained in the study of art history. SC.
Prerequisite: senior in the History of Art and Architecture.

ART 600. Advanced Research Problems. (1-3; maximum 18)

Research in art and art literature.
Prerequisite: graduate standing in art.

ART 601. Graduate Assistant Seminar. (1-3; maximum 6)

Addresses relevant practices, concerns, and problems confronting the art teacher in college studio setting. Addresses professional practices for studio artists pursuing a career as a visual artist.
Prerequisite: admission to Department of Art graduate program.

ART 602. Graduate Seminar in Studio Practice. (2; maximum 18)

Seminar course exploring individual formal, aesthetic, historical, and conceptual concerns present in graduate level studio work. Course encapsulates individual critiques of student work and student presentations on work by other artists or topics relevant to the individual student. Graduate students should take this course each semester except during the semester they complete their thesis. Prerequisite: Enrollment in the MFA program in Studio Art.

ART 620. Graduate Study in Drawing. (3-6; maximum 18)

Professionally oriented studio drawing problems emphasizing personal interpretation. Prerequisite: graduate standing in art.

ART 627. Design Research Methods. (3; maximum 9)

Introduces primary and secondary research methods that support the discovery of unarticulated needs and opportunities for design innovation. Learners will gain familiarity with design research methods by operating several research projects individually and collaboratively. Special attention paid to operating design research in varied contexts while respecting the wishes and needs of research participants. Includes qualitative and quantitative methods that render data like observations, surveys, interviews, focus groups, and design outcome analysis.

ART 630. Graduate Study in Painting. (3-6; maximum 48)

Application of advanced techniques and pictorial concepts to problems in painting directed toward individual professional performance. Appropriate research and related studio work. Prerequisite: graduate standing in studio art.

ART 640. Internship. (0-12; maximum 6)**ART 645. Graduate Study in Printmaking. (3-6; maximum 48)**

Research and related laboratory work in fine print media. Advanced study in intaglio, relief, and planographic media. Prerequisite: graduate standing in studio art.

ART 650. Experience Design Studio. (3; maximum 18)

A synthesis studio where design theory and methods are applied via goal formulation, problem definition, and design solution production. Design, development, deployment, and testing of experience design outcomes involves independent and collaborative work. Learners will meet off-site for one "Destination Weekend" each semester to research and design in a different location.

ART 651. Design Research Theory. (3; maximum 9)

This course examines the principles and application of design practice and research through coordinated readings in interdisciplinary theory. By engaging in a mix of qualitative and quantitative theoretical approaches, learners situate their individual interests and research in both scholarly inquiry and professional practice.

ART 652. Experience Design Project. (3; maximum 9)

A course where a learner-selected experience design project is ideated, developed, operated, and tested and results are disseminated. Designed as a community of practice, this course engages learners in a unified process to test the validity of existing knowledge claims, propose new theories, and/or generate new knowledge in the field of design.

ART 657. Graduate Study in Photography. (3-6; maximum 24)

Application of advanced techniques and pictorial concepts to problems in photography directed toward individual professional performance. Appropriate research and related studio work. Prerequisite: Graduate standing in Studio Art.

ART 660. Graduate Study in Ceramics. (3-6; maximum 48)

Intensive studio problems in ceramics stressing professional orientation and personal interpretation. Materials fee. Prerequisite: graduate standing in studio art.

ART 664. Graduate Study in Metals. (3-6; maximum 48)

Provides qualified graduate student with intensive study in metal craftsmanship as an art form. Prerequisite: graduate standing in studio art.

ART 670. Graduate Study in Sculpture. (3-6; maximum 48)

Intensive studio problems in sculpting emphasizing professional orientation and personal interpretation. Prerequisite: graduate standing in studio art.

ART 677. Independent Studies. (0-6)**ART 680. Graduate Seminar in Art History. (3; maximum 9)**

Special studies in the history of art centered upon a designated topic or area of study which may vary with each offering. Prerequisite: graduate standing in art or permission of instructor.

ART 690. Special Problems. (1-3; maximum 18)

Individual studio problems for graduate art student. Prerequisite: graduate standing in art.

ART 700. Thesis. (1-12; maximum 18)

.

Arts and Science (CAS)

CAS 101. Success Strategies for Miami GradU8 Students. (1)

In the Miami GradU8 program, students will be provided with some of the best support on campus. This course is designed to assist in the transition from high school to college. Students will learn to make connections campus-wide in order to make the most of their college experience. This course will focus on personal and leadership development through small group discussions, hands-on experience, guest lectures, and a variety of readings and assignments to help you have a successful year. Some key topics include campus resources, social interactions, career development, registration and advising, and finances.

CAS 116. American Academic Culture Comm. (3)

This course is specifically designed for directly-admitted, international students in their first semester at Miami. Students enrolling in this course will do so based upon the outcome of a speaking assessment taken prior to registration. The course will focus both on supporting the students' communicative competencies as well as introducing students to academic culture and resources at Miami University. Students who are enrolled in this course will not take UNV 101.

CAS 131. Practical English Grammar for English Language Learners. (3)

Designed to help students develop competence in using the English grammatical structures necessary to succeed in oral and written communication in both the university setting and everyday life. It will approach grammar as a system for "meaning-making," rather than as an abstract set of rules. As much as possible, assignments and activities will be anchored to functions and communicative situations based on authentic academic interactions. Course enrollment is restricted to non-native speakers of English.

CAS 133. Advanced Communication Strategies II: Speaking and Listening for Academic Contexts. (3)

For students for whom English is not their first language. Intensive practice in English speaking and listening skills for academic contexts including understanding lectures, note-taking, class discussion, formal and informal presentation, and pronunciation. Open only to non-native speakers of English.

CAS 134. Critical Reading & Discussion in Academic Contexts for English Language Learners. (3)

Designed to offer international students intensive reading and discussion practices necessary for the American university setting. Essential reading strategies learned and developed in the course will prepare students for various discipline-focused courses. A systematic approach to the reading will be utilized, starting from standard reading skills to higher-order analytical and critical response skills. Finally, students will develop and deliver their own arguments by analyzing written and visual texts. This course is only open to non-native speakers of English.

CAS 277. Independent Studies. (0-6)**CAS 340. Internship. (0-20)****CAS 377. Independent Studies. (0-6)****CAS 477. Independent Studies. (0-6)**

Asian/Asian American Studies (AAA)

AAA 201. Intro to Asian/ Asian Amer. (3)

Since the mid-nineteenth century, Americans have viewed Asia as alien, mysterious, alluring, repressed and have alternately been compelled by and frightened by what they have regarded as incommensurable cultural differences between the United States and Asia. In addressing this, we will focus on the following themes: colonialism and nationalism, national and ethnic identities, emigration and immigration, and popular culture and mass media, as a way to put in perspective, if not dispel, prevailing stereotypes of Asian and Asian America and gain a more complex and nuanced understanding of the complex and rich geo-political, cultural and historical terrain of Asia/ Asian America. This course is designed to provide a general introduction to the related disciplines of Asian Studies, and Asian American Studies and to familiarize students with some of the major debates, points of connection and contention. We will consider how "Asia" and "Asian America" are defined, geopolitically and strategically to allow us to develop a critical view about Asian and Asian American studies in a transnational frame. Through an examination of fiction, film and sociological works, students will acquire a better understanding about what is being researched in this field. IC, IIB, IIC, IIIB. PA-2A, PA-3B, PA-4B, PA-4C. CAS-B or CAS-C.

AAA 203. Global Religions of India. (3)

Explores the major religions of India and their growth outside India. Asks how these religions have contributed to the religious pluralism of America. Also asks how Asian American and non-Asian American practitioners of these religions have changed the way that religion is practiced in India and other parts of Asia. IIB, IIIB. PA-3B, PA-4B. CAS-B. Cross-listed with REL 203.

AAA 207. Asia and Globalization. (3)

The Asian-Pacific region is one of the most dynamic, complex, and challenging focal points of world today. In the past half century, many countries in Asia have undergone significant political, economic, social, and cultural changes, which are tightly intertwined with the concepts and tenets of globalization. With countries such as China and India on the rise, and global superpowers such as Russia and Japan encountering their own modern challenges, the Asian continent has been facing a transformation that is at once a response to globalization and itself a powerful force influencing global community. Accordingly, the course highlights cross-cultural values through a comparative lens of Asia and globalization, and aims to study recent transformations in Asia and their impact on its own future and the world. The study will be framed both in the Asian internal context and in the external context of globalization. The course specifically focuses on, though is not limited to, how external global influence and the internal cultures of major Asian countries interact with each other in ways that uniquely mark and inform the economic, social, religious, educational, and cultural transformations in Asia. IIC, IIIB. PA-2A, PA-4C. CAS-C.

AAA 210. Psychology Across Cultures. (3)

A topics course, focused on the examination of culture and cultural perspectives, within the United States and globally, as frameworks through which theories and findings of the field of psychology may be critically evaluated. IC, IIC, IIIB. PA-2A, PA-4B. CAS-C.

Prerequisite: PSY 111.

Cross-listed with PSY 210.

AAA 211. Writing with Purpose: Interdisciplinary Inquiry and Communication. (3)

This is an intermediate level course which enables students to investigate and discuss interdisciplinary practices of knowledge creation and dissemination. Students will practice a variety of writing and other communication strategies necessary for the effective dissemination of ideas to interdisciplinary audiences and the general public, and can expect to gain experience in working with a wide spectrum of interdisciplinary research, tools and methods while engaging intellectually in interdisciplinary modes of thinking, reading, listening, and speaking. ADVW. PA-1C.

Cross-listed with AMS/CRE/LAS/WGS.

AAA 248. Asian American Literature. (3)

Survey of Asian American writing (including the novel, poetry, drama, nonfiction, etc.) from the early 20th century to the present. Addresses immigration experiences, growing up in America, and writing as cultural expression. Course uses an interdisciplinary approach to the study of literature, drawing on history, sociology, ethnic studies, and current trends in American literary studies. IC, IIB, IIIB. PA-3B, PA-4A. CAS-B-LIT.

Cross-listed with AMS 248 and ENG 248.

AAA 249. Asian & Asian American Cinema. (3)

Explores films in the contexts of Western colonial influences and legacies in Asia and Asian America. Students will learn how mainstream notions of nation, gender, sexuality, family values, social hierarchies and social change are constructed at the intersection of the audience, visual imagery, political, and economic contexts. We will also explore the role alternative cinema plays in challenging mainstream forms of knowledge production with the overall goal of critically evaluating how cinema creates, recreates, perpetuates and reproduces "Asian" cultures for global and local audiences. IC, IIB, IIIB. PA-3B, PA-4B, PA-4C. CAS-B-Humanities.

Cross-listed with ENG/FST 249.

AAA 269. Colonial & Postcolonial Literature. (3)

Introduction to postcolonial literature and theories of colonial and postcolonial identity. IIB, IIIB. PA-3B, PA-4C. CAS-B-LIT. Cross-listed with ENG 269.

AAA 277. Independent Studies. (0-6)**AAA 334. Transnational Youth Cultures. (3)**

Using contemporary social and educational theory, this course introduces the student to the historical construction of adolescence and youth in global context. The course also explores cultural practices of transnational youths as a socio-historical construction that is affected by contemporary conditions of neo-liberalism, neo-colonialism and globalization. IIIB, IC. PA-4B, PA4C. Cross-listed with EDL.

AAA 351. Cultural Politics of Gender and Sexuality in Asian/America. (3)

Intensive interdisciplinary study of imaginative representations of the encounters between "Asia" and "America," broadly conceived, particularly the entangled relations among their diverse constituencies in the contexts of colonialism and globalization. Key topics include feminist critique of gendered violence and human rights issues; Euro-American militarism and sex tourism; the emergence of new categories of sex, gender, and kinship as lived experiences mediated by transnational consumer culture and institutional structures; masculinity and Asian diasporic nationalisms; pan-Asian movements against racism, colonialism, and neoliberalism both in Asia and the U.S.; and the emergence of new critical, artistic and aesthetic practices. IC. PA-4B. Cross-listed with ENG/WGS.

AAA 377. Independent Studies. (0-6)**AAA 410. Asian/Asian American Studies. (3; maximum 9)**

In-depth examination of political-economic relations, historical and socio-cultural formations, ethno-linguistic, rhetorical, and religious practices, and literary and artistic representations connecting and affecting Asia and communities of Asian descent in the U.S. and in the diasporas. Detailed descriptions of topics available from the Director of the Asian/Asian American Studies Program. CAS-B.

AAA 477. Independent Studies. (0-6)

Biological Sciences (BSC)

BSC 292. Applied Biology Sophomore Seminar: Planning Your Future in Applied Biology. (1)

This is a one-credit course designed for sophomores majoring in Applied Biology. Students will explore career options in applied biology and professional fields, while completing a 10-hour online training course leading to certification by the Occupational Safety and Health Administration (OSHA10). Students will review internship and undergraduate research opportunities, and will attend at least one public biology seminar, workshop or forum. Students will complete a plan of study; a resume; and an application for an internship, co-op or independent research experience. Prerequisite: Completion of BIO 115 or BIO 116, or permission of instructor.

BSC 313. Microbial Diversity. (4)

Molecular, biochemical and evolutionary diversity of the microbial world, including Bacteria, Archaea, and Eukaryotes. Taught in Hamilton and Middletown only. Prerequisite: BIO/MBI 116 or MBI 161 or permission from instructor.

BSC 321. Research in Applied Biology. (1-3; maximum 3)

Analysis of issues and concepts in applied biology utilizing laboratory, field, and computational techniques. Only a total of three semester hours of BSC 321 can be used to fulfill Professional Courses requirement for Applied Biology majors. EL. Prerequisites: BIO 115 and BIO 116, and permission of instructor.

BSC 340. Internship. (0-20)**BSC 377. Independent Studies. (0-6)****BSC 415. Approaches to Problem Solving and Research in Applied Biology Capstone. (3)**

An exploration into the manner in which we seek solutions to real world problems and the way in which we answer scientific questions in the biological sciences. The specific focus will vary and will either be related to the environment or to human health. SC. Prerequisite: Senior level standing and have completed at least 9 credit hours at the 200 level or above in natural sciences.

BSC 416. Applications of Biotechnology to Human Health: Concepts and Issues. (3)

An in-depth analysis that focuses on the ethics and trends in biotechnology and its applications to human health. Selected topics in science and technology that drive innovative approaches to human healthcare as they relate to disease and therapies to disease will be covered; including, but not limited to, drug development, bioinformatics, stem cell therapies, vaccines, DNA diagnostics, and biotechnology in agriculture/genetically modified foods. SC. Prerequisites: BIO 342 and one year college chemistry.

BSC 475. Capstone in Environmental Biology. (3)

The environment affects humans in many ways, so changes to the environment can alter our well-being (e.g., health, standard of living). This course will explore the causes of environmental problems resulting from anthropogenic activities, and the strategies that can be used to mitigate or manage these issues. An interdisciplinary approach will be taken, emphasizing the interplay among the ecological, political, social, cultural and economic aspects of environmental problems. Students will be required to develop and critically evaluate effective strategies for abating environmental problems of local, national or global concern. SC. Prerequisites: BIO 209 or 209W and junior standing; or permission of instructor.

BSC 477. Independent Studies. (0-6)**BSC 492. Applied Biology Senior Seminar: Becoming a Professional Biologist. (1)**

This is a one-credit course designed for seniors majoring in Applied Biology. Students will prepare to enter the workforce as professional biologists or continue on to postgraduate training, while completing a 40-hour online training course leading to certification by the Occupational Safety and Health Administration. Emphasis will be placed on understanding emerging issues in biology, obtaining employment or further education, and integrating the Tool requirement into a career in Applied Biology. Prerequisites: Completion of at least 24 hours of biological sciences courses (BIO, BSC, MBI) and senior standing, or permission of the instructor.

Biology (BIO)

BIO 101. Biotechnology: Coming of Age in the 21st Century. (3)

An introduction to biotechnology. The course provides an in-depth examination of new developments in biotechnology. Scientific concepts, applications, and social, ethical, and legal issues are emphasized. IVA. PA-2B. CAS-D.

BIO 104. Developing skills and Approaches for Science Success. (1-2; maximum 2)

Teaches effective study strategies to enable comprehension of basic biology concepts emphasized in the introductory biology course, BIO/MBI 115/116; Explores the relationship of these concepts to current endeavors such as scientific research; emphasizes development of skills and habits of mind that will ensure success for biological science majors.

Cross-listed with MBI.

BIO 115. Biological Concepts: Ecology, Evolution, Genetics, and Diversity. (4)

Integrated study of microbes, plants, and animals emphasizing biological diversity and interdependence of life and environment. IVA, LAB. PA-2B. CAS-D/LAB.

3 Lec. 1 Lab.

Cross-listed with MBI.

BIO 116. Biological Concepts: Structure, Function, Cellular, and Molecular Biology. (4)

Biological principles common to microbes, plants, and animals, including interactions between organism and environment. IVA, LAB. PA-2B. CAS-D/LAB. CAS-QL.

3 Lec. 1 Lab.

Cross-listed with MBI.

BIO 121. Environmental Biology. (3)

Local, regional, and global environmental issues examined in the context of current ecological theory and principles of resource use and management. IVA. PA-2B. CAS-D.

BIO 126. Evolution: Just a theory?. (3)

An introduction to the principles of evolutionary theory and the nature of science that emphasizes the relevance of evolutionary biology to our lives and society as a whole. IVA. PA-2B. CAS-D.

BIO 131. Plants, Humanity, and Environment. (3)

Introduction to fundamental concepts in plant biology, ecology, and scientific perspective as they relate to issues of social concern. IVA. PA-2B. CAS-D.

BIO 147. Biology Introductory Seminar. (1)

Introduction to the majors offered by Department of Biology as well as the requirements of the College of Arts and Science and the Miami Plan. Students learn about departmental, College, and University resources available to help decide what courses to take to achieve their academic goals. Includes discussion of effective learning strategies, how to be involved in independent research, and provides information to help students develop their career goals by providing interactions with first year faculty advisors, undergraduate and graduate students, and alumnae. Finally, the seminar will provide students with opportunities to develop a more thorough understanding of how they can become successful scholars and members of the Miami community and any other community of professionals.

BIO 155. Field Botany. (3)

Field/laboratory-oriented, interpretive introduction to botany in the regional out-of-doors. Emphasis given to identification, uses, habit, habitat and communities of plants, and fungi in the context of local terrestrial and aquatic environments. IVA, LAB. PA-2B. CAS-D/LAB. 1 Lec. 2 Lab.

BIO 159. Seminar in Neuroscience. (1)

Provides an introduction to the field of neuroscience and includes discussions of experimental techniques and methodology and career opportunities in neuroscience, the interdisciplinary nature of the field, and the scientific method and the development and testing of hypotheses; will expose students to the synthesis of scientific literature in the field of neuroscience and to ways to effectively communicate this information to a broad audience.

Cross-listed with PSY 159.

BIO 161. Principles of Human Physiology. (4)

Examines physiological systems of the human body. Lecture provides basic information regarding function of these systems from an integrative perspective. In laboratory, use hands-on approach and work in small groups to conduct experiments and/or carry out projects to illustrate the physiological concepts presented in lecture.

Not open to Biology, Botany, or Zoology majors. IVA, LAB. CAS-D/LAB. PA-2B. CAS-QL.

3 Lec. 1 Lab.

BIO 171. Human Anatomy and Physiology. (4)

Study of the structure and function of the human body including basic cellular principles, embryology, reproductive system, endocrine system, and nervous system. Does not count toward Biology, Botany or Zoology majors. IVA, LAB. CAS-D/LAB. PA-2B.

3 Lec. 1 Lab.

BIO 172. Human Anatomy and Physiology. (4)

Study of the structure and function of the human body including respiratory, digestive, urinary, skeletal, muscular, and circulatory systems. Does not count toward Biology, Botany or Zoology majors. CAS-D/LAB.

3 Lec. 1 Lab.

Prerequisite: BIO 171.

BIO 176. Ecology of North America. (3)

Basic principles of ecology, major biomes of North America, and pertinent environmental issues. Biomes range from tundra to tropical rain forest. Environmental issues include biodiversity, deforestation, desertification, and other land management problems, each analyzed from a scientific perspective but involving social, economic, and humanistic factors as well. IVA. PA-2B. CAS-D.

BIO 177. Independent Studies. (0-6)

BIO 191. Plant Biology. (4)

Consideration of how plant structure, chemical composition, and genetic makeup interact with growth, development, evolution, and metabolic processes of living plants. IVA. CAS-D/LAB. PA-2B.

3 Lec. 1 Lab.

BIO 201. Human Anatomy. (4)

The study of structure and function of human tissues, organs, and organ systems. Designed for pre-professional health sciences students and those preparing for graduate study. Lab fee required. CAS-D/LAB.

3 Lec. 1 Lab.

BIO 203. Introduction to Cell Biology. (3)

Introductory study of eukaryotic cell structure and function.

Prerequisite: BIO 116/MBI 116, or BIO 191.

BIO 204. Evolution of Plant Biodiversity: Genes to Biosphere. (4)

Along with BIO 203, provides a foundation for botany majors. Covers genetic basis of evolution, heredity and genetic continuity, processes of evolution, and systematic and ecological end-products of evolution with an emphasis on plants, algae, and fungi. Students may not receive credit toward the major for both BIO 204 and BIO 206.

Prerequisite: BIO/MBI 115 or BIO 191.

BIO 205. Dendrology. (4)

Identification and distribution of native and introduced trees, characteristics and use of their woods, and an introduction to forestry practice. CAS-D/LAB.

2 Lec. 2 Lab.

BIO 206. Evolutionary Biology. (3)

Development of major evolutionary concepts and application of such concepts within the biological sciences and related scientific fields are examined. Students cannot receive credit toward the major for both BIO 204 and 206.

Prerequisite: one year of biological science.

BIO 209. Fundamentals of Ecology. (3)

Interrelationships between organisms and their environments.

Prerequisite: One course in the biological sciences (BIO or MBI); or permission of the instructor.

BIO 221. Plant Propagation. (4)

Provides students with knowledge of the scientific and applied aspects of plant propagation in a closed system including basic plant production, watering, fertilization, crop management, insect and disease control, and problem solving.

Prerequisite: BIO/MBI 115, BIO/MBI 116, BIO 131, BIO 176 or BIO 191.

BIO 232. Human Heredity. (3)

Introduction to the basic principles of genetics and their relevance to human society. Not open to Biology, Botany, or Zoology majors.

Prerequisites: (BIO 114) or (BIO 116 or MBI 116 or MBI 116H) or (MBI 161 or BIO 161) or BIO 172.

BIO 241. Botanical Principles in Landscape Gardening. (3)

Plant materials in relation to home, garden, and landscape uses.

BIO 244. Viticulture and Enology. (3)

Botanical description of the grape (*Vitis*) and the principles of viticulture (grape growing) and enology (wine making). Various horticultural techniques used throughout the world in these disciplines. Tastings and lab fee.

BIO 256. Introduction to Programming for the Life Sciences. (3)

This course serves as an introduction to programming designed specifically for life science majors, targeting the specific skills and techniques commonly needed and explaining the fundamental methods of working with biological data while centering programming assignments around topics of interest to those studying the life sciences. Topics covered include basic programming techniques, representation and manipulation of genomic and protein sequence data, and the automated interface with BLAST and the NCBI GenBank database.

Cross-listed with CSE/MBI.

BIO 277. Independent Studies. (0-6)**BIO 302. Plant Taxonomy. (4)**

Identification of flowering plants in field and laboratory, including local flora and majors critical plant families. Additional topics include nomenclature, history of taxonomy, methods of systematics, phylogeny of plants.

BIO 305. Human Physiology. (4)

Study of general physiological principles necessary for basic understanding of life processes. CAS-D/LAB.

3 Lec. 1 Lab.

Prerequisite: one year of chemistry, junior standing, and BIO 203 or MBI 365, or permission of instructor.

BIO 306. Basic Horticulture. (3)

Principal factors involved in the production of vegetables and fruits. Senior standing recommended.

BIO 311. Vertebrate Zoology. (4)

Taxonomy and life histories with emphasis on local fauna. CAS-D/LAB.

2 Lec. 2 Lab.

BIO 312. Invertebrate Zoology. (4)

Morphology and taxonomy with emphasis on local fauna. CAS-D/LAB.

2 Lec. 2 Lab.

BIO 314. Plant Diversity. (4)

Overview of plant diversity considering all major groups of plants. Although primarily a survey of structural and biochemical characteristics that define each group, the course also examines evolutionary themes among these organisms with particular emphasis on land plant evolution and the polyphyletic nature of the algae. CAS-D.

Prerequisite: a course in biological science.

BIO 320. Directed Research. (1-3)

Problems involving library, field, or laboratory work. Only three semester hours of BIO 320 can be used to fulfill advanced hour requirement.

BIO 325. Pathophysiology. (4)

Study of relationship between normal body functioning and physiologic changes that occur as the result of illness.

Prerequisite: BIO 171 and 172; or BIO 201 and 305.

BIO 340. Internship. (0-20)**BIO 342. Genetics. (3)**

Introduction to basic principles of genetic organization, function, and inheritance.

Prerequisite: one year of chemistry, junior standing, and at least one 200-level biology course, or permission of instructor.

BIO 351. Environmental Education: Focus on Natural History. (4)

Introduction to the field of environmental education emphasizing the natural history and interpretation of natural habitats of southwestern Ohio. Recommended prerequisite: BIO 115.

2 Lec. 2 Lab.

BIO 361. Patterns in Development. (4)

Cellular, molecular and genetic analysis of developmental processes by which a single celled zygote is transformed into a multi-cellular organism, comparative analyses of the mechanisms across animals, and an understanding of classical and modern experimental approaches in Developmental Biology. CAS-D/LAB.

3 Lec. 1 Lab.

Prerequisite: BIO 203.

BIO 377. Independent Studies. (0-6)**BIO 395. Primate Biology and Behavior. (3)**

Taxonomic survey of the primate order including anatomy, distribution, adaptation, and morphological characteristics of various taxa. Selected primatological topics including primate conservation, reproduction and development, manipulation, and tool use. Recommended prerequisite: ATH 255 or BIO 206; junior or senior status; or permission of instructor.

Cross-listed with ATH.

BIO 400. Capstone Seminar: Contemporary Issues in Biology. (3)

Requires seniors to critically evaluate and form positions on current biological issues of national interest. Format, theme, and topics change from term to term. Examples of themes include the management and use of natural resources, preservation of biological diversity, nature of the medical profession, and issues raised by advances in biotechnology. Faculty as well as other recognized authorities participate. SC.

BIO 402/BIO 502. Plant Anatomy. (4)

Study of structural characteristics of plant cells organized into functional tissue groups within organs comprising plant bodies. Emphasis placed on the developmental origin and identification of plant cell types using histochemistry and light microscopy, how various combinations of cell types form functional vegetative tissues, and how these functional tissues are organized within leaves, stems, and roots to form integrated plant bodies that are able to survive in diverse environments. (3 Lec. 1 Lab). CAS-D.

Prerequisites: (BIO 191 or BIO 116 or BIO 115) and (BIO 204 or BIO 206) or alternatively, instructor permission.

BIO 407. Ichthyology. (4)

General biology of fishes: their systematics and taxonomy, anatomy, systemic physiology, ecology, zoogeography, and management. Laboratory includes methods of collection and identification; studies of selected structural, functional, and behavioral attributes of fishes; and four field trips. CAS-D/LAB.

2 Lec. 2 Lab.

BIO 408/BIO 508. Ornithology. (4)

General biological principles of birds, their classification, evolution, adaptations, ecology, behavior, and relationship to humans. CAS-D/LAB.

2 Lec. 2 Lab.

Prerequisite: two advanced courses in biological sciences or permission of instructor.

BIO 410/BIO 510. Mammalogy. (4)

Examines the evolution, taxonomy, morphology, behavior and distribution of mammals. Emphasis is on placing modern mammal species in an evolutionary and comparative context. 2 Lec, 2 Lab. CAS-D/LAB.

Prerequisite: at least 14 hours of biology.

BIO 419R. Independent Research Capstone. (3)

Provides students with an in-depth research experience. Requires that students understand scientific literature in a specific area, develop a research proposal, perform research, write a summary report, and orally present the research findings. SC.

Prerequisite: permission of instructor and department chair or chair designate.

BIO 422/BIO 522. Evolutionary and Population Genetics. (4)

Detailed examination of evolutionary and biosystematic concepts that have promoted advances in understanding the origins, structure, function, behavior, and distribution of present-day organisms and taxa.

Prerequisite: BIO 342 or equivalent.

BIO 423/BIO 523. Synthetic and Systems Biology. (3)

Design principles and applications of microbial cells. Topics include synthetic pathway design, artificial photosynthesis, repurposing genetic codons, genome synthesis and editing, and genetic circuit design among others. CHM 432/CHM 532, MBI 425/MBI 525, and MBI 445/MBI 545 are highly recommended before taking this course. Cross-listed with: MBI 423/MBI 523/523 and CHM 423/CHM 523/523. Prerequisite: MBI 201, or equivalent, or permission of instructor.

BIO 425/BIO 525. Environmental Plant Physiology. (4)

Examines the structure and function of plants from the cellular to the whole plant level focusing on plant-environment interactions.

Prerequisite: a course in biological science.

BIO 431/BIO 531. Global Plant Diversity. (3)

Research-focused seminar on floristic, ecological, and cultural influences on global patterns of plant diversity, especially in tropical regions. Comparative topics include the role of disturbances and global environmental change. Recommended prerequisite: BIO/MBI 115, BIO 191, or higher, GEO 121 or higher, or permission of instructor.

Cross-listed with GEO.

BIO 433. Field Ecology. (3)

Practical experience in the collection, analysis, and interpretation of ecological data, and communicating with other scientists. 1.5 Lec. 1.5 Lab.

Prerequisites: BIO 209 and STA 261 or equivalent.

Cross-listed with MBI.

BIO 437. Paleontology in Conservation. (3)

This course explores the needs of conservation scientists, what paleontological data contribute, and new methods for synthesizing modern and paleontological data to develop effective strategies for conservation, remediation, restoration, and policy.

Prerequisite: BIO 206, or BIO 209, GLG 204, or permission of the instructor.

Cross-listed with GLG 437/GLG 537.

BIO 438/BIO 538. Soil Ecology and Sustainable Use. (3)

Introduces processes of soil formation and consequent physical, chemical, and biological properties. Analyzes soil functions related to plant growth, agricultural productivity, water quality, and biodiversity, and evaluates sustainability of the soil resource in the context of environmental change and ecosystem management.

Prerequisite: CHM 141 or equivalent.

BIO 444/BIO 544. Molecular Biology. (3)

Emphasis on molecular biology of the gene and the molecular basis of gene action. Recommended prerequisite: organic or physical chemistry and BIO 342; or equivalent.

BIO 449/BIO 549. Biology Of Cancer. (3)

Study of cancer in animals at the molecular, cellular, and physiological levels. Causes, development, and treatment of cancer are examined as well as the characteristics of the 10 most common cancers in humans. Recommended prerequisite: BIO 203 and organic chemistry.

BIO 451/BIO 551. Conservation Education and Community Engagement. (3)

Theory and practice of participatory education, collaborative research, and conservation action for positive ecological, educational, and social change. Includes community engagement projects and case studies in diverse local and global contexts.

Prerequisite: at least one course in the life sciences at the 200 level or above, or permission of instructor.

BIO 452/BIO 552. Neuromodulation: Cells to Circuits. (3)

Examines neural plasticity due to neuromodulation of neurons, synapses, and circuits across invertebrate and vertebrate nervous systems, including the consequences of dysfunction in neuromodulatory systems. Emphasizes critical evaluation of current literature, and scientific communication. SC. CAS-W.

Prerequisite: BIO 305 or both BIO 161 and BIO 203.

BIO 453/BIO 553. Animal Physiological Ecology. (4)

Study of physiological and behavioral adaptations of organisms. Topics include discussions of flying, diving, and swimming adaptations as well as consideration of specific environments such as deserts, caves, and estuaries. Recommended prerequisite: BIO 209, 305, or equivalent, and permission of instructor.

3 Lec. 1 Lab.

BIO 454/BIO 554. Endocrinology. (3)

Study of the role of chemical messengers and hormones from endocrine and neural origin, in control of physiological processes. Includes review and discussion of current techniques and methodologies in the literature. Prerequisite: BIO 305, or both BIO 161 and BIO 203.

BIO 457/BIO 557. Neuroanatomy. (3)

Study of structural and functional organization of the mammalian central nervous system. Emphasis on organization of and current methodologies used in study of major neuroanatomical pathways and neurotransmitters of mammalian brain and spinal cord. Includes computer-assisted imaging of brain structures and methods of data analysis.

Prerequisite: BIO 305, or both BIO 161 and BIO 203.

BIO 459/BIO 559. Advanced Neuroscience with Lab. (3)

An in-depth, hands-on exploration of experimental design and laboratory techniques in neuroscience research, with emphasis on physiological, behavioral, cellular, and molecular mechanisms of nervous system function. Students use vertebrate and invertebrate model organisms and research methods such as gross dissection, immunohistochemistry, electrophysiology and liquid chromatography, to investigate structural and functional features of nervous tissues and cells. Collaborative teams design and conduct semester-long research projects. Students learn to interpret the neuroscience research literature, analyze current research trends, identify gaps in knowledge, and develop competencies in scientific writing and communication. CAS-D.

Prerequisite: BIO 305 or graduate standing.

BIO 463/BIO 563. Limnology. (4)

Physical, chemical, and biological characteristics of freshwater ecosystems. CAS-D/LAB.

3 Lec. 1 Lab.

Prerequisite: BIO 209 or equivalent, a year of chemistry, or permission of instructor.

BIO 464/BIO 564. Laboratory in Cell and Molecular Biology. (3)

An in-depth, hands-on laboratory experience that supplements any of the 400 level cell, developmental, genetic, or molecular biology courses. Emphasis is on techniques used in modern cell and molecular biology.

Prerequisite or Co-requisite: BIO 342; or permission of instructor.

BIO 465/BIO 565. Animal Behavior. (4)

Evolutionary approach to the study of animal behavior with emphasis upon the description, measurement, and interpretation of behavior of animals. Emphasizes a problem-solving approach to help students understand how and why behavior influences the ways in which animals live and reproduce. Emphasizes examination of behavior using a combination of lectures, discussions, and laboratory experiences. Students gain experience in evaluating published scientific research as well as data gathered in lab exercises and an independent research project. CAS-D/LAB.

2 Lec. 2 Lab.

Prerequisite: nine hours of advanced courses in biological science and a course in statistics or permission of instructor.

BIO 466/BIO 566. Bioinformatics Computing Skills. (3)

Study of the core computational and biological concepts in bioinformatics, with programming in Python, MySQL and Ubuntu OS. You will gain hands-on experience in popular bioinformatics applications, including BLAST, sequence alignment, genome browser, and gene annotation, among others.

Prerequisites: BIO 256; or CSE 174; or permission of instructor. Cross-listed with CHM/CSE/MBI.

BIO 467/BIO 567. Conservation Biology. (3)

Principles of ecology and organismal biology applicable to conservation of uncommon plant and animal populations or ecosystems as related to anthropogenic influences and relevant legislation. SC.

Prerequisite: BIO 209 or BIO 401; or equivalent.

BIO 469/BIO 569. Neurophysiology. (3)

Study of the physiology of the central nervous system with emphasis on the cellular and molecular basis of signal transmission in the brain. Includes a review of current techniques and topics in the literature.

Prerequisite: BIO 305, or both BIO 161 and BIO 203; graduate standing for 569.

BIO 471/BIO 571. Molecular Physiology. (3)

Emphasis on how modern biological techniques are applied to the understanding of molecular physiology in both the normal and abnormal disease states. Specific topics will be complemented with current literature to illustrate investigations into physiology at the cellular and molecular level.

Prerequisite: BIO 305 and a 200-level (or higher) course in molecular/cell biology.

BIO 477. Independent Studies. (0-6)**BIO 480. Departmental Honors. (1-6; maximum 6)**

Departmental honors may be taken for minimum of 4 credit hours and maximum of 6 credit hours, in one or more semesters of student's senior year.

BIO 481/BIO 581. Theory of Electron Microscopy. (3)

Principles and theory of scanning and transmission electron microscopy and advanced microscopies.

BIO 482/BIO 582. Scanning Electron Microscopy Laboratory. (2)

Practical course providing training in scanning electron microscopy (SEM). Sample preparation, SEM operation, darkroom work, manuscript preparation, and an individual research project. Prerequisite or Co-requisite: BIO 481/BIO 581 and permission of instructor.

BIO 483/BIO 583. Transmission Electron Microscopy Laboratory. (3)

Practical course in transmission electron microscopy: specimen preparation microscope usage, data collection, and photographic plate preparation. Prerequisite or Co-requisite: BIO 481/BIO 581 and permission of instructor.

BIO 485/BIO 585. Bioinformatics Principles. (3)

Concepts and basic computational techniques for mainstream bioinformatics problems. Emphasis placed on transforming biological problems into computable ones and seeking solutions. Prerequisites: (BIO/CSE/MBI 256 or CSE 174) and (BIO/MBI 116 or MBI 201 or BIO 342) or permission of instructor. Cross-listed with CSE 456/CSE 556 and MBI 485/MBI 585.

BIO 491. Seminar in Biology. (1; maximum 2)

Review and discussion of topics in biology. Prerequisite: senior biology, botany or zoology major; or permission of instructor.

BIO 497/BIO 597. Socio-Ecology of Primates. (3)

Ethology and ecology of living prosimians, monkeys, and apes, from comparative and evolutionary perspectives, emphasizing field studies of natural populations. Prerequisite: junior or senior status; nine advanced hours in BIO; for others, permission of instructor. Cross-listed with ATH.

BIO 498. Evolution of Human Behavior. (3)

Ethology and ecology of *Homo sapiens*, from comparative and evolutionary perspectives, drawing on primatology, paleoanthropology, and sociocultural studies of traditional societies. SC. Prerequisite: junior or senior status; nine advanced hours of BIO; permission of instructor. Cross-listed with ATH 498.

BIO 601. Seminar for Graduate Students. (1)

Introduction to methods of searching literature, preparation of audiovisual materials, preparation of grant applications and manuscripts, good teaching practices, and other aspects of the profession. Seminar for beginning graduate students in the biological sciences.

BIO 605. Advanced Molecular Biology. (3)

In-depth study of genome organization, rearrangement, replication, and expression in prokaryotic and eukaryotic cells and their viruses, with an emphasis on regulatory mechanisms. Prerequisite: graduate status, a course in molecular genetics, biochemistry, or cell biology, and permission of instructor. Cross-listed with MBI.

BIO 606. Advanced Cell Biology. (3)

Advanced level study of molecular basis of prokaryotic and eukaryotic cell structure/function relationships. Prerequisite: graduate status, course in molecular genetics, cell biology, or biochemistry, and permission of instructor. Cross-listed with MBI.

BIO 620. Graduate Research. (1-12; maximum 14)

Special problems in the biological sciences.

BIO 622. Urban Ecology. (3)

As urbanization increases globally, it is important to understand how natural resources can best be managed within and around cities. In this course, students explore the growing field of urban ecology and investigate how diverse stakeholders in cities can work together to increase urban sustainability and livability. The course includes a project whereby students collaborate to design a comprehensive urban land use management vision for the future of an urban system of their choice. This course occurs in Dragonfly's web-based learning community.

BIO 623. Human Dimensions of Conservation. (3)

Conserving wildlife is a complex endeavor that requires the integration of sound science from both the social and natural sciences. This course explores how social sciences can inform conservation. Students consider how current conservation issues can be addressed through an understanding of human thought and action. This course occurs in Dragonfly's web-based learning community.

BIO 624. Pollinator Biology & Conservation. (2)

Pollinators are critically important to global ecosystems. This course explores the diversity of pollinators, from relatively well-known honey bees to wild bee species and non-insect pollinators such as bats and hummingbirds. Participants implement a project that involves creating a pollinator garden or submitting a pollinator-focused research paper, lesson plan, or grant application. This course occurs in Dragonfly's web-based learning community.

BIO 625. Environmental & Informal Science Education. (3)

This course explores pedagogical approaches used in environmental and informal science education. Students conduct an analytic review of the literature related to an area of interest and then put the knowledge to work by designing, facilitating, and assessing a learning activity conducted with a target audience. This course occurs in Dragonfly's web-based learning community.

BIO 627. Global Biomes. (2-3)

This course investigates the biomes of the world with a focal biome being explored in-depth each semester. Students discuss topics such as gradients/ecoclines, trends in biodiversity, and differences among marine, terrestrial and anthropogenic biomes. This course occurs in Dragonfly's web-based learning community.

BIO 631. Conservation Science & Community. (3)

This course explores the theory and practice of conservation science, including discussion of threats to biodiversity as well as methods to collaboratively address social-ecological problems. Vital to this course is a project in which students work directly with their local community to better understand and address real ecological problems. This course occurs in Dragonfly's web-based learning community.

BIO 632. Biology in the Age of Technology. (3)

This course explores the beneficial and negative impacts of technology for conservation biology and environmental action. Topics include wildlife mapping via GPS and GIS, use of drones, satellite imagery, radio-collars, citizen/community science, social media, impacts of media on children including Nature Deficit Disorder. Through projects, students research a biological problem of interest and design a participatory media product to engage community members in that topic. This course occurs in Dragonfly's web-based learning community.

BIO 634. Issues in Evolution. (3)

An understanding of evolution is critical for those seeking to better protect life on earth. In this course, students learn and discuss foundational evolutionary concepts as well as emerging topics. Students design a project that presents information on an evolutionary topic of choice in the form of a lesson plan, infographic or review paper. This course occurs in Dragonfly's web-based learning community.

BIO 636. Science Leadership & Media Workshop. (3)

This course focuses on science writing for many purposes, including peer-reviewed literature, grants, and general community outreach. Students provide critical peer review of others' work and are challenged to explore a leadership dimension within their professional careers. This course occurs in Dragonfly's web-based learning community.

BIO 637. Master's Capstone. (2)

Master's Capstone is the cornerstone exit course of the Advanced Inquiry Program (AIP) and the Global Field Program (GFP) master's degrees from Miami University. Students synthesize, analyze, share, discuss, and make final reflections about the projects and artifacts they have created throughout their master's experience and how those projects have helped lead them to a deeper understanding of the master's program core tenets of local, regional and global understanding; inquiry; environmental stewardship; and community participation/voice. This course occurs in Dragonfly's web-based learning community.

BIO 638. Climate Change. (3)

Global warming is irrevocably altering our polar ice caps, our oceans, our forests, and the world's plant and animal life. In this course, participants study the science of climate change, the diverse causes of climate change, and the impact of climate change at local, regional, and global scales. Topics include global warming's effect on weather and climate, ice caps, deforestation, and species conservation. Because the public plays a central role in how the world responds to climate change, students also investigate the factors that guide public perception, ranging from media to social interaction. Students explore the effect of climate change specific to the biology of their local region and consider what actions they and their communities can take locally. Through project assignments and research, at the end of this course participants not only have a solid understanding of current issues surrounding climate change but will also have considered and developed strategies for taking action. This is a hybrid course with interaction on-site and in Dragonfly's web-based learning community.

BIO 639. Master's Capstone: MAT. (2)

A required exit course for students earning a Master of Arts in Teaching (MAT) in the Biological Sciences as part of the Advanced Inquiry Program (AIP) or the Global Field Program (GFP) master's degrees from Miami University. Students review, analyze, and synthesize their own work throughout the degree and create a master's portfolio. They share their portfolio with peers and discuss their academic and personal progress through their master's experience. Student portfolios must demonstrate relevance to learning and teaching in formal education settings.

BIO 640. Internship. (0-12; maximum 6)**BIO 641. Earth Expeditions: Advanced Field. (5)**

The Earth Expeditions: Advanced Field course allows students to more fully and deeply explore community-based conservation, participatory education, and inquiry at an international conservation site they have previously visited during a past Earth Expeditions course. Possible field sites for the Advanced Field course include Baja, Belize, Borneo, Costa Rica, Guyana, Hawai'i, Kenya, Mongolia, Namibia, and Thailand (see EarthExpeditions.org for detailed descriptions of each field site). Prior to and following the field experience, students complete coursework via Dragonfly's Web-Based Learning Community as they apply experiences to their home institutions.

BIO 642. Amazon: Avian & Tropical Ecology. (5)

In the Amazonian Neotropical regions of Peru, reality has attained mythic proportions: more than 400 species of mammal, 1,300 bird species, 3,000 fish, 40,000 plants, and 2.5 million insect species. And still counting. Why is this area of South America the most diverse on the planet? How have the varied human groups that inhabit this region adapted to their unique environments? And perhaps the most relevant question for life on Earth, what is the future of the Amazon? Students travel to the Peruvian Amazon rainforest and work with educators, researchers, and local communities to better understand the evolution and maintenance of biodiversity in this region, and to experience firsthand the effects of human interventions in the Amazon, from deforestation and urbanization to restoration efforts by local groups. Prior to and following the field experience in the Amazon, students complete coursework via Dragonfly's Web-Based Learning Community as they apply experiences to their home institutions.

Cross-listed with IES.

BIO 643. Australia: Great Barrier Reef. (5)

One of the seven wonders of the natural world, the Great Barrier Reef lies in the clear blue waters off the northeast coast of Australia. This complex reef system is not only the world's greatest expanse of coral, it is the Earth's largest living structure, a massive, beautiful, and ancient biological phenomenon of bewildering diversity and immense ecological significance. This graduate course is offered jointly with Reef HQ Aquarium, Australia's National Education Centre for the Great Barrier Reef. We sleep near the corals in the aquarium itself, venturing forth on several excursions for direct research on the Great Barrier Reef, and hiking in some of Australia's unique terrestrial habitats. Discussion topics include marine science issues, citizen engagement in marine science and environmental stewardship. Prior to and following the field experience in Australia, students complete coursework via Dragonfly's Web-Based Learning Community as they apply experiences to their home institutions.

Cross-listed with IES.

BIO 644. Baja: Field Methods. (5)

Students discover the rich waters and terrestrial ecosystems of Baja's UNESCO World Heritage site and biosphere reserve on the Sea of Cortez. Bahia de los Angeles is a unique ecoregion with remarkable marine and terrestrial environments. Students also explore Rancho San Gregorio, a family-owned ranch located in a small canyon where its isolation and climate make it a hotspot for desert investigations. Students gain proficiency in applying field methods to ecological questions and conservation practice. A premise of this course is that field methods are not only essential for ecological research, they can serve as the basis for participatory education, public engagement in science, and community-based environmental stewardship. Many groups, from teachers leading schoolyard ecology to parataxonomists involved in ethnobotanical research, share a need for reliable information obtained through robust field methods to build understanding and to promote informed action. Prior to and following the field experience in Baja, students complete coursework via Dragonfly's Web-Based Learning Community as they apply experiences to their home institutions.

Cross-listed with IES.

BIO 645. Belize: Approaches to Environmental Stewardship. (5)

Students join our partner, the Belize Zoo, and explore diverse terrestrial, coastal, and coral reef communities of Belize, while learning about conservation programs on such species as harpy eagles, jaguars, manatees, and howler monkeys. Possible investigations include monitoring manatee population dynamics, human influence on coral reefs, aquatic mangrove species sampling, and species behavior studies at the Belize Zoo. Discover the power of inquiry to generate knowledge and inspire conservation. All students will have the chance to conduct an investigation of the local ecosystem, asking their own questions, collecting data, and presenting conclusions. Prior to and following the field experience in Belize, students complete coursework via Dragonfly's Web-Based Learning Community as they apply experiences to their home institutions.

Cross-listed with IES.

BIO 646. Borneo: Primate Conservation. (5)

Borneo's primate community is exceptionally rich, including proboscis monkeys, which occur only in Borneo, leaf monkey, macaque, gibbons, tarsier and slow loris. Of greatest conservation concern is the orangutan, which occurs naturally on only two islands in the world, Borneo and Sumatra, and is under increasingly severe pressure, primarily from habitat loss. The orangutan, the only great ape in Asia, may completely vanish from the wild within two decades. Partnered with the Woodland Park Zoo, we will join researchers from the NGO Hutan and the Danau Girang Field Centre, and villagers of the Kinabatangan region who are responsible for model community-based efforts to preserve orangutans, Bornean pygmy elephants, and other species. In addition to exploring primatological field methods, students will work with local groups and develop new ways to engage communities worldwide in saving orangutans and other wildlife. Prior to and following the field experience in Borneo, students complete coursework via Dragonfly's Web-Based Learning Community as they apply experiences to their home institutions.

Cross-listed with IES.

BIO 647. Guyana: Local Wisdom & Conservation. (5)

Guyana's rain forests are part of the Guiana Shield considered one of the last four Frontier Forests in the world. Guyana is famous for its relative abundance of iconic Amazonian species such as jaguars, arapaima (a "living fossil" and one of the largest freshwater fishes in the world), harpy eagles, giant anteaters, giant river otter, and the giant water lily. Guyana is also culturally and ethnically diverse. We will spend most of our time with the Makushi, an indigenous group that has lived in these forests and savannas for thousands of years. The Makushi and their lands face a striking transition as the forces of development provide new opportunities and challenges, the greatest perhaps being the rapid extinction of traditional knowledge. Conscious of the value of indigenous and non-indigenous knowledge, Guyana's Makushi people are becoming masters of straddling both worlds. Prior to and following the field experience in Guyana, students complete coursework via Dragonfly's Web-Based Learning Community as they apply experiences to their home institutions.

Cross-listed with IES.

BIO 648. Hawai'i: Saving Species. (5)

The extraordinary island ecosystems of Hawai'i evolved in isolation over millions of years, and the islands have long been home to species that occur nowhere else on the planet. However, since the arrival of humans, native species have been under tremendous threat, and by many measures Hawai'i is becoming one of the United States' most profound conservation failures. Habitat destruction, environmental degradation, introduced species, and other forces have made Hawai'i a global center for extinction. Students in this course will join with San Diego Zoo Global (SDZG), Project Dragonfly, and Hawaiian partners to explore what it takes to save species in the wild. We will focus especially on the inspirational work of SDZG's Institute for Conservation Research, which uses science, education, and community programs to rescue species from the brink of extinction. We expect Earth Expedition's Hawai'i program to immerse graduate students and local partners in developing and testing site-specific methods of community engagement to sustain ecological and social health. Prior to and following the field experience in Hawai'i, students complete coursework via Dragonfly's Web-Based Learning Community as they apply experiences to their home institutions.

Cross-listed with IES.

BIO 649. Kenya: Wildlife & People in Integrated Landscapes. (5)

The South Rift Valley of Kenya is one of the most spectacular wildlife areas on the planet. Project Dragonfly has partnered with the Cincinnati Zoo & Botanical Garden and the African Conservation Centre to advance community-based conservation in this dynamic landscape. This effort builds on the decades-long research of Dr. David Western, former head of the Kenya Wildlife Service, and the centuries-long research of the Maasai pastoralists, who have long co-existed with wildlife in an open grassland ecosystem populated by elephants, lions, giraffes, zebra, wildebeests, and a remarkable diversity of other species. With the rise of nontraditional lifestyles, private ranches, and fenced lands that prevent needed wildlife migrations, communities of the South Rift have recognized the need to understand the impact of these changes and to work together for a better future. Join Kenyan conservationists, educators, community leaders, and youth to study sustainable approaches to human-wildlife coexistence. Prior to and following the field experience in Kenya, students will complete coursework via Dragonfly's Web-Based Learning Community as they apply experiences to their home institutions.

Cross-listed with IES.

BIO 650. Seminar in Molecular Biology. (1)

Discussion of current literature in molecular biology.

Prerequisite: graduate standing.

Cross-listed with CHM/MBI.

BIO 651. Mongolia: Steppe Ecology & Civic Media. (5)

Students travel to Mongolia, the "Land of Blue Sky." The birthplace of the Mongol Empire, the largest contiguous empire in human history, Mongolia is now a vibrant democracy and home to an open wilderness that has few parallels in the modern world. We will explore the great steppes, and especially engage in the conservation story of two key steppe species: Pallas' cats and Przewalski's horse. Pallas' cats are important steppe predators whose conservation provides insights into the challenges facing the survival of small wild cats worldwide. Przewalski's horse, also called takhi, are considered to be the only true wild horse left in the world. We will join research on an ambitious reintroduction project based in Mongolia that has returned this remarkable species to its former homeland after being driven to extinction in the wild. Prior to and following the field experience in Mongolia, students will complete coursework via Dragonfly's Web-Based Learning Community as they apply experiences to their home institutions.

Cross-listed with IES.

BIO 652. Thailand: Buddhism & Conservation. (5)

Students travel to Thailand to investigate this country's astonishing Old World rain forests and diverse cultural environments. This course will address key topics in ecology while exploring emerging models of conservation and education. Possible research projects include Buddhism and the environment, indigenous ecological knowledge, spiritual connections to nature, and community forests. Discover the power of inquiry to generate knowledge and inspire conservation. All students conduct an investigation of the local ecosystem, asking their own questions, collecting data, and presenting conclusions. Prior to and following the field experience in Thailand, students complete coursework via Dragonfly's Web-Based Learning Community as they apply experiences to their home institutions.

Cross-listed with IES.

BIO 653. India: Species, Deities & Communities. (5)

Students journey to India through the rich ecological, cultural, and spiritual landscapes of the Western Ghats, exploring sacred groves and forest temples where the fate of wildlife, people, and deities meet. The Western Ghats region is well known to conservationists as a biodiversity hotspot, home to diverse local ecosystems with an abundance of plant and animal species found nowhere else. The existence of sacred groves in the Western Ghats predates recorded history. For social scientists, sacred groves are valued as centers for community life. For the spiritually inclined, sacred groves transcend earthly bounds, allowing people to commune with gods and other powerful beings that offer protection, enlightenment, absolution, or guidance. In this course, we seek to better understand the multifaceted relationship between people and nature, and we address specific questions about a sustainable future. Prior to and following the field experience in India, students complete coursework via Dragonfly's Web-Based Learning Community as they apply experiences to their home institutions.

Cross-listed with IES.

BIO 654. Foundations of Inquiry. (3)

This course engages students in exploring the foundations of inquiry-based teaching and learning while students gain a new familiarity with Advanced Inquiry Program (AIP) Master Institution (MI) facilities as informal science education settings. Through making observations on zoo grounds, developing comparative questions, devising investigations to answer those questions and communicating results, participants will experience the full process of inquiry and will learn how to guide this process with their own students and in their own communities. This type of firsthand, experiential learning encourages independent and critical thinking, increasing the communities' awareness and concern for the local environment and its inhabitants. We will engage in activities that demonstrate the applications of inquiry in the classroom, on zoo grounds, in the schoolyard and other settings. Through this course, students will develop the investigation, critical reflection, and collaboration skills needed to lead inquiry-driven learning for diverse communities. This is a hybrid course with interaction on-site and in Dragonfly's web-based learning community.

BIO 655. Master Plan in Action. (1-3)

This course is specifically designed for students enrolled in the Project Dragonfly Master's programs at Miami University. Through the course, students plan and reflect on community-embedded projects including a publication project, community-based leadership challenge, overall Master Plan for the program, and creation of a culminating portfolio. This course occurs in Dragonfly's web-based learning community.

BIO 656. Environmental Stewardship in My Community. (3)

Students in this course investigate environmental stewardship, research science and conservation opportunities and solutions in their local communities, practice inquiry-based learning, develop a conservation project to be used in their classroom or community, and reflect on ecological and carbon footprints. At the end of this course, students will have a solid understanding of community-based conservation, with a particular emphasis on current issues facing local habitats in the communities where they live. Students will also explore and begin to design stewardship strategies for empowering their own students or community members to generate solutions and take action. This is a hybrid course with interaction on-site and in Dragonfly's web-based learning community.

BIO 657. Regional Ecology. (3; maximum 6)

Through both zoo-based and field-based experiences, this course explores regional wildlife conservation issues, as well as field investigation techniques that scientists and citizens can use to study and conserve local ecoregions and wildlife. Students will be exposed to observational and experimental approaches and will practice field investigation techniques that can provide rigorous, engaging inquiry experiences for students. Student-conducted investigations will be used to contribute to local ecological knowledge by describing natural systems, noting differences in habitats, and identifying environmental trends and issues. This course focuses on different ecoregions in the area and highlights different conservation issues or themes based on that ecoregion. This is a hybrid course with interaction on-site and in Dragonfly's web-based learning community.

BIO 658. Ecophysiology. (3)

Students in this course will explore the ways in which humans can (and do) emulate systems and designs found in nature to create materials, medicines, social systems, computers and so much more. Students will fine tune their observation skills and complete a design challenge using nature as their guide. Through this course, students will develop their observation and collaboration skills and will acquire research experience in the life sciences on such topics as the principles of ecophysiology, form and function of organismal adaptations, phenotypic and behavioral plasticity, and maintenance of homeostasis. Students will think critically and scientifically about the ways in which nature can benefit humankind through technological inspiration and solutions to environmental problems. Students will apply what they have learned as they develop curricula and create design challenges for professional use. This is a hybrid course with interaction on-site and in Dragonfly's web-based learning community.

BIO 659. Great Lakes Ecosystems. (3)

The focus of this course is the study of the biology of the Great Lakes watershed, combining classroom work with field science inquiry and research. In addition to exploring the general function of watersheds, students become familiar with historical and contemporary human influences on ecosystems within the watershed basin, and they discuss and understand negative human impacts including point and non-point source pollution, multiple-stressors, "urban stream syndrome," and local sewage treatment and its relationship to the basin. Students gain skills observing and describing biotic and abiotic characteristics of area watershed ecosystems and understand the status of threatened and endangered species in the watershed basin. This is a hybrid course with interaction on-site and in Dragonfly's web-based learning community.

BIO 662. Animal Behavior & Conservation. (3)

This course provides a foundation for understanding ethological research methods that can be applied to promote animal welfare and wildlife conservation. The course involves a community-based research project and direct observation of diverse animal species in a variety of settings such as zoos, botanical gardens, parks, and more. This course occurs in Dragonfly's web-based learning community.

BIO 663. Project Design & Assessment. (3)

This course instructs students about one of the most important scientific endeavors: evaluation to indicate whether their own work or the work of others is showing a trend and, thus, having an impact. The course is focused on two main sets of evaluation, natural science and social science studies. The course will review statistical thinking and discuss how to construct successful studies that will open students to accurate and effective evaluation. We will discuss how to choose between different statistical tests and the consequences for their experimental design. Students will be engaged in the different ways researchers and others apply statistics to natural science and social science studies. Students conducting social science research will determine whether to conduct qualitative or quantitative studies and will parse out the differences and values of each approach. This is a hybrid course with interaction on-site and in Dragonfly's web-based learning community.

BIO 667. Conservation Research at Living Collection Institutions. (3)

This course provides students with an overview of conservation research conducted in zoological, reserve, aquaria and other ex situ settings. Students will explore key science concepts within the contexts of wildlife conservation, the imperative of in-situ conservation, the multi-disciplinary nature of science, and hands-on conservation research. Participants will learn about current research in the fields of genetics, reproductive physiology, disease diagnostics, ecology, and animal behavior. Course themes explore sustainable population maintenance, wildlife health, bioresource banking, restoration ecology, reintroduction biology, and the role of zoos, reserves and aquaria in conservation. This is a hybrid course with interaction on-site and in Dragonfly's web-based learning community.

BIO 668. Biology Through Inquiry. (3)

This course will explore fundamental topics in biology from a student-driven, inquiry-based perspective. Course topics include cell biology, plant biology, DNA and gene expression, evolution, diversity of life and classification, populations, communities, and ecosystems. Students will conduct mini-inquiries throughout the course, helping to link core concepts to their everyday lives. Through collaborative discussions, students will further their understanding of these key concepts and articulate relationships between biology and many of the major challenges currently facing humanity. Finally, students will conduct their own biological investigation, developing skills in experimental design, data collection, and communication of findings. This course occurs in Dragonfly's web-based learning community.

BIO 671. Population and Community Ecology. (4)

Principles and applications of population and community ecology: population dynamics, direct and indirect species interactions, food webs, species diversity.

Prerequisite: at least one course in general ecology; calculus recommended.

Cross-listed with MBI.

BIO 672. Ecosystem and Global Ecology. (4)

Structure, dynamics and management of ecosystems and the biosphere, including food web interactions, nutrient cycling, ecosystem functioning, and biogeochemical cycles at local, regional and global scales.

Prerequisite: at least one course in general ecology and general chemistry.

Cross-listed with MBI.

BIO 675. Inquiry & Action. (2; maximum 6)

A follow-on course to summer Earth Expeditions global field courses, BIO 675 enables students to work with faculty, peers, and their local communities to address key ecological and education issues through hands-on investigation and action. Each student conducts a semester-long Inquiry Action Project (IAP) that requires scientific research in a community context as well as shared action or a plan of shared action addressing a focus issue.

Prerequisites: Earth Expeditions field course, or permission of instructor.

BIO 677. Independent Studies. (0-6)**BIO 681. Galápagos: Islands of Change. (5)**

Biologically, geologically, and culturally, the Galápagos are one of the best places on Earth to study the forces of change. Here, in 1835, Charles Darwin noted how giant tortoises, finches, and other taxa evolved different forms across the archipelago. Species on the islands have transformed in response to other species and the physical environment, through periods of isolation and connection, as new islands were created and old islands submerged over time. The most powerful changes now are of human origin. People are an increasing source of habitat destruction, overexploitation, and introduced species. But they are also a source of hope, with government agencies, researchers, NGOs, educators, and other informed citizens designing promising new approaches. Students will explore multifaceted forces of change in the Galápagos and contribute directly to sustainable solutions to current issues. Before and after the field experience, students complete coursework in Dragonfly's web learning community. Cross-listed with IES.

BIO 682. Paraguay: Eco-Leadership. (5)

The presence of conservation organizations in Paraguay is limited, and a critical need exists to better understand and build on the traditionally close relationship between local people and the land on which they depend. Cultivating the next generation of leaders is essential to a sustainable future for Paraguay's unique ecosystems and cultures, which are under increasing threat from population growth, agriculture, cattle ranching, hunting, and construction. Students in this course will co-develop an Eco-Leadership program for Paraguay, working in partnership with Para La Tierra (PLT), a nonprofit conservation organization devoted to scientific research, conservation, and community engagement. Students will learn with Paraguayan youth and others the diverse skills required for effective eco-leadership. Before and after the field experience, students complete coursework in Dragonfly's web learning community. Cross-listed with IES.

BIO 683. Brazil: Saving Golden Lion Tamarins. (5)

Golden lion tamarins live in only one small region of Brazil. By 1969, habitat destruction and forest fragmentation reduced the wild population to just 200 individuals. Since then, zoos worldwide have carefully managed the captive population, ecologists have studied habitat and population requirements, and educators have worked with local communities to increase knowledge of tamarins and their forest. Since 1969, the wild population has increased nearly tenfold, making this a landmark case of species recovery. This course focuses on multi-faceted wildlife conservation, including biological issues relevant to species reintroductions and translocations, management of wild and zoo-based populations, community-based habitat restoration, and participatory conservation education. We will explore the next generation of learning programs and public engagement campaigns through zoos and schools in Brazil, the U.S., and other countries. Before and after the field experience, students complete coursework in Dragonfly's web learning community. Cross-listed with IES.

BIO 689. Pedagogy For Graduate Students. (1)

Introduction to teaching for new graduate students. Role of the graduate teaching assistant, teaching methodology and good teaching practices are covered. Summer only. Prerequisite: acceptance into one of the graduate programs associated with the department.

BIO 691. Costa Rica: Ecology & Ecotourism. (5)

Students join a summer field course in Costa Rica to explore Neotropical systems, including lowland rain forest and cloud forest; engage in inquiry and action projects on vital issues in education and conservation. Prior to and following the field experience in Costa Rica, students complete coursework via Dragonfly's Web-Based Learning Community as they apply experiences to their home institutions. Cross-listed with IES.

BIO 692. Namibia: Great Cat Conservation. (5)

Students join a summer field course in Namibia, Africa, to connect with the Cheetah Conservation Fund, the global center of cheetah conservation worldwide; engage in inquiry and action projects on vital issues in education and conservation. Prior to and following the field experience in Namibia, students complete coursework via Dragonfly's Web-Based Learning Community as they apply experiences to their home institutions. Cross-listed with IES.

BIO 694. Habitats, Adaptations, & Evolution. (1-3)

This course explores the biology and conservation of species and habitats. Students implement a research project and investigate how local environmental conditions shape species' adaptations. This course occurs in Dragonfly's web-based learning community.

BIO 695. Plants & People. (3)

This course explores the ecological roles of plants as well as the history of human-plant relationships (e.g., cultural context, ethnobotany, symbolism). Students implement a research project that engages their community in environmental action. This course occurs in Dragonfly's web-based learning community.

BIO 696. Primate Behavior & Conservation. (3)

Students will complete a semester-long research project to investigate primate conservation and behavior through direct observation of prosimians, monkeys, and apes at the Cincinnati Zoo & Botanical Garden. This is a hybrid course with interaction on-site and in Dragonfly's web-based learning community. Cross-listed with IES.

BIO 700. Research for Master's Thesis. (1-12; maximum 12)

Research in biology for those who successfully defend their master's thesis proposal.

Prerequisite: undergraduate biological science major and related scientific subjects.

BIO 704. Non-Thesis Project. (0-12; maximum 12)

This repeatable course is for non-thesis culminating experiences. Permission of the instructor is required.

BIO 710. Advanced Seminar. (1-4; maximum 4)

Discussion of current problems and literature.

BIO 720. Doctoral Research. (1-12; maximum 14)

Research performed by doctoral student prior to successful completion of doctoral comprehensive examination.

BIO 750. Advanced Topics in Biology. (1-5; maximum 20)

Study of specialized topics from current research.

BIO 850. Research for Doctoral Dissertation. (1-16)

Business Analysis (BUS)

BUS 101. Foundations of Business. (2)

One of four courses that students will complete as part of the eight-credit hour First-Year Integrated Core. BUS 101 introduces students to the foundational concepts of business and allows students to develop essential skills including critical and creative thinking, communication and collaboration, ethical decision making, and utilizing technology to support business functions. Students will learn their own thinking preferences and identify their personal and professional goals. Prerequisites: enrollment in Farmer School of Business. Co-requisites: BUS 102, BUS 104 and ESP 103.

BUS 102. Foundations of Business Communication. (2)

As part of the Farmer School of Business's first-year integrated core curriculum, this course introduces students to the fundamentals of business rhetoric and laying the foundation for effective oral and written business communications. EL. Co-requisites: BUS 101, BUS 104 and ESP 103.

BUS 104. Introduction to Computational Thinking for Business. (2)

As part of the Farmer School of Business first-year integrated core curriculum, this course introduces students to the fundamentals of computational thinking as an aid to data-driven business problem-solving. Topics include: computational thinking as problem solving, representing data through abstractions, and thinking in terms of algorithms (loops, conditions, reusable code, functions and events) to automate finding solutions. The course lays the foundations for students identifying, analyzing, and implementing solutions for data-driven business problems and the communication of results. EL. Co-requisite: BUS 101, BUS 102 and ESP 103.

BUS 106. Farmer School of Business Success Strategies. (1)

This course will provide business students with the resources, tools, and information to support personal, academic, and career goals. Students will explore the liberal arts and business curriculum, begin to develop a personal and professional brand, connect with valuable FSB resources, and build relationships within the diverse FSB community. This course will offer the necessary knowledge and preparation for success in the Farmer School of Business.

BUS 177. Independent Studies. (0-6)

BUS 203. Business Writing Consulting. (1)

Students will learn principles and practices of writing center consulting for business communications. Students will review key genres of business communications, including memos, letters, executive summaries, reports, proposals, and visual presentation aids. Students who successfully complete the course will be eligible to apply to be paid writing center consultants in the Howe Writing Initiative in the Farmer School of Business. Admission by application only. Prerequisite: BUS 102.

BUS 206. Exploration for Business Majors. (1)

This course will explore the diverse career paths available to students studying the field of business, from public and private corporate settings to nonprofit and government sectors. Students will explore personal and academic strengths, identify/confirm possible business majors and potential career paths, and develop their Philosophy of Work. In addition to developing career related documents and job search/interview skills, students will have the opportunity to engage and network with FSB employers and alumni.

BUS 241. Business in the Global Market. (1)

This course allows students the opportunity to engage in individual exploration on doing business in other parts of the world. Enrollment is by permission of instructor only and requires participation in the China Business Certificate Program or the Business in the Global Market Certificate Program.

BUS 277. Independent Studies. (0-6)

BUS 284. Professional Communication for Business. (3)

As part of the Farmer School of Business's core curriculum, this course develops advanced rhetoric knowledge and skills needed to write and present effectively in local and global business contexts, including working in intercultural teams and digital networks. PA-1C. Prerequisites: ENG 109 or ENG 111 and BUS 101, BUS 102 BUS 104 and ESP 103. Cross-listed with ENG.

BUS 301. Basics of Business I. (3)

An introduction to core business principles and skills. It is designed for students without academic preparation in business and who have majors outside the School of Business. Principles and skills include critical thinking, creative thinking, ethics, oral and written communication, computational thinking, data-driven decision-making, and collaboration. One to three mandatory half day field trips are also included in this course which provide context for BUS 301, 302 and 303.

Prerequisite: Enrollment in Miami PRIME and co-registration with BUS 302 and BUS 303.

Co-requisites: BUS 302 and BUS 303.

BUS 302. Basics of Business II. (3)

An introduction to business concepts across the major business disciplines. This course is designed for students without academic preparation in business who have majors outside the School of Business. Topics include major concepts in accounting, management, strategy, entrepreneurship, marketing, finance, and information technology. It exposes students to these areas in the context of the various processes a business must execute in order to add value to the customer.

Prerequisite: Enrollment in Miami PRIME and co-registration with BUS 301 and BUS 303.

Co-requisite: BUS 301 and BUS 303.

BUS 303. Business Process Integration. (3)

A project based course where material introduced in BUS 301 and BUS 302 is supplemented with additional material on the strategic planning and supply chain management processes. The course integrates student understanding of business processes through a multidisciplinary and cross-functional team project. This project is coached by a group of instructors from a variety of academic areas. The project simulates the development of a new product within an existing business. This course is designed for students without academic preparation in business who have majors outside the School of Business.

Prerequisite: Enrollment in Miami PRIME and co-registration with BUS 301 and BUS 302.

BUS 340. Internship. (0-20)

Available to Farmer School of Business (FSB) majors and minors. Available for 0 credit hour during spring, summer and fall terms. Available for 1 credit hour during summer terms only. For one hour of credit, student must secure a sponsoring FSB faculty member within his/her major or minor to supervise the internship and accompanying required internship reflection paper. BUS 340 is not available during winter term. Students are to work through their respective academic departments to enroll in the course. Credit/no credit only. Note: FSB students may earn a maximum 2 credit hours toward graduation for BLS/BUS/ECO/ESP/FIN/ISA/MGT/MKT 340. Prerequisite: 55 earned hours and permission of department.

BUS 371. International Business. (3)

Acquaints students with problems encountered and adaptations required in business operations within foreign environments. Prerequisites: ECO 201 and ECO 202.

BUS 371L. International Business. (3)

Acquaints students with basic concepts and analysis of environmental factors in which international businesses operate, strategic alternatives and applications, case studies, and country analyses. Credit for graduation will not be awarded for more than one of BUS 371 or BUS 371L. Prerequisite: ECO 201 and ECO 202.

BUS 373. International Business in Focus. (3)

Survey of the interrelationships of world business operations; an introduction to current conceptual perspectives; cultural, political/legal and economic constraints, the international financial and trade frameworks, and the problems, challenges, and opportunities facing the multinational corporation in a particular country or region of the world. Prerequisite: enrollment in School of Business summer international workshop.

BUS 377. Independent Studies. (0-6)

BUS 420. FSB International Studies Programs. (1-3; maximum 6)
The class provides an introduction to the history, culture, geography, business environment, economy, and language of the places FSB students will travel during their summer international experience. Portions of the class are in Oxford prior to departure, and portions are held in the country of the program. Prerequisite: Admission to FSB International Studies Program.

BUS 477. Independent Studies. (0-6)

BUS 494. Sustainability Perspectives in Resources and Business. (3)

Provides students with interdisciplinary perspectives of sustainability in business and resource management through consideration of the economic, social, and environmental value of organizations. The course covers principles, case studies, and best practices used by organizations in several areas of sustainability, such as energy efficiency and alternatives, waste management and recycling, ecosystem services, product redesign and life cycle management, resource management, and sustainability planning and reporting. Cross-listed with IES 494/IES 594.

BUS 601. Consulting Capstone. (2-6; maximum 4)

The Consulting Capstone is an immersive, project-based, capstone course. It will enable an integrated application of skills and knowledge from courses in the Master's of Science in Business Management (MSM) program. Students will be engaged in a hands on client project. This will require the application of skills and knowledge covered in the Business Core and Practice components of the MSM program, to address the client challenge. Prerequisites: Completion of Foundation week, Business core and Practice component of the Master of Science in Management program.

BUS 637. Managing Competition. (3)

The examination of competitive forces in the marketplace and how they can be managed to deliver winning business outcomes. This course will leverage previous MBA course work to take a wholistic view of the various strategic drivers, both internal and external to a firm.

Business Legal Studies (BLS)

BLS 177. Independent Studies. (0-6)**BLS 277. Independent Studies. (0-6)****BLS 340. Internship. (0-20)**

Available to Farmer School of Business (FSB) majors and minors. Available for 0 credit hour during spring, summer and fall terms. Available for 1 credit hour during summer terms only. For one hour of credit, student must secure a sponsoring FSB faculty member within his/her major or minor to supervise the internship and accompanying required internship reflection paper. BLS 340 is not available during winter term. Students are to work through their respective academic departments to enroll in the course. Credit/no credit only. Note: FSB students may earn a maximum 2 credit hours toward graduation for BLS/BUS/ECO/ESP/FIN/ISA/MGT/MKT 340. Prerequisite: 55 earned hours and permission of department.

BLS 342. Legal Environment of Business. (3)

Nature and sources of law; legal analysis and reasoning; judicial system, litigation and alternative dispute resolution; constitutional and administrative law; criminal law; law of torts and products liability; ethics; international business law; law of contracts; law of agency; employment law; and government regulation of business.

BLS 377. Independent Studies. (0-6)**BLS 442. Business Associations & Communal Law. (3)**

Study of the legal framework of various organizational forms in business; partnership; corporations; securities regulation and the study of the law of sales; commercial paper; secured transactions and bankruptcy. Prerequisite: BLS 342.

BLS 443. Real Estate Law. (3)

An introduction to a range of legal issues that may confront real estate managers and developers. Subjects covered include: land acquisition, ownership structures, real estate financing, environmental due diligence, zoning, development incentives, landlord-tenant issues, and condominium development. The course is beneficial for those with a career focused on real estate. Prerequisite: BLS 342.

BLS 462. Estates, Wills & Trusts. (3)

Legal, financial, and practical considerations in creation, management, and conservation of an estate. Trust principles and practices; and federal estate and gift rules and planning techniques.

Prerequisite: BLS 342.

BLS 464. International Business Law. (3)

Provides framework for understanding international business and legal environment within which it operates. Study traditional commercial law topics, such as rights and obligations of buyer and seller under contract for international sale of goods. Study of private law of international business transactions and public law of international trade. Credit for graduation will not be given for more than one of BLS 464 or BLS 483.

Prerequisite: BLS 342.

BLS 465. Ethics, Law, & Business. (3)

Explores legal aspects of business decision-making from an ethical perspective. Focuses on the business manager as an ethical decision-maker and on the corporation as a social moral agent. Conducted in seminar style using cross-functional cases from the core business disciplines. This course may not be used as a finance major elective. SC.

Prerequisite: Farmer Business School core courses and senior standing or permission of instructor.

BLS 477. Independent Studies. (0-6)**BLS 677. Independent Studies. (0-6)**

Chemical, Paper, & Biomedical Engineering (CPB)

CPB 102. Introduction to Chemical and Biomedical Engineering. (3)

This course introduces an approach to problem solving for engineering students. Students will apply systematic approaches to problem solving including mathematics and quantitative methods appropriate to chemical engineering and bioengineering. The course introduces computational and discipline-specific tools to assist in problem analysis, modeling, design, and hands-on learning. Students will demonstrate engineering solutions to problems in the laboratory. Students will practice their teamwork and communication skills. This course is open to all majors. Credit will be given for only one of CPB 102, CSE 102, ECE 102, MME 102, CEC 102.

Prerequisite or Co-requisite: MTH 151.

CPB 177. Independent Studies. (0-6)**CPB 201. Principles of Paper Science and Engineering. (3)**

Introduction to pulping and papermaking. Course will discuss scientific and engineering aspects of papermaking from fiber procurement through pulping, conditioning, papermachine and converting. Develop practical lab skills. Apply engineering skills to problem solving related to paper industry.

Prerequisite: CHM 141.

CPB 202. Pulp and Paper Physics. (3)

Discovery of how pulping, papermaking and converting are utilized to develop required performance properties of products from paper. Conduct laboratory investigations to determine the properties of paper made in the laboratory and from a pilot paper machine.

Prerequisite: PHY 181 or PHY 191.

CPB 204. Mass and Energy Balances I. (2)

The first of a two course series with a focus on the application of mass conservation equations for solving engineering problems involving batch and continuous systems. Introduction to chemical reaction fundamentals and phase equilibria for multicomponent systems. Examples drawn from a variety of chemical, paper and biomedical applications.

Prerequisite: CPB 102 (or CEC/CSE/ECE/MME 102), CHM 142 and PHY 191.

Prerequisite or Co-requisite: MTH 251 or MTH 249 or equivalent.

CPB 205. Mass and Energy Balances II. (2)

The second of a two course series with a focus on the application of energy conservation equations for solving engineering problems involving batch and continuous systems. Application of mass and energy balances to processes involving chemical reactions, phase changes, and multicomponent. Examples drawn from a variety of chemical, paper and biomedical applications.

Prerequisites: (MTH 251 or MTH 249); and CPB 204 (grade of C or better on CPB 204 only).

CPB 219. Statics and Mechanics of Materials. (3)

This course provides an introduction to the fundamentals of the mechanics of materials for Bioengineering and Chemical Engineering students. The course stresses statics and mechanics of deformable media, and material behavior. Advanced topics in material behavior and stability that are relevant to bio/chem engineering will be introduced and related to the course materials. The course takes an integrated approach to problem formulation in terms of kinematics, constitutive behavior, equilibrium, and compatibility.

Prerequisites: (MTH 251 or MTH 249), and (PHY 181 or PHY 191).

CPB 244. Introduction to Environmental Engineering. (3)

Introductory design concepts for the control of water pollution, air pollution, and solid waste will be covered. Environmental legislation will be discussed. Solutions to environmental problems will be investigated, considering technical, economical and ethical aspects of engineering.

Prerequisites: CHM 141 or equivalent, MTH 151 or equivalent.

CPB 277. Independent Studies. (0-6)**CPB 301. Pulp and Paper Chemistry. (3)**

Wood chemistry, chemical pulping chemistry and processes, and wet end chemistry. Chemical composition and structure of lignocellulosic wood fibers. The unit processes used in chemical pulping and bleaching. Kraft Recovery. Colloidal science of retention, sizing, process and functional additives.

Prerequisite: CPB 201 and one of the following: CHM 231 or CHM 241 or CHM 251.

CPB 311. Transport Phenomena Laboratory. (2)

Laboratory course. Students conduct experiments and do computer simulations in the area of transport phenomena. Emphasizes acquisition of knowledge about instrumentation commonly used in process industries. Both oral and written laboratory reports required. Prerequisites: (CPB 318 or CPB/MME 313) and (PHY 181 or PHY 191) and grade of C or better in CPB 204.

CPB 313. Fluid Mechanics. (3)

Fundamentals and application of the mechanics of fluids including properties, statics and dynamics of fluids, dimensional analysis and similitude, steady state flow, and topics in compressible flow.

Prerequisite: PHY 191, and either CPB 219 or MME 211, or permission of instructor.

Prerequisite or Co-requisite: MTH 252 or equivalent.

Cross-listed with MME.

CPB 314. Engineering Thermodynamics. (3)

Study of the fundamental principles of thermodynamics. Emphasis placed on engineering applications such as power cycles, refrigeration, and heat transfer systems.

Prerequisite: CPB 204 (with a grade of C or better) or MME 211 or CPB 219.

Prerequisite or Co-requisite: MTH 251 or MTH 249 or equivalent.

Cross-listed with MME 314.

CPB 318. Transport Phenomena I. (4)

Fundamentals and integration of concepts from fluid mechanics, heat transfer, and mass transfer to biological, chemical, and mechanical systems. An integrated approach will be used to study fundamental concepts in transport phenomena including: fluid properties, mechanics of fluids, dimensional analysis, steady and transient flow regimes, steady and unsteady conduction, forced and free convection, radiation heat transfer, laminar and turbulent flow, heat exchangers, mass diffusion, and interphase transport. Analogy of heat, mass, and momentum transport phenomena principles will be presented.

Prerequisites: MME 314 or CPB 314; MTH 245 or MTH 246; CPB 219 or MME 211; and CPB 204 with a grade of C or better.

CPB 324. Chemical and Bio- Engineering Computation and Statistics. (3)

Study of numerical methods of scientific computing and their application to modeling chemical and bio- engineering systems and the interpretation of experimental data. Algorithms for solving algebraic and differential equations, differentiation, integration, and optimization are derived and implemented using modern computational software. Statistics and error analysis constitute a significant part of the course.

Prerequisite: CPB 204 with a grade of C or better.

Prerequisite or Co-requisite: MTH 245 or MTH 246; and (ECE 345 or STA 301 or STA 261).

CPB 326. Fundamentals of Medical Device Design. (3)

This course addresses a wide range of topics concerned with medical devices including the history of devices, basics of medical terminology, FDA regulations, industrial design and human factors, and types of medical devices and their uses. Issues of intellectual property, innovation, and advanced devices will also be discussed.

Prerequisites: ECE 205 and (CPB 219 or MME 311).

CPB 328. Bioinstrumentation. (3)

Study of the theory and application of signal acquisition and processing for bioinstrumentation including: bioinstrumentation architecture; sensors for bioinstrumentation; operational amplifier and instrumentation amplifier; signal sampling theory; analog to digital signal conversion; digital to analog signal conversion; biopotential measurement.

Prerequisite: ECE 205.

Prerequisites or Co-requisites: MTH 245 or MTH 246 or MTH 347.

CPB 340. Internship. (0-20)**CPB 341. Engineering Economics. (3)**

Engineering economic decisions; breakeven and minimum cost analysis; engineering methods of resource allocation; concepts of interest; time evaluation of tactical and strategic alternatives.

Prerequisite: MTH 151.

Prerequisites or Co-requisites: STA 301, or STA 261, or ECE 345.

Cross-listed with MME 341.

CPB 377. Independent Studies. (0-6)**CPB 402/CPB 502. Introduction to Clinical Engineering. (3)**

Introduction to Clinical Engineering provides an overview of medical technology in a variety of healthcare settings and the engineering problems a clinical engineer will encounter in hospital facilities.

Students are introduced to the concepts of the management of healthcare technology, human factors, systems engineering, data analytics, financial management, regulatory affairs, electronic medical record management, cybersecurity, human resources, and strategic planning.

Prerequisites: Junior standing and (BIO 161 or BIO 171 or MBI 111 or MBI 131 or MBI 161 or BIO 305) or equivalent.

CPB 403/CPB 503. Heat Transfer. (3)

Continued study of unit operations with emphasis on heat transfer.

Study of steady and unsteady conduction, and laminar, turbulent, boiling, and condensing convective heat transfer. Radiation heat transfer, heat exchangers, evaporators, and transfer units.

Prerequisites: CPB/MME 314 and (CPB/MME 313 or CPB 318 or CPB 418/CPB 518) and (MTH 245 or MTH 246).

Cross-listed with MME.

CPB 404. Papermaking. (3)

Papermaking process with emphasis on chemical engineering principles involved.

Prerequisites: CPB 201 and CPB 202 and (CPB/MME 403/MME 503 or CPB 414/CPB 514 or CPB 318 or CPB 418/CPB 518).

CPB 405/CPB 505. Industrial Environmental Control. (3)

Survey of environmental issues facing the industry and how the industry addresses these issues. In-plant pollution abatement alternatives discussed as well as external treatment. Computer-based modeling applications introduced and applied to problems. Design considerations involved in selecting among alternative pollution control strategies are presented and applied to examples.

Prerequisite: CPB 244 or a grade of C or better in CPB 204.

CPB 412/CPB 512. Chemical Engineering Thermodynamics. (3)

Advanced thermodynamics with emphasis in phase and chemical equilibrium. Thermodynamic relations and applications. Properties of ideal and non-ideal one-component and multi-component systems: ideal and non-ideal phase equilibria; phase diagrams; design of equilibrium flash separators. Phase equilibria using equation of state; chemical equilibrium; optimum conditions for feasible reaction equilibria.

Prerequisite: CPB/MME 314.

CPB 414/CPB 514. Mass Transfer and Unit Operations. (4)

This course will introduce principles of steady-state and time-dependent mass transfer, and apply them to unit operations that are often found in chemical and biological engineering systems, with an emphasis on single and multi-stage separation processes. Through the course and using their background in mass and energy balances, thermodynamics, and transport phenomena, students will characterize and design heat exchangers and separation unit operations, including absorption, distillation, membranes, drying and crystallization processes. At the end of the course, students will understand the application of each unit operation within a chemical process and use computational tools to aid in separation design. Prerequisites: CPB 205; CPB 318 (or CPB/MME 313 and CPB/MME 403/MME 503).

CPB 415/CPB 515. Chemical Kinetics and Reactor Design. (3)

Chemical Kinetics of homogeneous and heterogeneous reactions, kinetic theories, mechanism and modeling, reactor design, design of multiple reactions; temperature and pressure effects. Non-ideal reactors, survey of catalytic and biochemical reaction systems. Prerequisites: CPB 313 or MME 313 or CPB 318 or CPB 418/CPB 518; CPB 314 or MME 314; MTH 245 or MTH 246; and a grade of C or better in CPB 204.

CPB 416/CPB 516. Biochemical Engineering. (3)

This course is an introduction to the fundamental concepts concerning biochemical kinetics and bioreactors. In particular, this course focuses on enzymatic reactions and fermentations using genetically engineered organisms. Biochemical topics include overviews of cell structure, enzyme kinetics and cell growth kinetics. Engineering topics include: immobilization, fermenter design and sterilization processes.

Prerequisites: (MTH 245 or MTH 246); (BIO 203 or CHM 332 or CHM 432/CHM 532); (CPB 414/CPB 514 or CPB 415/CPB 515 or CPB 318 or CPB 418/CPB 518).

CPB 417/CPB 517. Biomedical Engineering. (3)

This course is an introduction to the fundamental concepts in biomedical engineering with a special focus on chemical engineering applications. In particular, this course focuses on transport phenomena in biological systems, pharmacokinetics and tissue engineering. Engineering topics also include discussions concerning the design of equipment and materials for dialysis, oxygenation, artificial organs, and tissue engineering.

Prerequisites: (MTH 245 or MTH 246); (CPB 414/CPB 514 or CPB 318 or CPB 418/CPB 518).

CPB 418/CPB 518. Biological Transport Phenomena. (4)

Fundamentals and integration of fluid mechanics, heat transfer, and mass transfer in living systems. Basic concepts of transport phenomena are presented and applied to biological systems and to the design of medical devices.

Prerequisites: MME/CPB 314; MTH 245; PHY 191 and CPB 219 or MME 211.

CPB 419/CPB 519. Biomaterials. (3)

Integration and application of the fundamentals of natural and synthetic biomaterials, with focus on polymers, ceramics, composites, nanomaterials, and metals. Other topics include biomimetic/biomechanical design, biomaterial/tissue interaction and regulatory issues.

Prerequisites: CHM 231 or (CHM 241 and CHM 244); CPB 318 or 418 or (CPB/MME 403/MME 503 and CPB 414/CPB 514).

CPB 421. Bioethics. (1)

The application of ethical theories and codes of ethics to the ethical decision-making processes. Ethical issues involved around making choices about human life saving and enhancing its quality, human and animal experimentation, regulation involving bio-related research and data collection and analysis, standards for the design of medical devices and their certification. Other related issues such as intellectual property rights will be considered.

Prerequisites: senior standing or permission of instructor.

CPB 422/CPB 522. Biological Systems and Controls. (3)

This course provides an introduction to the fundamentals of control theory as it relates to bioengineering applications. Specific topics include linear systems analysis, electromechanical transfer functions, process transfer functions, stability, feedback control and modeling physiological systems. Applications involving membrane transport, pharmacokinetics and extracorporeal devices will also be covered.

Prerequisites: ECE 205; MTH 245; CPB 204 and CPB 418/CPB 518.

CPB 423/CPB 523. Biomechanics. (3)

Introduction to mechanics of living systems. Constitutive models are presented and applied to soft and hard tissues and organs, such as orthopaedic biomechanics and cardiovascular biomechanics.

Prerequisites: (CPB 219 or MME 312) and (MTH 245 or MTH 246).

CPB 424/CPB 524. Musculoskeletal Biomechanics. (3)

Principles of mechanics applied to the study of movement. Topics include: gait cycle and basic physics of locomotion; biology of muscle, musculoskeletal anatomy, and dynamics of muscle activation and contraction; techniques for quantifying movement; and inverse dynamics methods for modeling and simulating movement.

Prerequisites: CPB 219 or MME 311 or MME 312; CPB 324 or MME 202; MTH 245 or MTH 246 or MTH 347.

CPB 426/CPB 526. Fundamentals of Tissue Engineering. (3)

Tissue engineering and regenerative medicine involve the integration of biology, physiology, medicine, and engineering/applied science for the design of constructs to replace tissues and organs damaged by age, disease, or traumatic injury. Man-made or natural materials (primarily polymeric materials) will be studied in terms of fabrication, characterization, and application. The course will then investigate fundamental structure-functional relationships in cells, tissues and organs and consider techniques to achieve physiological and anatomical requirements of engineered tissues. Cell-material interactions, stem cells, and cell/tissue physiology will be discussed in the context of general and specific tissue engineering and regenerative medicine applications including those already in the clinic and those that are expected to achieve clinical applications.

Examples of physiological systems for which engineered tissues will be considered are some combination of the following (to vary each time course is offered): cardiovascular, respiratory, renal, nervous, skin, vision, musculoskeletal, and endocrine systems.

Prerequisite: BIO 203, CHM 231 or CHM 241, PHY 191.

CPB 428/CPB 528. Engineering Principles in Medical Device Design. (3)

Application of engineering principles to medical device design, including statics, electric circuits, heat transfer, and thermodynamics. Introduces modeling and computational methods to the design of medical devices with an emphasis on surgical instruments.

Prerequisites: ECE 205 and (CPB 219 or MME 211) and (CPB 324 or MME 202 or ECE 302 or CSE 271) or equivalent.

CPB 435/CPB 535. Clinical Engineering Laboratory. (2)

This course gives an overview of the hospital-based engineering devices and their underlying design. Introduction to design elements such as 3D modeling, computational fluid dynamics, and modern numerical simulations. Experimental experience will consist of elements such as medical gas systems, ventilation equipment, imaging equipment, drug delivery systems, surgical equipment, thermal systems, dialysis equipment, medical information systems, sanitization equipment, hospital and facility design, diagnosis equipment.

Prerequisite: ECE 205 or CPB 318 or MME 313.

Co-requisite: CPB 445/CPB 545 or CPB 428/CPB 528 or CPB 328.

CPB 436. Principles in Fermentation. (3)

Through a combination of lectures from faculty and experts in the fermentation industry, hands-on laboratory experiences, and site visits, students will develop an understanding of the importance of fermentation in the food, beverage, and drug industry. Students will have the opportunity to learn how microbiology, biology, chemistry/biochemistry and engineering are interrelated in the fermentation industry.

Prerequisites: CHM 332 or CHM 432/CHM 532; or MBI 201; or CPB 204.

Cross-listed with CHM/MBI.

CPB 441/CPB 541. Pollution Prevention in Environmental Management. (3)

Provides understanding of how corporations respond to governmental regulation by setting up environmental management systems which employ the principles of pollution prevention.

Engineering concepts such as material balances, energy balances, risk assessment, and life cycle assessment have impacted new process designs. In this course a basis for evolution and maturation of pollution prevention as a fundamental methodology to ensure compliance and economic sustainability of industrial processes will be provided. The understanding of the concepts of pollution will be demonstrated by participation in a class project sponsored by industry at one of their facilities.

Prerequisites: CPB 244 or a grade of C or better in CPB 204 and at least junior standing.

CPB 442/CPB 542. Air Pollution Control. (3)

This course introduces students to the formation and control of air pollutants, engineering theories and principles pertaining to the design of air pollution control operations, and environmental legislation. Solutions to environmental problems are investigated, considering technical, economical and ethical aspects of engineering.

Prerequisites: CPB 244 or a grade of C or better in CPB 204.

CPB 445/CPB 545. Hospital Instrumentation. (3)

Application of engineering principles for development, deployment, reliability and failure analysis, and systems integration of hospital instrumentation, equipment, and facilities. The topics covered will include major measuring instruments, and imaging, therapeutic, recording and monitoring systems.

Prerequisites: CPB 402/CPB 502 and ECE 205 and (CPB 324 or CPB 318 or ECE 302 or MME 313 or CPB/MME 314 or CSE 271) or equivalent.

CPB 448/CPB 548. Hospital Rotation. (3)

Student preparation and presentation of lectures on engineering and management topics related to hospital operations. Lectures on human factors, sterilization, critical review of the literature, safety and related topics are provided by professional guest lecturers.

Prerequisite: CPB 402/CPB 502.

CPB 450/CPB 550. Special Topics. (1-5; maximum 20)**CPB 451/CPB 551. Unit Operations Laboratory. (2)**

Laboratory course consisting of experiments and computer simulations in topics from the process industries with a focus on mass transfer and reaction operations. Both written and oral laboratory reports are required.

Prerequisites: (CPB 318 or CPB/MME 403/MME 503) and CPB 414/CPB 514.

CPB 452/CPB 552. Introduction to FDA Regulations and Medical Device Laws. (3)

An overview of the need for the governmental regulatory bodies that provide oversight and regulation of medical devices, drugs and biology-based drugs and products. Emphasis is placed on current and evolving FDA regulations as they pertain to medical device laws. Obligations and responsibilities - including legal, moral and ethical - are explored in detail.

Prerequisite: CPB 402/CPB 502.

CPB 453/CPB 553. Medical Device Development and Regulatory Considerations. (3)

Medical device design and development including device classification, design process, product specification, quality, pre-clinical testing, safety consideration, risk analysis, project management, design verification and validation, manufacturing supply chain, labeling, intellectual property protection, and obtaining regulatory approval market. A case study/project will be created to walk through the clinical trial process.

Prerequisite: CPB 452/CPB 552.

CPB 471. Engineering Design I. (2)

Involves application and synthesis of accumulated knowledge in a major, open-ended, industrial research/design project.

Critical elements of the design process and real world constraints (economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability) are considered. Emphasis is placed on oral and written communication skills. Students from different academic backgrounds are assigned to multidisciplinary project teams in order to utilize their varied experiences, knowledge, learning styles, and skills to achieve a successful conclusion to each project. SC.

Prerequisites: CPB 318 or CPB 423/CPB 523 or MME 313 and senior standing.

CPB 472. Engineering Design II. (2)

Continuation of CPB 471. SC.

Prerequisite: CPB 471.

CPB 473/CPB 573. Chemical Process Design. (3)

This is a project-based course in which chemical engineering technology, process simulation, and economic analyses are used to design chemical processes. The technical and economic aspects of equipment selection and design and alternative methods of operation will be covered.

Prerequisites: (CPB 318 or CPB 418/CPB 518 or CPB/MME 403/MME 503) and CPB 414/CPB 514.

Prerequisite or Co-requisites: CPB/MME 341 and CPB 415/CPB 515.

CPB 477. Independent Studies. (0-6)**CPB 482/CPB 582. Process Control. (3)**

Study of system dynamics and control schemes used for continuous processes. Block diagrams, steady-state and dynamic response, Laplace transforms, computer simulations and closed loop control. Stability, tuning, and controller synthesis.

Prerequisites: (CPB 318 or CPB 418/CPB 518 or CPB 403/CPB 503) and (CPB 204 with C or better) and (CPB 324 or MME 202 or CSE 271).

CPB 483/CPB 583. Chemical Process Safety. (1)

This course introduces students to chemical process safety. Specific topics of discussion will include management and risk assessment, toxicology, industrial hygiene, dispersion models, fire and explosion causes and prevention, relief systems, and various case studies. Emphasis will be given to the application of chemical engineering education to chemical process safety.

Prerequisites: CPB 204 (with a grade of C or better) and (CPB/MME 403/MME 503 or CPB 414/CPB 514 or CPB 318 or CPB 418/CPB 518).

CPB 490/CPB 590. Special Topics in Paper and Chemical Engineering. (1-5; maximum 5)

Advanced special topics in paper and chemical engineering.

Prerequisite: either permission of instructor or as defined by topic.

CPB 491. Introduction to Research. (1-3; maximum 3)

Research problems in chemical engineering and paper science selected in consultation with a faculty advisor. Research methodology; design of laboratory experiments and computer simulations; critical analysis of results; technical reports; oral presentations. For grade only.

Prerequisite: permission of instructor, subject to approval of department chair.

CPB 600. Graduate Seminar. (1; maximum 6)

Required of all graduate students in residence. Student preparation and presentation of lectures on scientific and engineering topics related to thesis research areas.

Prerequisite: graduate standing.

CPB 611. Transport Phenomena in Engineering. (3)

Principles and mechanism of heat, mass and momentum transport. Development of generalized transport equations; macroscopic and microscopic balances; simultaneous heat and mass transfer. Analogy of mass, heat and momentum transfer.

Prerequisites: CPB/MME 403/MME 503, CPB 414/CPB 514 (or equivalent) and graduate standing or instructor approval.

CPB 612. Engineering Analysis. (3)

Analytical considerations involving the construction and solutions of mathematical models for processes and systems pertinent to chemical and mechanical engineering. The analytical methods will cover the modeling of steady and unsteady state engineering problems. Recommended prerequisites: CPB 403/CPB 503, 414, 415; MME 412/MME 512, 414, 436 (or equivalent); or permission of instructor.

Cross-listed with MME.

CPB 614. Clinical Trials and Data Analysis. (3)

Study of clinical trials including Phase III/IV studies that address issues related to randomization, sample size, response variables, control, populations, sample size, data collection and reporting including the ethical dimensions. A thorough examination using traditional statistical methods, multiple treatment studies involving analysis of variance (ANOVA), equivalence and non-inferiority studies, and meta-analytic techniques.

Prerequisites: STA 363, CPB 452/CPB 552/552, and graduate standing, or permission of instructor.

CPB 622. Engineering of Clinical Devices. (3)

This course gives an overview of the physics of medical devices focusing on information processing and clinical imaging devices such as X-ray, CT, MRI, optical imaging, ultrasound imaging, and radiation therapy. The course will first introduce the physics of each clinical device and discuss the application in different clinical scenarios.

Prerequisites: Undergraduate courses equivalent to PHY191, and PHY 192, and MTH 245, and CPB 324, or permission of instructor.

CPB 640. Internship. (0-6)**CPB 677. Independent Studies. (0-6)****CPB 690. Graduate Research. (1-12)**

Prerequisite: graduate standing and permission of chair.

CPB 700. Research for Master's Thesis. (0-9)**CPB 704. Non-Thesis Project. (0-12; maximum 12)**

This repeatable course is for non-thesis culminating experiences. Permission of the instructor is required.

CPB 710. Industrial Practicum. (1-12)

Apply research methodologies to the analysis and solution of an industrial problem.

Chemistry & Biochemistry (CHM)

CHM 109. Chemistry Fundamentals. (1)

Introduction to vocabulary and symbols used in introductory chemistry courses. Enables students to make a smooth transition into CHM 111. A student may not receive credit for graduation for both this course and any chemistry course numbered 141 or above.

CHM 111. Chemistry in Modern Society. (3)

For non-science majors. Considers both nature of basic chemical processes and ways that chemistry affects our society. Introduction to how scientists approach problems and make decisions. 3 Lec. IVB. PA-2B. CAS-D, CAS-QL.

CHM 111L. Chemistry in Modern Society Laboratory. (1)

Laboratory course for non-science majors. Students will explore basic chemistry principles that are relevant in everyday life through observation and data analysis. Emphasis will be placed on activities and assessments that develop quantitative reasoning skills and critical thinking with a focus on application to global issues and the development of civic-mindedness. 1 Lab. IVB. PA-2B. CAS-D/LAB, CAS-QL.

CHM 121. Introduction to Forensic Chemistry. (4)

Integrated lecture and laboratory course for all majors that, by incorporating the exciting theme of forensic science, builds an appreciation for the underlying aspects of chemistry. The topics include paper chromatography of ink, soil analysis, synthetic and natural fibers, fingerprints, ions in urine, drug analysis, fire accelerants, blood alcohol determination, and microscopic hair analysis. Typically taught on the Middletown Campus. IVB. PA-2B. 3 Lec. 1 Lab.

CHM 131. Chemistry of Life Processes. (4)

Integrated lecture and laboratory course for non-science majors that relate basic inorganic and organic chemical processes to those of biochemistry. Explores the nature of atoms and molecules in terms of simple structures and reactions, and the more complex structures of biochemical molecules and their interactions with living systems. IVB, LAB. CAS-D/LAB. PA-2B.

3 Lec. 1 Lab.

Prerequisite: introductory high school physical science and algebra or CHM 109.

CHM 141. College Chemistry. (3)

General chemistry lecture course. Examines the fundamentals of atomic and molecular structure, chemical reactions and stoichiometry, properties of solutions, thermochemistry, gases, and chemical bonding. Students also develop ideas, experience, methodology, and skills used in the application of scientific methodology. Credit not given for both CHM 141R and 141. IVB. PA-2B. CAS-D.

Prerequisite: A math ACT score of 22 (or SAT math sub-score 530) or higher, or completion of MTH 025, or MTH 122 or MTH 125 or MTH 151, or Miami Math Placement Test score of 8 or higher, or permission of instructor; high school chemistry is recommended.

CHM 141H. College Chemistry. (3)

General chemistry lecture course. Examines the fundamentals of atomic and molecular structure, chemical reactions and stoichiometry, properties of solutions, thermochemistry, gases, and chemical bonding. Students also develop ideas, experience, methodology, and skills used in the application of scientific methodology. Credit not given for both CHM 141R and 141. IVB, LAB. PA-2B.

Prerequisite: one year of high school chemistry and a math ACT score of 22 (or a SAT math sub-score 530) or higher or permission of instructor.

Co-requisite: CHM 144.

CHM 141R. College Chemistry. (4)

Coordinated lecture and recitation to develop ideas, experience, methodology, and skills used in the application of scientific methodology. Framework is consideration of fundamental principles of atomic and molecular structure, chemical bonding, properties of solutions, and chemical reactions. Gain skills in developing hypotheses, observing chemical phenomena, collecting data, and evaluating results critically. Credit not given for both CHM 141 and 141R. IVB. PA-2B. CAS-D/LAB.

Prerequisite: One year of high school chemistry and a math ACT score of 22 (or SAT math sub-score 530) or higher, or completion of MTH 025 or Miami Math Placement Test score of 8 or higher.

Co-requisite: CHM 144.

CHM 142. College Chemistry. (3)

In this follow-up to CHM 141, students will continue their study of the properties of solutions, thermodynamics, and acids and bases. The course also explores chemical kinetics, chemical equilibrium, coordination chemistry and electrochemistry.

Prerequisite: CHM 141.

Co-requisite: CHM 145.

CHM 142H. College Chemistry. (3)

In this follow-up to CHM 141, students will continue their study of the properties of solutions, thermodynamics, and acids and bases. The course also explores chemical kinetics, chemical equilibrium, coordination chemistry and electrochemistry.

Prerequisite: CHM 141.

Co-requisite: CHM 145.

CHM 142M. College Chemistry for Majors. (3)

Covers the same content as CHM 142, but assumes interest in chemistry as a major (See CHM 142). Credit not given for both 142M and 142.

Prerequisite: CHM 141.

Co-requisite: CHM 145M.

CHM 144. College Chemistry Laboratory. (2)

Presents laboratory exercises to illustrate the fundamental principles of chemistry. An emphasis will be placed on safety, laboratory skills, techniques for simple quantitative measurements and the use of modern instrumentation for data collection and analysis. Students will also gain skills in developing hypotheses, observing chemical phenomena, collecting and sharing data and evaluating results critically. IVB. PA-2B. CAS-D/LAB.

Prerequisite or Co-requisite: CHM 141.

CHM 144M. College Chemistry Laboratory for Majors. (2)

Covers content similar to CHM 144. The focus of this laboratory course is for students with an interest in chemistry or biochemistry as a major. IVB. PA-2B. CAS-D/LAB.

Prerequisite: high school chemistry or permission of instructor.

Co-requisite: CHM 141.

CHM 145. College Chemistry Laboratory. (2)

Presents laboratory exercises to illustrate the fundamental principles of chemistry. In this follow-up to CHM 144, students will continue working on their laboratory skills, using techniques for quantitative measurements and using modern instrumentation for data collection and analysis. Includes chemical kinetics, equilibrium, acids and bases, and electrochemistry. CAS-D/LAB.

Prerequisite: CHM 144.

Co-requisite: CHM 142 required.

CHM 145M. College Chemistry Laboratory. (2)

Covers content similar to CHM 145. The focus of this laboratory course is for students with an interest in chemistry or biochemistry as a major. CAS-D/LAB.

Prerequisite: CHM 144M.

Co-requisite: CHM 142M.

CHM 147. Introductory Seminar-Chemistry/Biochemistry. (1)

An introduction to the various Chemistry and Biochemistry programs. Conducted in a seminar/lecture format, the course will include professional orientation, an introduction to undergraduate research opportunities and career options for the various majors.

CHM 177. Independent Studies. (0-6)**CHM 204. Organic Chemistry I Review. (1)**

Concentrated review of first semester organic chemistry concepts that will be important for understanding second semester organic chemistry material. The course will revisit topics such as: resonance, acid/base chemistry, stereochemistry, and substitution, elimination, and addition reactions and introduce their importance for further course work in chemistry.

Prerequisite: CHM 241 or CHM 251, or permission of instructor.

CHM 231. Fundamentals of Organic Chemistry. (4)

One-semester course covering organic structures and reactions with simple examples from living systems. Credit may not be received for both CHM 231 and 241, 242 or 251, 252. CAS-D/LAB.

3 Lec. 1 Lab.

Prerequisite: CHM 142 and 145.

CHM 241. Organic Chemistry. (3)

Study of stereochemistry and the reaction mechanisms of various types of organic compounds with examples of chemical reactions in biological systems. For premedical, pre-dental students and science majors including majors in chemistry or biochemistry. Credit may not be received for both CHM 231 and 241, 242 or 251, 252.

Prerequisites: CHM 142 or 142M.

CHM 242. Organic Chemistry. (3)

Study of stereochemistry and the reaction mechanisms of various types of organic compounds with examples of chemical reactions in biological systems. For premedical and pre-dental students and science majors including majors in chemistry or biochemistry.

Prerequisite: CHM 241.

CHM 244. Organic Chemistry Laboratory. (2)

Introduction to experimental techniques involved in synthesis, purification, and chemical identification of organic molecules. CAS-D/LAB. Prerequisite or co-requisite: CHM 241.

Prerequisite: CHM 145.

CHM 245. Organic Chemistry Laboratory. (2)

Introduction to experimental techniques involved in synthesis, purification, and chemical identification of organic molecules. CAS-D/LAB.

Prerequisite: CHM 244.

Prerequisites or Co-requisite: CHM 242.

CHM 251. Organic Chemistry for Chemistry Majors. (3)

For those planning a career in chemistry or biochemistry. Modern concepts of molecular structure, mechanisms of organic reactions, and synthetic methods for organic compounds, including natural products.

Prerequisite: CHM 142M.

Co-requisite: CHM 254.

CHM 252. Organic Chemistry for Chemistry Majors. (3)

For those planning a career in chemistry or biochemistry. Modern concepts of molecular structure, mechanisms of organic reactions, and synthetic methods for organic compounds, including natural products.

Prerequisite: CHM 251.

Co-requisite: CHM 255.

CHM 254. Organic Chemistry Laboratory for Chemistry Majors. (2)

Introduction to modern experimental techniques in organic chemistry as applied to synthesis, purification, and determination of the structure of organic molecules. CAS-D/LAB.

Prerequisite: CHM 145 or equivalent.

Prerequisite or Co-requisite: CHM 241 or CHM 251.

CHM 255. Organic Chemistry Laboratory for Chemistry Majors. (2)

Introduction to modern experimental techniques in organic chemistry as applied to synthesis, purification, and determination of the structure of organic molecules. CAS-D/LAB. Prerequisite or co-requisite: CHM 242 or CHM 252.

Prerequisite or co-requisite: CHM 242 or CHM 252.

Prerequisite: CHM 254.

CHM 277. Independent Studies. (0-6)**CHM 332. Outlines of Biochemistry. (3)**

Overview of the major topics of biochemistry. Topics include: biological functions of proteins, carbohydrates, lipids and nucleic acids, central metabolic pathways and controls, and relevant examples in nutrition and health. 3 Lec. CAS-D.

Prerequisite: CHM 231, CHM 242, or CHM 252.

CHM 332L. Outlines of Biochemistry Lab. (1)

Laboratory course designed to enhance the learning experiences in CHM 332. Emphasis on problem solving and data analysis using basic biochemical experiments. Prerequisite/co-requisite: CHM 332.

CHM 340. Internship. (0-20)**CHM 363. Analytical Chemistry. (3)**

Fundamentals of analytical chemistry including classical and instrumental methods. Typically offered on Middletown Campus.

Prerequisite: CHM 142, CHM 145.

Co-requisite: CHM 364.

CHM 364. Analytical Chemistry Laboratory. (2)

Analytical chemistry laboratory including classical and instrumental methods. CAS-D/LAB. Typically offered on Middletown Campus.

Prerequisites: CHM 142, CHM 145.

Co-requisite: CHM 363.

CHM 375. Analytical Chemistry for Majors. (3)

Instrumental methods of analysis including theory, problem solving, and laboratory experiments applied to real life samples. Instruction in writing and quantitative literacy. ADVW. PA-1C. CAS-Q. CAS-W. Recommended prerequisites: CHM 142 and CHM 145.

1 Lec. 2 Lab.

CHM 377. Independent Studies. (0-6)**CHM 411/CHM 511. Learning Theories in Chemistry. (3)**

Students are introduced to the learning theories that inform chemistry education research and the methods therein. Students will focus on how the applications of research findings on how humans learn chemistry can be used to improve teaching and learning. Additionally, the course introduces students to chemistry education research as a field and an essential source of scholarship on learning chemistry.

Prerequisite: CHM 242 or 252.

CHM 415/CHM 515. Misconceptions in Chemistry. (3)

Students explore chemistry education research on common misconceptions about advanced topics in undergraduate chemistry such as thermodynamics, kinetics, and electrochemistry. Students probe learners' prior ideas and consider the role of assessment in emphasizing deeper understanding over memorization while investigating methods that help learners construct scientifically adequate models of chemical behavior. Additionally, the course introduces students to chemistry education research as a field and an essential source of scholarship on learning chemistry.

Prerequisite: CHM 242 or 252.

CHM 417/CHM 517. Advanced Inorganic Chemistry. (3)

Survey of fundamental principles of contemporary inorganic chemistry.

Prerequisites: CHM 142.

CHM 419. Synthesis Lab. (2)

Designed to introduce undergraduate students in chemistry/biochemistry to advanced synthetic methods. Students will synthesize and characterize organic and inorganic molecules, and characterize the products using NMR, EPR, and other modern instrumentation.

Prerequisites: CHM 242 and CHM 245; or CHM 252 and CHM 255.

CHM 423/CHM 523. Synthetic and Systems Biology. (3)

Design principles and applications of microbial cells. Topics include synthetic pathway design, artificial photosynthesis, repurposing genetic codons, genome synthesis and editing, and genetic circuit design among others. CHM 432/CHM 532, MBI 425/MBI 525, and MBI 445/MBI 545 are highly recommended before taking this course.

Cross-listed with: MBI 423/MBI 523/523 and BIO 423/BIO 523/523.

Prerequisite: MBI 201, or equivalent, or permission of instructor.

CHM 425/CHM 525. Advanced Organic Chemistry. (3)

Advanced topics in physical and synthetic organic chemistry, including kinetics and mechanism, stereochemistry, orbitals in bonding and reactivity, modern synthetic methods, and multistep synthesis.

Prerequisite: grade of C- or better in CHM 242 or CHM 252.

CHM 426/CHM 526. Spectroscopic Identification of Structure. (3)

Application of infrared, ultraviolet, nuclear magnetic resonance, and mass spectrometry to the solution of structural problems in organic chemistry.

Prerequisite: CHM 242 or CHM 252.

CHM 429/CHM 529. Polymer Chemistry. (2)

Comprehensive overview and examination of the methods used to synthesize and characterize macromolecules. Both descriptive and mechanistic organic chemistry, as it relates to polymer synthesis, is discussed. The relationship between molecular structure and material properties will be another focus of the course.

Prerequisite: CHM 242 or CHM 252 or Graduate Standing.

CHM 430. Topics in Biochemistry. (1-3; maximum 8)

Advanced coverage of selected topics in biochemistry.

Prerequisite: CHM 432/CHM 532 completed with grade of at least C-.

CHM 432/CHM 532. Fundamentals of Biochemistry. (4)

Principles of biochemistry with emphasis on structure of biological molecules and metabolic processes.

Prerequisite: CHM 242 or equivalent.

CHM 436. Principles in Fermentation. (3)

Through a combination of lectures from faculty and experts in the fermentation industry, hands-on laboratory experiences, and site visits, students will develop an understanding of the importance of fermentation in the food, beverage, and drug industry. Students will have the opportunity to learn how microbiology, biology, chemistry/biochemistry and engineering are interrelated in the fermentation industry.

Prerequisites: CHM 332 or CHM 432/CHM 532; or MBI 201; or CPB 204.

Cross-listed with CPB/MBI.

CHM 438. Biochemistry Laboratory. (2)

Laboratory course utilizing modern biochemical techniques. Emphasis on logic, design, and execution of biochemical experimentation.

Prerequisite: CHM 432/CHM 532 with a grade of C- or higher or permission of instructor.

CHM 450. Topics in Organic Chemistry. (1-3; maximum 9)

Advanced coverage of selected topics in organic chemistry.

Prerequisite: C- or better in CHM 242 or CHM 252.

CHM 451/CHM 551. Physical Chemistry for Chemistry Majors. (3)

Fundamentals of physical chemistry including thermodynamics, kinetics, quantum chemistry, statistical thermodynamics, and spectroscopy. Note: Credit may not be received for both CHM 451/CHM 551 and CHM 471/CHM 571.

Prerequisites: MTH 151 or equivalent and PHY 192 or PHY 162.

CHM 452/CHM 552. Physical Chemistry for Chemistry Majors. (3)

Fundamentals of physical chemistry including thermodynamics, kinetics, quantum chemistry, statistical thermodynamics, and spectroscopy. Note: Credit may not be received for both CHM 452/CHM 552 and CHM 472/CHM 572.

Prerequisite: MTH 251 or equivalent and CHM 451/CHM 551 or equivalent.

CHM 454/CHM 554. Instrumental Analysis. (3)

Lecture course emphasizing spectroscopic, electrochemical, and chromatographic methods to determine chemical composition of samples with principles of chemical equilibrium presented to assist in data interpretation.

Prerequisite or Co-requisite: CHM 375.

CHM 456. Chemical Measurements II. (2)

Laboratory course emphasizing instrumental methods of chemical analysis and methods of measuring physical-chemical properties.

CAS-D/LAB. Recommended prerequisite: CHM 454/CHM 554.

Prerequisite: CHM 452/CHM 552 or CHM 454/CHM 554.

CHM 460. Topics in Analytical Chemistry. (1-3; maximum 12)

Advanced coverage of selected topics in the area of analytical chemistry.

CHM 466/CHM 566. Bioinformatics Computing Skills. (3)

Study of the core computational and biological concepts in bioinformatics, with programming in Python, MySQL and Ubuntu OS. You will gain hands-on experience in popular bioinformatics applications, including BLAST, sequence alignment, genome browser, and gene annotation, among others.

Prerequisites: BIO 256; or CSE 174; or permission of instructor.

Cross-listed with BIO/CSE/MBI.

CHM 471/CHM 571. Biophysical Chemistry I. (3)

Fundamentals of physical biochemistry including thermodynamics, macromolecular structure, kinetics, enzyme kinetics, quantum chemistry, and biophysical spectroscopy. Note: Credit may not be received for both CHM 451/CHM 551 and CHM 471/CHM 571. Prerequisites: MTH 151 or equivalent and PHY 192 or PHY 162.

CHM 472/CHM 572. Biophysical Chemistry II. (3)

Fundamentals of physical biochemistry including thermodynamics, macromolecular structure, kinetics, enzyme kinetics, quantum chemistry, and biophysical spectroscopy. Note: Credit may not be received for both CHM 452/CHM 552 and CHM 472/CHM 572. Prerequisite: MTH 251 or equivalent and CHM 451/CHM 551 or CHM 471/CHM 571.

CHM 477. Independent Studies. (0-6)**CHM 480. Departmental Honors. (1-6; maximum 6)**

Prerequisite: permission of department chair.

CHM 491. Chemistry in Societal Issues. (3)

Chemistry is involved in many of the societal issues facing this nation. In order to protect the environment, create new energy sources, improve health, and increase consumer product safety, understanding chemistry is critical to the problem-solving process. It is important for students in technical fields to understand the interface between the known chemistry and government regulations, public perception, and legal interpretations. Students critically evaluate and form positions on current issues of national interest. SC. Prerequisite: any 300-level chemistry course.

CHM 492. Independent Research Capstone in Chemistry. (3)

Students work intensively with instructor to identify a suitable research question; perform research necessary to resolve the question; write a detailed report of the research, results, and the broader scientific and social implications of the overall research project; and communicate the research results to other students and professionals by participation in departmental research presentations and/or participation in a recognized professional meeting. SC. Prerequisite: permission of instructor and department chair, and one semester of CHM 377, 477, 480, or 490 Independent Study.

CHM 600. Seminar in Chemistry. (1; maximum 12)

Required of all chemistry graduate students in residence. Prerequisite: graduate standing.

CHM 641. Organic Principles and Theory. (3)

Advanced molecular orbital calculations and experimental methods for elucidation of organic reaction mechanisms. Prerequisite: CHM 242 or 252 and 452 or 472.

CHM 642. Organic Synthetic Methods. (3)

Scope and limitations of synthetically useful reactions and techniques. Overall strategy and problems in multistep synthesis of natural products emphasized. Prerequisite: CHM 242 or 252.

CHM 650. Seminar in Molecular Biology. (1)

Discussion of current literature in molecular biology. Prerequisite: graduate standing. Cross-listed with BIO/MBI.

CHM 655. Theory and Practice of Chemical Laboratory Instruction. (2)

Evaluation and examination of current practices for the teaching of laboratory components of chemistry courses. Emphasis placed on safety, technique, and evaluation. The proper use of reference material and library search techniques is also emphasized.

CHM 664. Separation Science. (2)

Fundamental principles of separation science emphasizing chromatographic theory, gas and liquid chromatography, and capillary electrophoresis. Prerequisite: CHM 554 or permission of instructor.

CHM 677. Independent Studies. (0-6)**CHM 700. Research for Master's Thesis. (1-12; maximum 30)**

Prerequisite: Graduate Standing.

CHM 720. Seminar in Organic and Biochemistry. (1; maximum 9)

Discussion of recent research findings in areas of organic and biochemistry. Prerequisite: permission of instructor.

CHM 725. Biological Chemistry Seminar. (1; maximum 9)

Discussion of recent research findings in biological chemistry. Prerequisite: Permission of instructor.

CHM 730. Seminar in Chemistry Education. (1; maximum 9)

Discussion of current literature in chemistry education. Prerequisite: Permission of instructor.

CHM 740. Topics in Organic and Biochemistry. (1-3; maximum 10)

Advanced coverage of selected topics in organic and biochemistry. Prerequisite: permission of instructor.

CHM 750. First Year Graduate Seminar. (1)

Presentation and discussion of research activities being carried out by the research faculty in Chemistry and Biochemistry. Designed to facilitate selection of a research adviser by the end of the term.

CHM 760. Selected Topics in Inorganic and Analytical Chemistry. (1-3; maximum 10)

Advanced coverage of selected topics in inorganic and analytical chemistry. Prerequisite: permission of instructor.

CHM 770. Topics in Physical Chemistry. (1-3; maximum 10)

Advanced coverage of selected topics in area of physical chemistry. Prerequisite: permission of instructor.

CHM 780. Seminar in Analytical, Inorganic, and Physical Chemistry. (1; maximum 9)

Discussion of recent developments in the areas of analytical, inorganic, and physical chemistry. Prerequisite: permission of instructor.

CHM 790. Research. (1-15; maximum 20)

Prerequisite: graduate standing.

CHM 850. Research for Doctoral Dissertation. (1-16; maximum 60)

Prerequisite: admission to Ph.D. program.

Chinese (CHI)

CHI 101. Elementary Chinese. (4)

Introduction to modern Mandarin Chinese. Focuses on basic communication skills.

CHI 102. Elementary Chinese. (4)

Introduction to modern Mandarin Chinese. Focuses on basic communication skills. Prerequisite: CHI 101 or equivalent.

CHI 177. Independent Studies. (0-6)**CHI 201. Second Year Chinese. (3)**

Continue to develop skills in speaking, listening, reading, and writing. Prerequisite: CHI 102 or equivalent.

CHI 202. Second Year Chinese. (3)

Continue to develop skills in speaking, listening, reading, and writing. CAS-A.

Prerequisite: CHI 201 or equivalent.

CHI 251. Traditional Chinese Literature in English Translation. (3)

Chinese literature up to the end of the Qing Dynasty (1911).

Introduction of unique features of Chinese literature, society and culture. Study selected classics in Taoism, Confucianism, and Buddhism, and masterpieces in fiction, poetry, and drama. IIB. PA-3B. CAS-B-LIT.

CHI 252. Modern Chinese Literature in English Translation. (3)

Read selected representative works from mainland China, Taiwan, and Hong Kong, including fiction, poetry, criticism, and film. Lectures furnish the socio-cultural background to establish a framework for understanding and interpretation. IIB. PA-3B. CAS-B-LIT.

CHI 253. Three Kingdoms. (3)

Study the great classic Chinese novel Three Kingdoms (San guo yan yi) (abridged version), supplemented by the Analects of Confucius, the Daodejing and Machiavelli's The Prince. Develops an understanding of character, authority and strategy in traditional Chinese society. In translation. CAS-B-LIT.

CHI 254. Modern Chinese Autobiography. (3)

Introduces modern Chinese history and culture through several book-length autobiographies and memoirs. Analyzes modern Chinese self-authored life writing. A series of documentary videos provide surveys of important events in modern China as a complement. Taught in English. CAS-B-LIT.

CHI 255. Drama In China/Japan:Eng Trans. (3)

Provides historical overview of major traditional dramatic art forms of China and Japan: Zaju, Kunqu, Beijing Opera, Noh, Kyogen, Bunraku, and Kabuki. Critically treats and interprets theatrical conventions in each and attempts to clarify aesthetic significance. IIB. PA-3B. CAS-B-LIT.

Cross-listed with JPN.

CHI 257. Chinese Satire. (3)

This course examines several significant works of satire in twentieth-century Chinese literature. Through class discussions, weekly writings and longer essays we will analyze techniques of satire in modern Chinese fiction, identify and assess the ways satirical works shed light on Chinese history, culture and society, and identify and explain the similarities and differences between Chinese and Western satire. Taught in English. IIB, IIIB. PA-3B, PA-4C. CAS-B-LIT.

CHI 261. Forbidden Romance in Modern Chinese Culture. (3)

This course introduces undergraduate students to "forbidden romance" in modern China through surveying literary works and films that describe illicit love, desire, and sexuality in China during the 20th and 21st centuries. The course analyzes various crucial issues such as gender, class, ethnicity, and ideology and it provides students with a global consciousness to better understand the multi-faceted modern world. Taught in English. PA-3B. CAS-B, CAS-B-LIT.

CHI 264. Chinese Cinema and Culture. (3)

Study of selected films. Introduces Chinese cinema and, through films, Chinese culture. Works are from mainland China, Taiwan, and Hong Kong. Subject matter is both historical and modern. Knowledge of Chinese is not required.

Cross-listed with FST 264.

CHI 271. Chinese Culture Live. (1-3)

Offered for study abroad programs in China, the course consists of lectures, trips and practice on topics ranging from history and cultural customs to local cuisine and taiji. Knowledge of Chinese is not required.

CHI 277. Independent Studies. (0-6)**CHI 301. Third Year Chinese. (3)**

Develop advanced skills in communication. Expand vocabulary and learn additional, more complicated grammatical structures. Read relatively difficult original materials.

Prerequisite: CHI 202 or equivalent.

CHI 302. Third Year Chinese. (3)

Develop advanced skills in communication. Expand vocabulary and learn additional, more complicated grammatical structures. Read relatively difficult original materials.

Prerequisite: CHI 301 or equivalent.

CHI 311. Business Chinese I. (3)

Introduces business terms and expressions with the goal of developing communicative skills in the business related situations. In addition, instruction includes information and knowledge about business practice, etiquette, interpersonal relationship and other social, political and cultural aspects of Chinese business world. The course is on the same level of difficulty as CHI 301, and that is why both have the same prerequisite: Chinese 202. Its main difference from CHI 301 is that its content is much more specialized, as it solely focuses on the Chinese used in business.

Prerequisite: CHI 202.

CHI 312. Business Chinese II. (3)

Continues the study of business Chinese after CHI 311. It expands students' vocabulary by teaching them an additional 200 business terms and expressions, and introduces them to longer and more difficult sentences so their communicative skills in business related situations will develop further. In addition, it provides information and knowledge about business practice, etiquette, interpersonal relationships, and other social, political and cultural aspects of the Chinese business world not covered in CHI 311. Recommended prerequisite: CHI 311.

CHI 330. Chinese Verbal Theatre Performance. (3; maximum 12)

Introduces and provides students with an opportunity to practice various Chinese verbal arts via multiple performance modalities. These include Peking opera, tongue-twisters, comedic dialogue, clapper talk, and poetry recitations. Develops language skills through performance. Recommended prerequisite: CHI 202 or equivalent.

CHI 340. Internship. (0-20)**CHI 377. Independent Studies. (0-6)****CHI 401. Fourth Year Chinese I. (3)**

Continuing advanced study of Chinese after CHI 302. While the course further develops students' listening and speaking skills, it will place more emphasis on reading and writing than third year Chinese class does. Longer and more challenging authentic materials will be introduced to develop students' overall ability to handle tasks of relatively complex nature. Recommended prerequisite: CHI 302 or equivalent.

CHI 402. Fourth Year Chinese II. (3)

This course continues advanced study of Chinese after CHI 401. While the course maintains an emphasis on developing students' oral communication ability, it will also introduce more difficult reading and audio-visual materials in class. Through exposure to these authentic materials, students will further build their vocabulary and increase their comprehension of the target language. In addition the course will help students to gain insights about Chinese society and culture. Recommended prerequisite: CHI 401 or equivalent.

CHI 477. Independent Studies. (0-6)**CHI 480. Independent Reading for Departmental Honors. (1-6)**

Departmental honors may be taken for a minimum of three semester hours and a maximum total of six semester hours in senior year. Prerequisite: permission of instructor and department.

CHI 677. Independent Studies. (0-6)

Classics (CLS)

CLS 101. Greek Civilization in its Mediterranean Context. (3)

Exploration of ancient Greek civilization, from pre-Homeric to Hellenistic times, presented within a broad framework of cultures with which Greece interacted in the Mediterranean basin. Various aspects of Greek civilization are highlighted including history, politics, economics, society, art, science, philosophy, and literature. IIB. PA-3B. CAS-B-HST.

CLS 102. Roman Civilization: From City to Empire. (3)

This course is an exploration of the legacy of ancient Roman civilization from its legendary beginning through the Republic to the Empire at its greatest extent. Various aspects of Roman civilization highlight the Roman experience including history, literature, philosophy, political and social institutions, religion, art, and the unique ability of Rome to assimilate Greek and other cultures. IC, IIB. PA-3B, PA-4B, SI-02, SI-04. CAS-B-HST.

CLS 121. Introduction to Classical Mythology. (3)

Introduction to Greek mythology. Presentation, explanation, and interpretation of myths within representations of mythology, as well as comparative study of non-Greco-Roman myth. IIB. PA-3B. CAS-B-LIT.

CLS 177. Independent Studies. (0-6)**CLS 210. Topics in Classics. (1-3; maximum 12)**

Examination of an author, work, topic, or new critical perspective on classical civilization not usually given substantial treatment in regular course offerings. May be repeated three times if topic changes.

CLS 211. Greek and Roman Epic. (3)

Study of the epic as genre including examination of conventions and techniques of oral and written epic, a discussion of the kind of society which produces such a work, and a study of the epic hero. Works of Homer and Vergil will be read supplemented by readings from other ancient and post-classical authors. CAS-B-LIT.

CLS 212. Greek and Roman Tragedy. (3)

Study of the origin and development of Greek drama will highlight unique aspects of its fifth century form and dramatic presentation while exploring the reasons for perennial relevance of the extant plays. Selected dramas by Aeschylus, Sophocles, and Euripides supplemented with some comparative material from Roman post-classical drama. CAS-B-LIT.

CLS 216. Greek and Roman Cities. (3)

A visually-oriented course that examines ancient Greek and Roman cities, including Athens, Sparta, and Corinth; Rome, Herculaneum, and Pompeii. Intends to recreate, as much as possible, the experience of living in these cities in order to understand life in the Classical world.

CLS 218. Greek and Roman Erotic Poetry. (3)

Aims at fostering an understanding of how Greco-Roman poetic forms shaped societal values and visions, especially notions of eroticism and sexuality as they are expressed in ancient poetry. The Greeks developed numerous literary lyric genres, which influenced and even conditioned most of the Western poetic discourse and preceded the ideas of Romanticism. The Romans added to all the Greek genres love elegy and satire, the only genres not inherited from the Greeks, and equally influential for the future generations. Examines a variety of forms and poetic expressions in ancient lyric poetry. The course also aims at understanding the process by which we read different literary genres. CAS-B-LIT.

CLS 222. Race and Ethnicity in Antiquity. (3)

Relies on a variety of primary evidence to study how the Greeks and Romans defined race and ethnicity and how they defined themselves as individual peoples when they confronted cultures and peoples distinctly different from themselves. Examination of the relationship between current theories of race and ethnicity and the theories and practices of the Greeks and Romans. Cross-listed with CRE 222.

CLS 235. Women in Antiquity. (3)

Study of the status of women in the Greek and Roman world from Bronze age through early centuries of Christianity conducted in light of literary, artistic, and archaeological evidence in order to increase knowledge and understanding of Greek and Roman family and social life and of our own society as well. CAS-B-LIT. Cross-listed with WGS 235.

CLS 254. Introduction to Russian and Eurasian Studies. (3)

Examines the major developments that have shaped Russian and Eurasian culture, society and politics over the last millennium. The course incorporates perspectives from the social sciences, humanities and the fine arts. Taught in English. IIB. PA-3B. CAS-B. Cross-listed with ATH 254, HST 254, POL 254, REL 254, and RUS 254.

CLS 277. Independent Studies. (0-6)**CLS 310. Advanced Topics in Classics. (1-3; maximum 6)**

Examination of an author, work, topic, or new critical perspective on classical civilization not usually given substantial treatment in regular course offerings. May be repeated once if topic changes.

CLS 321. Justice and the Law in Antiquity. (3)

History and development of constitutional and civil law in antiquity with special emphasis on Roman law. Examines ancient jurisprudence and development of the concept of justice. Some comparisons made between ancient and modern legal systems.

CLS 323. Discoveries of Archaeology. (3)

Introductory survey of monumental discoveries (ancient and modern) that have changed and influenced the course of history, intellectual thought, and artistic taste and enlarged and transformed our knowledge of the ancient world. Specific discoveries from selected archaeological sites direct the focus of the course: e.g. Egypt, Troy, Crete, Athena, Delphi, Pompeii, Herculaneum, and Rome. Cross-listed with HST 323.

CLS 325. Russian Reception of Classical Culture. (3)

Examines a variety of forms and poetic expressions in both modern (Russian) and ancient poetry. Introduces students to the way in which Russian literature and especially poetry responded to Greco-Roman antiquity. Analyzes how the study of classical antiquity, with its rich mythological tradition and history, represented to the Russian literary elite a window into the West and an opportunity to establish a Russian literary heritage within Western literary canon. All readings in English translation. CAS-W.

Cross-listed with RUS 325.

CLS 332. Classical Mythology and the Arts. (3)

Designed to explore the role of arts in the classical world in transmitting the narratives and values inherent in Greek and Roman myths. Will consist of case studies in the use of myth from public and private spheres: the Parthenon sculptures, Herakles and Athenian tyrants of the 6th century, the Niobids, Danaids and Augustan Rome, the reliefs from the Roman amphitheater at Capua, etc. Major topics will be subject selection, composition, context and narrative moment.

CLS 336. Ancient Sexualities. (3)

Examines the written and visual evidence for ancient sexual practices, as well as ancient attitudes towards these practices as found in ancient law, philosophy, love poetry, novels, and other texts. Our reading of primary sources will be informed by modern writings on gender and sexuality. We will also engage with recent debates about the ideologies reflected in ancient codes of sexual conduct. Through a close reading of a variety of ancient Greek and Roman texts and images, together with contemporary interpretive readings, we will attempt to reach not only a fuller understanding of some central features of the cultures of Greece and Rome, but also, by holding up the mirror of antiquity to our own beliefs and practices, to arrive at a more critical consideration of how we think about sex and gender today.

Cross-listed with WGS.

CLS 340. Internship. (0-20)**CLS 361. Antiquity Through a Lens. (3)**

Introduces students to filmic projections of classical myths and historical crises. Heightens students' awareness of the ways films construct our images of classical antiquity in the service of contemporary ideological agendas.

CLS 377. Independent Studies. (0-6)**CLS 425. Senior Seminar. (3)**

This capstone course is an intensive interdisciplinary seminar on a selected topic that explores the connections between the literatures and cultural systems linked to the Greek and Roman world, and to the French and Italian traditions. Taught in English, this course invites majors in French, Italian, and Classical Studies to strengthen their powers of critical thinking and synthesis through research, writing, and discussion. Required of all French, Italian, and Classical Studies majors in their senior year and open to qualified non-majors with permission of instructor. The capstone is taught on a rotating basis by faculty in French, Italian, and Classical Studies. SC. CAS-B, CAS-W.

Prerequisite: senior standing in the major; for other majors, permission of instructor.

Cross-listed with FRE 425 and ITL 425.

CLS 431. Archaeology of Power. (3)

Examines social and political power in the past, from small scale societies to states and global systems. Explores theoretical approaches to diversity and inequality with case studies from around the world and throughout history that include authority, gender, race, religion, class, colonialism and empire.

Cross-listed with ATH 431.

CLS 477. Independent Studies. (0-6)**CLS 480. Independent Reading for Departmental Honors. (1-6)**

Individually arranged program of study concentrating on a particular author, major work, or significant aspect of ancient culture and society, normally culminating in a substantial research essay and comprehensive examination.

Prerequisite: superior performance in course work within department as well as good general academic standing.

Commerce (CMR)

Note: There are some restrictions in applying CMR credits toward the Miami Bachelor of Science in Business degree. CMR courses do not satisfy any specific course requirements and a maximum of 12 CMR credit hours may be applied toward that degree. These restrictions do not apply to other Miami degrees such as the Bachelor of Integrative Studies (BIS).

CMR 101. Introduction to Accounting I. (3)

Introduction to double-entry accounting systems, journals, subsidiary ledgers, and the general ledger. Preparation of financial statements for service and merchandising concerns emphasized. Basic payroll procedures, cash account reconciliation, and completion of detailed practice set.

CMR 105. Introduction to Marketing. (3)

General survey of the field of marketing including the marketing concept, management of the marketing-mix, analysis of the marketing environment, use of marketing information, understanding of buyer behavior, and selection of target markets.

CMR 106. Introduction to Business and the Economy. (3)

Introduction to various functional areas of business and everyday business and economic principles and problems including consumer choice, supply and demand, money, banking system, investment, growth, inflation, government policy, taxes, and employment. IIC. PA-2A.

CMR 108. Introduction to Business Law. (3)

Survey of business law including the legal system and environment in which business operates. Problems and solutions are investigated in areas of contracts, sales, bailments, commercial paper, agency and employment, partnerships and corporations, risk bearing devices, and property.

CMR 111. Introduction to Management I. (3)

Introduction to principles and practices of managing organizations. Exposure to contemporary management issues, functions of management, and the interrelationship between business organizations and the environment. Emphasis on development of supervisory skills.

CMR 117. Personal Finance, An Introduction. (3)

An introductory course in managing your money to become more knowledgeable about personal finance, thereby enabling you to make wiser financial decisions. Topics include: career planning, financial tools, budgets, income taxes, checking and savings accounts, building good credit, credit cards and loans, vehicles, homes and other major purchases, managing health expenses, insurance, investments, retirement and estate planning.

CMR 151. Introduction to Hospitality Management. (3)

This course is a general introductory survey of the hospitality management field including segments of the industry, historical development, current issues and challenges, trends and careers. Topics include hotels and accommodations, food and beverage and regulations governing the industry.

CMR 177. Independent Studies. (0-6)**CMR 181. Computers and Business. (3)**

Hands-on course emphasizing role of computers in business, business information systems, and use of business software. Develop skill in using word processing, business graphics, electronic spreadsheets, database, and the Internet. Software utilized is regularly updated. Windows and Microsoft Office Professional currently used. Credit not given for both CMR 181 and CIT 154.

CMR 207. Management Planning and Control. (3)

Exploration of how accounting data is used by management to make decisions. Emphasizes budgeting, cash flow analysis, breakeven analysis, and "what-if" probability analysis. Computerized applications are an integral part of course.

Prerequisite: CMR 101.

CMR 211. Economics for Commerce. (3)

This course covers basic microeconomics terms and concepts, including scarcity and choice, equilibrium, efficiency and equity, comparative advantage, allocating scarce resources, opportunity cost and the production possibility frontier and supply and demand, the function of prices in markets, and how markets work and sometimes don't work. It also covers production and cost structures and firms' behavior in perfect and imperfect competition markets.

CMR 220. Professional Practice. (0-2; maximum 6)

Students participating in associate's degree co-op program register for this course during semesters when they are on work assignment.

Prerequisite: permission of instructor.

Cross-listed with CIT 220 and ENT 220.

CMR 224. Medical Terminology. (3)

Covers medical terms including definitions, spelling, and pronunciation along with their use in a workplace setting.

CMR 241. Management of Business Operations. (3)

Explore management approaches, philosophies and techniques to effectively and efficiently operate a business. Includes contemporary topics of e-service, technology management, process re-engineering and quality management.

Prerequisite: CMR 111 or permission of instructor.

CMR 242. Management of Small Business Operations. (3)

Introduction to management concepts and procedures in starting, developing, and operating small businesses. Methods of planning, organizing, operating, and controlling small businesses are discussed. Prerequisite: CMR 101, CMR 111 or permission of instructor.

CMR 244. Introduction to Global Business. (3)

The globalization of the U.S. economy significantly impacts both organizations and their employees. Business opportunities and career paths that once seemed assured, no longer are. This course analyzes how businesses and individuals compete in the new global economy. IC, IIIB. PA-4B, PA-4C.

CMR 252. Sanitation & Safety Principles. (3)

A study of sanitation and its importance in the food service industry.

Topics include: information and methods to help food service managers apply sanitation procedures to good food handling functions. This course is the National Restaurant Association's Educational Institute certification course.

CMR 261. Customer Service & Satisfaction. (3)

Examines the importance of meeting and exceeding customers' expectations after the sale. Identify and explore issues related to developing long-term, loyal customers including the correction of minor problems and delivery and the generation of repeat business based on performance.

Prerequisite: CMR 105 or permission of instructor.

CMR 263. Sales and Promotions. (3)

Understand how advertising and other promotional techniques may be used to communicate with consumers. Learn how effective sales processes and promotional activities function as important aspects of a balanced marketing plan.

Prerequisite: CMR 105 or permission of instructor.

CMR 266. Consumer Behavior. (3)

Explores the factors that drive consumers to make specific product and/or service selections in the marketplace. Understand the complexities of the product/service purchasing process as viewed through the eyes of the consumer.

Prerequisites: CMR 105 or permission of instructor.

CMR 277. Independent Studies. (0-6)**CMR 281. Digital Media & Organizational Communication. (3)**

Practical hands-on experience for learning fundamentals of the tools and technologies used to produce written, audio and visual business communication resources. Technologies are regularly updated.

CMR 282. Computer-Based Business Analysis. (3)

Practical application of analytical tools for managerial decision making using Microsoft Excel. Advanced formatting, charting, functions, formulas, and data organization are covered. Emphasis on presentation and analysis of data. V. PA-1A.

CMR 284. Emerging Digital Technologies for Business. (3)

This technology-focused course covers current and emerging digital technologies that drive productivity and inform decisions in today's organizations. Key topics include online collaboration, document and resource management, content management systems, and information systems. Online privacy and security issues are also addressed from both user and organizational perspectives.

CMR 285. Business Information Management. (3)

Focuses on understanding, from an end-user perspective, how to use information systems to improve digital business operations. Students learn about working with information systems including analysis and reporting.

CMR 286. Digital Commerce. (3)

The course focuses on the tools and practices used to engage in digital commerce. Topics include an introduction to online business models, online security and privacy, web site planning, and introductory site design and administration. Web development and administration tools are utilized.

CMR 290. Special Topics in Business Technology. (1-3)**CMR 301. Personal Organizational Skills. (3)**

The course focuses on personal development of skills vital to leadership with topics such as developing self-awareness, handling stress, managing conflict, building effective teams, making oral & written presentations, and conducting meetings. Individual skills are assessed using various measures.

CMR 302. Financial Information for Managers. (3)

The view of the non-financial manager/user of financial information is taken. Key concepts are reviewed with an emphasis on their managerial use and interpretation versus their construction. Accounting terms are presented with an emphasis on the non-financial manager/user of information.

CMR 340. Internship. (0-20; maximum 20)**CMR 341. Internet Marketing. (3)**

This course explores internet marketing topics including the development and evaluation of online marketing strategies, the use of internet marketing tools, and customer service and relationship management practices. Regulatory and ethical issues are also covered. The course is regularly updated to address current events and trends.

CMR 351. Controlling Food & Beverage Labor Costs. (3)

This course focuses on food service cost control systems. Topics include: food, beverage, and labor cost control; sales control; and profit and loss analysis.
Prerequisite: STA 261.

CMR 352. Food Service Management. (3)

This course focuses on concepts and techniques for food and beverage management and operations. Topics include: leadership and supervision, operating procedures, and internal and external marketing of food and beverage services.
Prerequisite: CMR 351.

CMR 361. Marketing for the Small Business. (3)

This course provides an overview of the marketing process as it relates to small business management. It covers fundamental marketing concepts, the marketing mix, competitive analysis, target markets, buyer behaviors, advertising and promotion. It also explores the use of a marketing strategy, local and global opportunities in the economy as well as the incorporation of social media marketing tools, franchising and ethics.
Prerequisite: CMR 105.

CMR 362. Business to Business Marketing. (3)

CMR 362 focuses on the skills students need to understand the unique components of business to business (B2B) marketing. The course provides a practical understanding of the market processes: purchasing, segmentation, pricing, and strategy. Within these processes, we will explore and practice using frameworks and tools to manage marketing components for business markets This course also covers assessing industrial marketing opportunities and industrial competitive strategies.
Prerequisite: CMR 105.

CMR 363. Personal Selling. (3)

CMR 363 will develop the skills students need to understand and utilize the process of personal selling. The course provides ideas, strategies and techniques to communicate and engage prospective customers and manage profitable customer relationships. Building rapport, creating strategic questions, active listening and delivering impactful presentations are key skills to be learned. A sequential sales process will cover relationship building, needs assessment, benefits presentation, closing and handling objections. Territory management and CRM will be learned through computer software. Within these processes we will explore the interrelationships with marketing mix components and understand how to best utilize and when to integrate marketing opportunities with personal selling efforts. This course also covers an intro to neuroscience and the power of story telling, ethical selling situations and the issues of unconscious bias.
Prerequisites: CMR 105 and CMR 263.

CMR 401. Leadership Decision Skills. (4)

The belief of this course is leadership can occur at any level of the organization and that everyone can improve their leadership skills. This course will develop leadership decision making skills required for effective leadership through the study of leadership approaches/theories and applications. EL.
Prerequisite: Junior or Senior standing.

CMR 442. Current Issues and Innovation in Small Business. (3)

Exploration and analysis of issues and opportunities that currently face small and new businesses. Emphasis on developing short and long term strategies to address changing market, economic, and technological conditions. Address the need of innovation for business development and growth.
Prerequisite: Junior or senior status.

CMR 449. Senior Practicum in Digital Commerce. (3)

The senior practicum provides students the opportunity to engage with an organization and gain practical experience in the Internet Marketing field. Areas of focus may include digital commerce, internet marketing, content development, and analytics among others. EL.
Prerequisites: Senior Status; CMR 341; IMS 392 OR CMR 281; IMS 414 OR CMR 285.

CMR 451. Special Events Planning & Management. (3)

This course focuses on concepts and techniques for effective management of special events. Topic covered include: sustainability, event planning, sales process with catering operations event branding and event trends.
Prerequisite: CMR 352.

CMR 461. Sales Management. (3)

CMR 461 is a comprehensive course in the principles of leading a small business unit sales organization. The course provides strategies and techniques to communicate and engage with sales representatives, specifically how they plan and execute successful processes to create and manage trusting, profitable customer relationships. We will explore situational leadership, the neuroscience of decision-making, territory management using CRM software, evaluate sales compensation and incentive programs as well as recruiting, interviewing, selecting and hiring.
Prerequisites: CMR 111, CMR 263, CMR 362, and CMR 363.

CMR 495. Strategic Management for Commerce. (3)

This capstone course provides students the opportunity to integrate and apply what they have learned throughout the bachelor of commerce program. Students will apply strategic planning and implementation practices that underlie a well-structured organizational strategy. Concepts will include present and future states of a business, resource allocation, and achieving competitive advantage. Using a combination of simulations and studies of real-world organizations, students will learn how to make strategies actionable under conditions of actual use. SC.

Prerequisite: senior status in a business-related degree program.

Community Arts (CMA)

CMA 101. Introduction to Community Arts. (1)

This course will explore various definitions of community arts and how it can enhance, inspire, change, and activate the world. Students will explore the various relationships of artists within their communities, the history of such roles, and begin to identify ways in which they can become more involved. Students will be exposed to diverse forms of art and will be encouraged to experiment and broaden their experiences. The course will also connect students to the curriculum of the CMA major.

CMA 177. Independent Studies. (0-6)**CMA 301. Community Arts Practicum. (3)**

Placement with an arts facility or organization where students apply their skills and learn new ones. Preparatory classroom component, regular reading and writing assignments, final class presentation, and community project required. Open only to students in the Community Arts major. EL.

Prerequisite: NCS 202 and Junior standing.

CMA 310. Special Topics in Community Arts and Cultures. (1-3; maximum 6)

Examination of special topics in community arts and cultures not treated in the existing curriculum. Specific topics and hours to be determined by instructor. May be repeated when topic changes.

CMA 340. Internship. (0-20)**CMA 377. Independent Studies. (0-6)****CMA 401. Capstone in Community Arts. (3)**

A culminating experience for CMA seniors focused on the supervised development of individual, professional-level projects. This may involve participation in a group or solo gallery exhibition, creative theatrical or musical performance, and/or writing project connected to such events. SC.

Prerequisite: senior standing.

CMA 477. Independent Studies. (0-6)

Comparative Media Studies (CMS)

CMS 377. Independent Studies. (0-6)**CMS 477. Independent Studies. (0-6)**

Computer and Information Technology (CIT)

CIT 101. Computing Skills. (1)

Hands-on introduction to the use of current popular software and information retrieval tools. Self-paced and traditional instruction methods are used. A headnote specifies the instructional method and particular software tool. Note: a maximum of nine credit hours of CIT 101, CSE 141, and CIT 154 can be used toward degree requirements. A maximum of three credit hours will be awarded among CIT 101W, 101S, and 101D, and CIT 154. A maximum of three credit hours will be awarded among CIT 101F, 101G, and 101V, and CIT 173. Credit/no credit only. Not open to CSE majors.

CIT 102. Digital Media and Design Tools. (2; maximum 6)

Practical and applied approach to digital media and design tools using industry standard software. The type of software studied will vary, and the course may be repeated for different software tools. The particular software used for the course will be specified as a note on the schedule. Up to six hours of credit may be applied toward graduation.

CIT 154. Personal Computer Concepts and Applications. (3)

Survey course for students who wish to become computer literate and make practical use of microcomputers. Survey of various hardware components and software systems used by current microcomputers. Includes hands-on experience with various software packages including word processing, spreadsheet, database management, and graphics. Not open to CSA baccalaureate majors. Credit awarded for only one of these: CMR 181 or CIT 154.

CIT 167. Information Technology People and Practices. (2)

This course is designed for new Miami students who also have declared or would like more information about the IT major. First, through reflection, self-assessment and group discussions, students gain a sense of belonging at Miami, plan how to make the most of their time at Miami, and establish a foundation for academic and co-curricular success. Second, students are introduced to computer and information technology and its role in society and the work place. Students will explore careers available to technology professionals and the use of technology in various domains, with an emphasis on technical problem solving, technical infrastructure, teamwork, and communication. Note: This course meets the requirements for UNV 101.

CIT 168. Information Technology Tools and Techniques for Organizations. (4)

An introduction to fundamental IT tools and techniques to solve technological problems for organizations. Students will use software and/or hardware tools to explore network fundamentals, web programming, data management and storage, and operating systems. 3 Lec. 1 Lab.

CIT 177. Independent Studies. (0-6)**CIT 201. Advanced Spreadsheets and Analytics. (3)**

Hands-on instruction in advanced spreadsheet techniques using current popular software and information retrieval tools. Additionally, students will be introduced to basic analytic methods.

Prerequisites: CIT 101S or CIT 154 or CMR 181 or CSE 148.

CIT 205. Agile Launchpad I. (3)

Agile is a term for a set of values, principles, and practices that have been shown to improve the efficiency, productivity, and quality of software development and delivery. The key objectives are to deliver working software that meets the needs of a customer while mitigating risk in the development process. This set of courses addresses the theory and practice of Agile in the context of globally dispersed teams. Students will learn and apply the values, principles, and practices of Agile while working in multi-disciplinary international teams. The course includes a significant practicum experience in which students collaborate with developers in other countries such as Australia, India, or China to develop working software using the Agile approach. Students will need to collaborate across time zones, cultural differences, and communication barriers. EL.
Cross-listed with CEC 205.

CIT 214. Database Design and Development. (3)

Practical and applied approach to database management design and development. Introduction to database planning, design and management, data modeling and representation, and fundamental concepts of database access. Includes the study of design models with a focus on the relational model and includes the commonly used database systems. Will include hands-on experiences.
Prerequisite: CIT 168.

CIT 225. Fundamentals of DevOps [ICAgile]. (3)

An introduction to DevOps thinking as an extension to Agile. Introduces the concepts of configuration management, continuous integration and continuous delivery that support DevOps and covers the cultural changes required for successful DevOps implementation. This course leads to an ICAgile certification.
Prerequisite: CIT 205 and CSE 163.

CIT 231. Healthcare Information Technology Around the World. (3)

This course provides a background into the history of, and a current overview of, healthcare IT in the US and around the world. Students will examine how clinical, financial, and administrative data flows through the healthcare organization, and how information technology can be used to improve patient outcomes. IIIB. PA-4C.

CIT 253. Contemporary Programming Languages. (3)

Presents syntax and semantics of a particular programming language currently popular in industrial or academic settings. Addresses fundamental program construction, good software design and programming style, and development of applications focused on the strengths and special features of the language. Covers fundamental and advanced topics in the language. Course may present languages such as C++ (in 253.C), Perl (in 253.P), and others as they may emerge.
Prerequisite: CSE 163 or CSE 174, or permission of the instructor.

CIT 258. Introduction to Global Cybersecurity. (3)

An introduction to global cybersecurity. Provides practical experience in evaluating, monitoring, and hardening assets against cyber threats. This course leads to the CompTIA Security+ certification.

CIT 262. Technology, Ethics, and Global Society. (3)

Inquiry into a wide range of information technology issues, from moral responsibilities affecting professionals to wider ethical concerns associated with information technology in day-to-day living. Topics include general aspects of ethics; common ethical theories; professional codes of ethics in IT; privacy, security and reliability in using computer systems and the internet; issues and responsibilities in internet usage; legal issues in IT; global perspectives of computing issues; and general problems related to ethical and responsible computing. Not open to first-year students. IIB, IIC.
Prerequisites: ENG 109 or ENG 111.
Cross-listed with CSE 262.

CIT 263. Advanced Topics in Programming. (3)

Topics include using data from multiple sources, creating and deploying modules, and integrating advanced features of the programming language. Additional concentration on debugging, error detection, and testing programs for robustness.
Prerequisite: CSE 163.

CIT 268. Introduction to Human-Computer Interaction. (3)

Inquiry into a wide range of Human Computer Interaction (HCI) issues ranging from the understanding and advocacy of the user in the development of IT applications and systems, to the technical components of design. Topics include foundations of HCI, the nature of the HCI design process, technical aspects and limitations of selected 'technologies' related to HCI, user-centered methodologies for development and deployment, task analysis, ergonomics, accessibility standards, emerging technologies, and principles and methodologies of effective interface design and evaluation. This course will also address appropriate communication skills for effective human-to-human interaction as the foundation for developing effective, user-centered designs.
Prerequisite: CIT 168.

CIT 270. Special Topics in Computer and Information Technology. (1-3; maximum 6)

In-depth study and analysis of a topic of special or emerging interest in Computer and Information Technology.
Prerequisite: sophomore standing or permission of instructor.

CIT 273. Web Application Development. (3)

This course addresses the development of interactive web applications using both client and server side technologies. Topics include client-side scripting, server-side scripting, persistence, connectivity issues and their implementation, access and updating of databases via web interfaces, and the use of embedded multimedia. Current technologies will be used to program and implement the web applications.
Prerequisite: CIT 214 or permission of instructor.

CIT 276. IT Systems Design and Lifecycle Management. (3)

Review of systems development and project management fundamentals for IT. Topics include current project lifecycle development frameworks, tools and techniques used to support requirements gathering, systems analysis, project management, testing, maintenance, and support. Not open to CSE or ISA majors.
Prerequisite: CIT 214 or permission of instructor.

CIT 277. Independent Studies. (0-6)**CIT 281. Enterprise Network Infrastructure. (3)**

Introduces the design and implementation of enterprise networks using industry-standard infrastructure operating systems. Topics will include selection of routing protocols, router configuration, advanced topics in network addressing, LAN switch configuration, VLAN configuration, inter-VLAN routing, port security, and enterprise wireless design.

Prerequisite: CIT 168.

CIT 284. Enterprise Server Installation and Configuration. (3)

Covers the installation and configuration of industry-standard server solutions. Students will use virtual machines, and explore virtual networking. Topics will include client and server operating system selection, installation, management and troubleshooting; design and implementation of a directory services model; user-creation and management; and implementation of a variety of server-based applications and services.

Prerequisite: CIT 168.

CIT 286. Designing and Deploying Secure Enterprise Networks. (3)

Integrates clients, servers and infrastructure components into a secure network design. Students will learn about common network-based vulnerabilities, corresponding mitigation solutions, and structured testing methods. Topics will include infrastructure security concepts, protocols, and devices. Students will learn about device hardening, configuration of server and router-based ACLs, and firewall configuration concepts.

Prerequisite: CIT 281.

CIT 306. Agile: Business Value Analysis. (3)

Agile is a term for a set of values, principles, and practices that have been shown to improve the efficiency, productivity, and quality of software development and delivery. This course focuses on value-driven project delivery, the accompanying mindset, and key agile practices designed to emphasize customer value. Additionally, the course explores creating organizational and team environments conducive to frequent and transparent collaboration between the business and development teams. Students who complete this course earn the ICAgile Business Value Analysis certification. This certification provides an excellent foundation in value-based agile solutions delivery.

Prerequisite: CIT 205.

CIT 307. Agile: Project Management. (3)

The key objectives of this course focus on core components of agile project management as distinct from traditional project management, and on equipping course participants with strategies and techniques for successful Lean and Agile project implementation. Agile is a term for a set of values, principles, and practices that have been shown to improve the efficiency, productivity, and quality of software development and delivery. A servant leadership mindset and approach is critical to empowering agile teams to produce great results. Students will practice the role of an agile project manager and a facilitator of agile practices towards achieving desired outcomes. Students who complete this course will earn the ICAgile Project Management certification. This certification also takes a much more in-depth look at the fundamental agile concepts of adaptive planning, customer collaboration, and value-driven delivery in dynamic and sometimes highly constrained environments. In addition, the learning outcomes address agile approaches to standard project management processes such as metrics, reporting, and contract management.

Prerequisite: CIT 205.

CIT 331. Healthcare Workflow and Process Improvement. (3)

Examination of how data can be used to improve workflow and assist in continuous quality improvement in healthcare settings. Emphasis is on the analysis of data needs, interpretation of workflow analysis.

Prerequisite: CIT 231.

Co-requisite: CIT 338.

CIT 338. Business Intelligence Tools. (3)

This course is designed as an exploration of the business intelligence tools used by organizations in decision making. Students will be introduced to a variety of analytic tools. These tools will be used to employ a variety of techniques to discover and analyze small and large data sets.

Prerequisite: CIT 201 or CMR 282.

CIT 340. Internship. (0-20)**CIT 348. Information Management and Retrieval. (3)**

This course will apply information technology to databases to support decision making. It will address information technology techniques as they apply to information lifecycle issues in a variety of domains. This course will include hands-on use of current information technology for organizational needs analysis, data acquisition and storage through data contextualization, and information retrieval effective use. Participants will analyze new tools and techniques for suitability to specific information management and retrieval objectives. Topics include data storage and retrieval techniques, data transformation, tool analysis and evaluation, information presentation, data mining, and organizational information need analysis.

Prerequisites: CIT 214 and STA 261 or STA 368 or ISA 205.

CIT 357. Current Practices in Information Technology. (3)

Investigation of current practices, tools, and applications of Information Technology. Emphasis is on structured research techniques, critical analysis, and presentation of technical materials.

Prerequisite: CIT 338; or CIT 307 and (CSE 153 or CSE 174); or CIT 358; or CSE 271.

CIT 358. Information Technology Assurance and Security. (3)

A hands-on course allowing students to assess the security posture of an enterprise environment. Students will evaluate fundamental threat vectors and utilize current exploitation techniques to penetrate systems (red team/blue team) in a simulated network. Prepares students for Ethical Hacking Certification.

Prerequisite: CIT 258.

CIT 370. Special Topics in Computer and Information Technology. (1-3; maximum 6)

In-depth study and analysis of a topic of special or emerging interest in Computer and Information Technology.

Prerequisite: permission of instructor.

CIT 376. IT for Organizations. (3)

This course explores the management of the many aspects of an IT organization. It further examines the relationship and alignment between the IT functions and its' support of the overall strategic goals of the organization.

Prerequisite: CIT 205.

CIT 377. Independent Studies. (0-6)**CIT 386. Designing/Deploying Secure Networks. (3)**

Integrates clients, servers and infrastructure components into a secure network design. Students will learn about common network-based vulnerabilities, corresponding mitigation solutions, and structured testing methods. Topics will include infrastructure security concepts, protocols, and devices. Students will learn about device hardening, configuration of server and router-based ACLs, and firewall configuration concepts.

Prerequisites: CIT 281 and CIT 284.

CIT 431. Health Information Technology I. (3)

Examination of information technology and related systems in healthcare settings, particularly as they pertain to clinical systems. Emphasis is on the analysis of data needs, interpretation of workflow analysis, and investigation into interoperability requirements and standards.

Prerequisite: CIT 231.

CIT 432. Health Information Technology II. (3)

Continued examination of information technology and related systems in healthcare settings, particularly as they pertain to non-clinical systems such as healthcare administration and financial systems. Emphasis is on the analysis of data needs, security analysis, data reporting, and the design and development of HIT projects.

Prerequisite: CIT 431.

CIT 448. Global and Strategic Issues in Information Technology. (3)

While information technologies remain the same across national borders, their usage and context change according to country cultures and national laws. Features such as information infrastructure, languages, business practice, intellectual property protection, and tariffs impact the adoption of IT in a transnational organization. In this course, students will define global technology issues and their impact, understand cultural differences and their effect on standards for the use of technology, develop resources to make informed decisions personally and professionally, and generally raise global awareness within an IT context.

Prerequisite: CIT 262/CSE 262 or permission of instructor.

CIT 457. IT Project Lifecycle I: Requirements and Design. (3)

Students undertake all phases of information technology (IT) systems design and implementation, conducting a major IT project, working singly or in collaboration with other students under the direction of a faculty or external project sponsor. With instructor permission, students may elect to pursue a co-curricular activity. All elements of the IT project lifecycle are considered including analysis, requirements, design, user and feasibility studies, ethical considerations, implementation, testing, documentation, and system rollout. In CIT 457, students work through pre-implementation to produce a detailed requirements and design proposal (and potentially prototype systems). In CIT 458, students implement, test, and rollout their systems. EL. SC.

Prerequisites: CIT 357 and senior standing.

CIT 458. IT Project Lifecycle II: Implementation and Deployment. (4)

Students undertake all phases of information technology (IT) systems design and implementation, conducting a major IT project, working singly or in collaboration with other students under the direction of a faculty or external project sponsor. With instructor permission, students may elect to pursue a co-curricular activity. All elements of the IT project lifecycle are considered including analysis, requirements, design, user and feasibility studies, ethical considerations, implementation, testing, documentation, and system rollout. In CIT 457, students work through pre-implementation to produce a detailed requirements and design proposal (and potentially prototype systems). In CIT 458, students implement, test, and rollout their systems. EL. SC.

Prerequisite: CIT 457.

CIT 468. Health Information Technology Project Lifecycle. (4)

This course is designed for Health Information Technology majors. Students design and implement an information technology (IT) solution to a healthcare problem, working singly or in collaboration with other students under the direction of a faculty or external project sponsor. With instructor permission, students may elect to pursue a co-curricular activity. SC. EL.

Prerequisites: CIT 338, CIT 348, and CIT 357.

CIT 470. Advanced Topics in Information Technology. (3; maximum 6)

Examination of advancing technologies that are timely, unique, or experimental and not usually given substantial treatment in regular course offerings. May be repeated once if topic changes. Look for a notation in the course listing that provides additional detail about which special topic is being covered at the advanced level.

Prerequisite: CIT 357 or permission of instructor.

CIT 477. Independent Studies. (0-6)**CIT 480. Advanced Topics in Cybersecurity. (3; maximum 6)**

Examination of emerging cybersecurity threats and tools to address these threats and not usually given substantial treatment in regular course offerings. May be repeated once if topic changes. Look for a notation in the course listing that provides additional detail about which special topic is being covered at the advanced level.

Prerequisite: CIT 357 or permission of instructor.

CIT 490. Advanced Topics in Agile. (3; maximum 6)

Advanced applications of Agile that are timely, unique, or experimental and not usually given substantial treatment in regular course offerings. May be repeated once if topic changes. Look for a notation in the course listing that provides additional detail about which special topic is being covered at the advanced level.

Prerequisite: CIT 357.

Computer Science & Software Engineering (CSE)

CSE 102. Introduction to Computer Science and Software Engineering. (3)

This course introduces students to the computer science and software engineering disciplines. The course focuses on various computing and software design principles and tools used in the profession. Students will be able to model, implement, and test these principles via projects required throughout the course. This course is open to all majors. Credit will be given for only one of CPB 102, CSE 102, ECE 102, MME 102, CEC 102.

CSE 148. Business Computing. (3)

An introduction to business-oriented computer skills. Extensive hands-on use of electronic spreadsheets and database software. Examples and exercises will stress problem-solving in a business context. Credit not awarded for both CSE 148 and CSE 243.

CSE 151. Computers, Computer Science, and Society. (3)

Perspective on the potential and limitations of computing technology. Topics include problem-solving in computing, computers as thinking machines, and the impact of computing on societies. Exposes students to programming languages and various computer tools. Not open to CSE and ISA majors. V. PA-1A.

CSE 153. Introduction to C/C++ Programming. (3)

Introduction to use of C/C++ programming language as an aid to solving mathematical and scientific problems. Students design, write, and implement programs.

CSE 163. Introduction to Computer Concepts and Programming. (3)

Introduction to computers in data processing, survey of various hardware and software concepts, and analysis and solution of problems by computer programming. Lecture/laboratory, project-oriented course to provide numerous opportunities to analyze problems, formulate alternative solutions, implement solutions, and assess their effectiveness. No prior knowledge of computer concepts or programming assumed. V. PA-1A.

Prerequisite: ACT Math score of 19 or higher, OR SAT Math Score of 510 or higher, or permission of instructor.

CSE 174. Fundamentals of Programming and Problem Solving. (3)

Algorithm development and refinement in problem solving. Modular programming using sequence, selection, and repetition control structures. Program debugging and testing. Formatted input/output. Data files. Fundamental data types. User-defined data types: structured and enumerated. Arrays and arrays of structures. Simple sorting and searching algorithms. Character data and string processing. Algorithm efficiency considerations. Classes, objects, and introduction to object-oriented programming.

2 Lec. 1 Lab.

Prerequisite: ACT Math Score of 20 or higher, or SAT Math Score of 520 or higher, or Miami Math Placement Test score of 7 or higher, or successful completion of MTH 025.

Prerequisite or Co-requisite: MTH 122 or 124 or 125 or 141 or 151.

CSE 177. Independent Studies. (0-6)**CSE 201. Introduction to Software Engineering. (3)**

Principles of software engineering: Introduction to all phases of the software development life cycle and associated tools and engineering methods including the unified modeling language (UML).

Prerequisite or Co-requisite: CSE 274.

CSE 202. Software Requirements. (3)

Domain engineering. Techniques for discovering and eliciting requirements. Languages and models for representing requirements. Analysis and validation techniques, including need, goal, and use case analysis. Specifying and measuring external qualities. Traceability. Agile approaches.

Prerequisite or Co-requisite: CSE 201.

CSE 212. Software Engineering for User Interface and User Experience Design. (3)

Principles of user interfaces (UI) and user experiences (UX) for software engineering. Psychological principles; Design methods such as task analysis and user-centered design. Projects demonstrating window, menu, and command design; voice and natural language I/O; response time and feedback; color, icons, sound.

Prerequisite: CSE 201.

CSE 220. Professional Practice. (0)

Students participating in computer technology associate's degree co-op program register for this course during semesters when they are on work assignment. This enables students to maintain continuing student status with the university.

CSE 235. Computer Network Design and Administration. (3)

This course introduces students to the fundamentals of computer networking, the OSI stack, and the practical and conceptual skills needed to build simple local area networks, perform basic device configurations, and implement subnet schemes and their IP addressing. Students will also configure and troubleshoot simulated networks consisting of end devices, switches and routers.

Prerequisite: CYB 234 or CSE 278.

Cross-listed with CYB 235.

CSE 243. Problem Analysis Using Computer Tools. (3)

Students will learn to use personal computer productivity tools to analyze data, work with others in conducting analyses, develop conclusions and effectively communicate results. Students will utilize spreadsheet tools to analyze data and will be challenged to evaluate data from multiple perspectives in order to develop conclusions supported by their analysis. Students will use word processing tools to integrate text and graphical information that clearly and concisely communicates their conclusions. While an important part of the course is learning to use the software tools, the emphasis of the course is learning to use these tools to solve problems and communicate results. Credit not awarded for both CSE 243 and CSE 148. V. PA-1A.

CSE 251. Introduction to Game Programming. (3)

Introduction to computer programming techniques used in games and visual simulations. Simple data and control structures, mathematical foundations, transformations, rendering algorithms, and interfaces. This course is not open to CSE students without permission of instructor.

Prerequisite: high school algebra and trigonometry.

CSE 252. Web Application Programming. (3)

An introduction to programming concepts and practices for creating applications which use the web as the delivery platform. Students will learn technologies including HTML, Javascript, AJAX, client side programming and server side scripting to create interactive web applications. Not an elective for computer science and systems analysis majors.

Prerequisite: CSE 153 or CSE 163 or CSE 174.

CSE 253. Programming Languages. (1-2)

Presents syntax and semantics of a particular programming language currently popular in industrial or academic settings. Addresses construction of programs in the language. Applications of the language presented. Coverage of good programming style and software engineering concepts addressed in context of the language. Not applicable to CSE electives requirement for a CSE major.

CSE 256. Introduction to Programming for the Life Sciences. (3)

Introduction to programming for majors in the life sciences. The ability to write programs to perform tasks related to the organization and analysis of biological data has become a highly-valued skill for researchers in the life sciences, allowing wet-lab researchers to quickly process and sort through large amounts of data to find information relative to their own work. This course serves as an introduction to programming designed specifically for life science majors, targeting the specific skills and techniques commonly needed and explaining the fundamental methods of working with biological data while centering programming assignments around topics of interest to those studying the life sciences. Topics covered include basic programming techniques, representation and manipulation of genomic and protein sequence data, and the automated interface with BLAST and the NCBI GenBank database.

Cross-listed with BIO/MBI.

CSE 262. Technology, Ethics, and Global Society. (3)

Inquiry into a wide range of information technology issues, from moral responsibilities affecting professionals to wider ethical concerns associated with information technology in day-to-day living. Topics include general aspects of ethics; common ethical theories; professional codes of ethics in IT; privacy, security and reliability in using computer systems and the internet; issues and responsibilities in internet usage; legal issues in IT; global perspectives of computing issues; and general problems related to ethical and responsible computing. Not open to first-year students. IIB, IIC.

Prerequisites: ENG 109 or ENG 111.

Cross-listed with CIT 262.

CSE 270. Special Topics. (3; maximum 6)

Special topics in computer science, computer information systems, or operations research.

Prerequisite: permission of instructor.

CSE 271. Object-Oriented Programming. (3)

The design and implementation of software using object-oriented programming techniques including inheritance, polymorphism, object persistence, and operator overloading. Students will analyze program specifications and identify appropriate objects and classes. Additional programming topics include dynamic memory recursion, using existing object libraries, and binary/ASCII file processing.

Prerequisite: CSE 174 with a grade of C- or better or equivalent.

CSE 273. Optimization Modeling. (3)

Use of deterministic models and computers to study and optimize systems. Includes an introduction to modeling, calculus-based models, financial models, spreadsheet models, and linear-programming models.

Prerequisite: MTH 251 or equivalent.

CSE 274. Data Abstraction and Data Structures. (3)

Abstract data types and their implementation as data structures using object-oriented programming. Use of object-oriented principles in the selection and analysis of various ADT implementations. Sequential and linked storage representations: lists, stacks, queues, and tables. Nonlinear data structures: trees and graphs. Recursion, sorting, searching, and algorithm complexity.

Prerequisites: C- or higher in CSE 271.

CSE 276. Mathematics and Computer Science. (3)

This course examines how mathematics has influenced computer science, and how computer science has influenced mathematics. It covers a range of topics which sit at the intersection of mathematics and computer science, such as encryption, randomness, computational geometry, fractals, prime numbers, numerical methods, image processing, and simulations. Most topics are approached through developing static and animated visualizations of mathematical concepts.

Prerequisite: CSE 271 and (MTH 231 or MTH 331).

CSE 277. Independent Studies. (0-6)**CSE 278. Systems I: Introduction to Systems Programming. (3)**

Principles of Von Neumann computer architecture through the C/C++ programming language. Data representation and computer arithmetic. Memory hierarchy. CPU structure and instruction sets. Network programming including use of sockets. Database programming through SQL.

Prerequisite: CSE 271.

CSE 283. Data Communication and Networks. (3)

Introduction to data communications, computer networks, protocols, and distributed processing as well as relevant standards and underlying theory. Topics include communication codes, transmission methods, interfacing, error detection, communication protocols, communications architectures, switching methods, and network types. Local area network and internetwork technologies are studied. The client/server model of distributed processing addressed. Students design and implement data communications and network-based software.

Prerequisite: CSE 271.

CSE 301. Software Architecture and Design. (3)

An in-depth look at software design. Study of software architecture, design patterns and software product lines. Designing for quality attributes such as performance, safety, security, reusability, reliability, etc. Measuring internal qualities and complexity of software designs. Evolution of designs. Basics of software evolution, reengineering, and reverse engineering. Application of formal methods to specify and evaluate designs.

Prerequisites: CSE 201 and CSE 202.

CSE 302. Software Construction. (3)

General principles and techniques for disciplined detailed software design. Basic theory of grammars and parsing. State-transition and table-based design. Formal specification languages and program derivation. Techniques for handling concurrency and inter-process communication. Tools for model-driven construction.

Prerequisite: CSE 301 and (MTH 231 or MTH 331).

CSE 310. Undergraduate Research Seminar. (1; maximum 3)

Seminar or workshop on topics in computer science, software engineering, or related fields.

CSE 320. Professional Practice. (0)

Students participating in the computer science and systems analysis co-op program register for this course during semesters when they are away from Oxford on work assignment. This enables students to maintain continuing student status with the university.

CSE 340. Internship. (0-20)**CSE 340U. Undergraduate Summer Scholars Program. (1-12)****CSE 372. Stochastic Modeling. (3)**

Survey of methods of stochastic operations research including reliability, Markov processes, queuing theory, and decision theory. Computer used for modeling and solving problems.

Prerequisite: STA 301 or STA 368.

Prerequisite or Co-requisite: STA 401/STA 501.

CSE 374. Algorithms I. (3)

Design, analysis and implementation of algorithms and data structures. Dynamic programming, brute force algorithms, divide and conquer algorithms, greedy algorithms, graph algorithms, and red-black trees. Other topics include: string matching and computational geometry.

Prerequisites: CSE 274 and (MTH 231 or MTH 331).

CSE 377. Independent Studies. (0-6)**CSE 381. Systems 2: OS, Concurrency, Virtualization, and Security. (3)**

Introduction to operating systems concepts. The operating system as a resource manager. The principles for the design and implementation of operating systems. Process scheduling and deadlock prevention. Memory management, virtual memory, paging, and segmentation. Interrupt processing. Device management, I/O systems and I/O processing. Concurrency and multithreading. Virtualization and cloud services. Security and protection.

Prerequisite: CSE 278.

CSE 382. Mobile App Development. (3)

Implementation of cross-platform applications for mobile platforms such as iOS and Android. Programming languages, development environments, debugging, testing, and application design. Development of applications that: provide an effective graphical interface, access internet resources, permanently store data, access the device's hardware, and display graphical elements.

Prerequisite: CSE 278.

CSE 383. Web Application Programming. (3)

An introduction to the software, concepts and methodologies necessary to design and implement web applications. Students will design and construct web applications utilizing remote servers on multiple platforms. Projects will be used to enable the students to apply the principles and techniques presented in class.

Prerequisite: CSE 278.

CSE 385. Database Systems. (3)

Overview of database management, database system architecture, and database modeling principles. Logical database design. The relational database model, relational integrity constraints, and relational algebra. Relational commercial database management systems and languages. Interactive database processing, view processing, and database application programming. Database integrity. Relational database design by normalization. File structures for database systems.

Prerequisite or Co-requisite: CSE 274.

CSE 386. Foundations of Computer Graphics and Games. (3)

An introduction to techniques used to create images on the computer. The course covers the algorithms and mathematical theory behind three-dimensional image generation with an emphasis on 3D geometry, 3D transformations, and the graphics pipeline. Programming required.

Prerequisites: MTH 151, and (CSE 274 or CSE 278).

CSE 389. Game Design and Implementation. (3)

Study of architectures, algorithms, and software design patterns used in computer games. Students work with a game engine to design and implement several kinds of games. Topics include animation techniques, physics simulation, user controls, graphical methods, and intelligent behaviors.

Prerequisites: CSE 287 or CSE 386.

CSE 401/CSE 501. Software Quality Assurance and Testing. (3)

Quality: how to assure it and verify it, and the need for a culture of quality. Avoidance of errors and other quality problems. Inspections and reviews. Testing, verification, and validation techniques. Product and process assurance. Formal verification. Statistical testing.

Prerequisite: CSE 302.

CSE 411/CSE 511. Introduction to Model-Driven Software Engineering. (3)

An introduction to model-driven software engineering (MDSE) techniques; applying software engineering practices to model-based artifacts; modeling and abstraction; model transformations; model-based testing; tool implementations.

Prerequisite: CSE 201.

CSE 432/CSE 532. Machine Learning. (3)

This course introduces the process, methods, and computing tools fundamental to machine learning. Students will work on large real-world datasets to write code to accomplish tasks such as predicting outcomes, discovering associations, and identifying similar groups. Students will complete a term project showcasing the different steps of the machine learning process, from data cleaning to the extraction of accurate models and the visualization of results.

Prerequisite: CSE 274.

CSE 443/CSE 543. High Performance Computing & Parallel Programming. (3)

Introduction to practical use of multi-processor workstations and supercomputing clusters. Developing and using parallel programs for solving computationally intensive problems. The course builds on basic concepts of programming and problem solving.

Prerequisite: CSE 381.

CSE 448. Senior Design Project. (2)

Student teams, with varied academic backgrounds, conduct major open-ended research/design projects. Elements of the design process are considered as well as real-world constraints, such as economic and societal factors, marketability, ergonomics, safety, aesthetics, and ethics; feasibility and design studies performed. SC.

Prerequisites: CSE 201 and CSE 274 and senior standing in student's major.

CSE 449. Senior Design Project. (1-2)

Continuation of CSE 448. Student teams, with varied academic backgrounds, conduct major open-ended research/design projects; implementation, testing, and production of design. Nonmajors can register for 1-2 credits. SC.

Prerequisite: CSE 448.

CSE 451/CSE 551. Web Services and Service Oriented Architectures. (3)

Intro to service-oriented architectures; examine purposes and differences between different web service technologies; analyze shortcomings and strengths of integration techniques; development of cross-platform applications using standard interchange languages.

Prerequisites: CSE 383.

CSE 456/CSE 556. Bioinformatic Principles. (3)

Concepts and basic computational techniques for mainstream bioinformatics problems. Emphasis placed on transforming biological problems into computable ones and seeking solutions.

Prerequisites: (BIO/CSE/MBI 256 or CSE 174) and (BIO/MBI 116 or MBI 201 or BIO 342) or permission of instructor.

Cross-listed with BIO 485/BIO 585/585 and MBI 485/MBI 585/585.

CSE 464/CSE 564. Algorithms. (3)

Review of basic data structures and algorithms. Analysis of algorithms. Problem assessment and algorithm design techniques. Algorithm implementation considerations. Concept of NP-completeness. Analysis of algorithms selected from topics relevant to computer science and software engineering (sorting, searching, string processing, graph theory, parallel algorithms, NP-complete problems, etc.)

Prerequisite: MTH 231 or discrete math and CSE 274 or equivalent.

CSE 465/CSE 565. Comparative Programming Languages. (3)

Survey of programming languages and their accompanying paradigms. Basic principles of syntax, semantics, implementation, and pragmatics are addressed. The survey will include representatives from the families of imperative languages, functional languages, logic languages, and hybrid languages. Formal methods of definition and specification are introduced.

Prerequisite: CSE 274 or equivalent.

CSE 466/CSE 566. Bioinformatics Computing Skills. (3)

Study of the core computational and biological concepts in bioinformatics, with programming in Python, MySQL and Ubuntu OS. You will gain hands-on experience in popular bioinformatics applications, including BLAST, sequence alignment, genome browser, and gene annotation, among others.

Prerequisites: BIO 256; or CSE 174; or permission of instructor.

Cross-listed with BIO/CHM/MBI.

CSE 467/CSE 567. Computer and Network Security. (3)

Fundamentals of network, operating system and application security. Students will study and implement a variety of security techniques including defense, response and forensics. Extensive analysis, reading and writing will be integral to this course.

Prerequisite: CSE 383.

CSE 470/CSE 570. Special Topics in CSE. (3; maximum 21)

Advanced special topics in computer science, computer information systems, or operations research.

Prerequisite: permission of instructor.

CSE 473/CSE 573. Automata, Formal Languages, and Computability. (3)

Regular expressions. Closure properties. Sequential machines and finite state transducers. State minimization. Chomsky hierarchy grammars, pushdown acceptors and linear bounded automata. Closure properties of algorithms on grammars. Turing machine as acceptor and transducer. Universal machine. Computable and noncomputable functions. Halting problem.

Prerequisite: CSE 274 or equivalent and (MTH 231 or MTH 331).

CSE 474/CSE 574. Compiler Design. (3)

Examination of the nature of programming languages and programs which implement them. Compiler and interpreter design and implementation techniques. Review of grammars and languages (context free, context sensitive, regular). Design of interactive interfaces. Parsing of context free languages. Lexical analysis. Semantic analysis and code optimization.

Prerequisite: CSE 274 and CSE 278.

CSE 477. Independent Studies. (0-6)**CSE 480/CSE 580. Special Problems. (1-4; maximum 12)**

Special systems problems decided by students in consultation with instructor. For students in departmental or university honors program.

Prerequisite: permission of department chair prior to registration.

CSE 484/CSE 584. Algorithms II. (3)

Study problems in computer science for which we have no known efficient solutions, and the methods used to recognize intractable problems as well as the current approaches taken to cope with those problems. Concept of NP-completeness and poly-time reductions; an introduction to randomized algorithms and the randomized complexity classes PP, RP, and BPP; an introduction to approximation algorithms for solving NP-Hard problems; polynomial-space algorithms and the classes PSPACE and the poly-time hierarchy; Poly-time approximation schemes and approximation algorithms via linear-program rounding.

Prerequisite: CSE 374.

CSE 485/CSE 585. Advanced Database Systems. (3)

Relational algebra. Query processing and optimization. Database security. Data warehouses, column stores, and ETL. NoSQL database systems, including document and graph stores. Emerging database technologies.

Prerequisites: CSE 385 and (MTH 231 or MTH 331).

CSE 486/CSE 586. Introduction to Artificial Intelligence. (3)

Basic concepts of artificial intelligence (AI) including problem solving, search knowledge representation, and rule-based systems covered with symbolic AI language such as PROLOG or LISP. Application areas (natural language understanding, pattern recognition, learning and expert systems) are explored.

Prerequisite: CSE 274 or equivalent and (MTH 231 or MTH 331).

CSE 488/CSE 588. Image Processing & Computer Vision. (3)

An introduction to computer vision including sensors and image formation, camera geometry, signal processing, feature detection, tracking and motion estimation, scene understanding, image classification, segmentation, object detection, and deep learning.

Prerequisites: CSE 274 and (MTH 231 or MTH 331).

CSE 489/CSE 589. Advanced Graphics and Game Engine Design. (3)

The course covers graphics hardware, game engine architectures, and the mathematics and algorithms used to create digital games. Topics will include shader based rendering and programming. Students will implement portions of a game engine which incorporates animation, collision detection, and simulated physics. Programming required.

Prerequisites: CSE 287 or CSE 386.

CSE 491. Undergraduate Research. (1-4; maximum 10)

Research problems in computer science, systems analysis, or operations research, chosen in consultation with a faculty advisor. Requires a public presentation of completed work. For grade only.

Prerequisites: Permission of instructor and approval of department chair.

CSE 587. Game Design and Implementation. (3)

Study of architectures, algorithms, and software design patterns used in computer games. Students work with a game engine to design and implement several kinds of games. Topics include animation techniques, physics simulation, user controls, graphical methods, and intelligent behaviors.

Prerequisite: CSE 386, for 587: graduate standing or permission of instructor.

CSE 601. Computer Science Research Methods. (3)

An introduction to conducting research in computer science and software engineering. Students will develop basic skills required of a graduate student in CSE including writing scientific papers, performing literature reviews, preparing and delivering presentations, research methods, and participating in academic discussions.

CSE 602. Emerging Topics in Computer Science. (1)

Students develop advanced skills necessary for research in computer science and software engineering. They formulate research questions, propose a methodology to conduct independent research, and design experiments to evaluate their planned research. Students defend their thesis proposal, and attend peer thesis proposal presentations to discover emerging topics in computer science.

Prerequisite: CSE 601.

CSE 609. Programming for Engineers and Scientists. (3)

This course addresses programming skills at an intermediate level and focuses specifically on scientific and engineering computing skills. This course will emphasize topics commonly encountered in scientific computing/computational science. It primarily addresses non-parallel (serial) computing competencies and is a prerequisite to the high performance computing area. The course will focus on an appropriate programming language currently used in research. Recommended prerequisite: a programming course in any language.

CSE 610. Seminar in Computer Science. (1-3)

Seminar topics in computer science, computer information systems, or operations research. Does not apply toward fulfillment of the requirements of the Master of Systems Analysis. Credit/no-credit only. Prerequisite: permission of instructor.

CSE 611. Computer Science Seminar Attendance Requirement. (0; maximum 0)

Required seminar attendance for graduate students in all tracks during each fall and spring semester in which they are enrolled as fulltime students. Attendance must be verified at a designated number of approved events each semester. Approved events include proposal and defense presentations, oral exams associated with the Coursework Only track, and presentations by faculty search candidates.

Prerequisite: graduate standing.

CSE 616. Simulation of Physical Systems. (3)

This course is an introduction to the principles and use of simulation, and suitable software tools, to model the behavior of physical systems in the sciences and engineering. Concepts related to discrete event simulation including random number generation, scheduling and processing are addressed. Concepts related to continuous simulation including linear, nonlinear, and dynamic systems are studied. Students will design and implement simulations using suitable modeling and simulation software tools.

CSE 617. Advanced Networks. (3)

Study of advanced networking techniques, client/ server programming, and distributed processing. Critical analysis of these areas develops as students learn the strengths and weaknesses of these technologies through assigned programming projects.

CSE 618. Graphics for Simulation and Virtual Environments. (3)

Study of hardware, software, and algorithms used in computer graphics. Instruction emphasizes the use of a scene graph-based API. Topics will include lighting, blending, texture mapping, non real-time rendering techniques such as radiosity and ray tracing.

CSE 620. Special Topics in Computer Science Applications. (3; maximum 12)

Special topics in computer science, computer information systems, or operations research.

Prerequisite: permission of instructor.

CSE 621. Foundations of Software Engineering. (3)

Foundational theories for software engineering. Topics include project management, modeling notations, refinements processes, verification and validation, and evolution.

CSE 627. Machine Learning. (3)

Concepts and algorithms of machine learning including version-spaces, decision trees, instance-based learning, networks, evolutionary computation, Bayesian learning and reinforcement learning.

CSE 640. Internship. (0-12; maximum 6)**CSE 648. Professional Computing Experience. (3)**

The Professional Computing Experience course is an immersive, project-based, experiential course intended to draw on skills and knowledge gained in courses throughout the Master in Computer Science program. Students will be immersed in a semester-long open-ended computer science project that requires the selection and application of appropriate skills, tools and methodologies covered in the MCS program to address the problem at hand. In preparation for the project, students will read and analyze "grey literature" (i.e., professional magazines, technical reports, and working papers) on the current and evolving trends in computing fields. Students will appropriately communicate their findings and project results to multiple audiences.

Prerequisite: Completion of the 12 hours of coursework in the Master in Computer Science.

CSE 650. Special Topics in Computer Science Theory. (3; maximum 18)

This course covers special topics in theory within Computer Science. Understanding theory is fundamental in any Computational Science venture as it is the foundation on which all work and applications are built upon. Faculty will be covering a variety of new and emerging theory areas.

CSE 664. Advanced Algorithms. (3)

A review of NP-Completeness and poly-time reductions; an introduction to randomized algorithms and the randomized complexity classes PP, RP, and BPP; an introduction to approximation algorithms for solving NP-Hard problems; polynomial-space algorithms and the classes PSPACE and the poly-time hierarchy; Poly-time approximation schemes and approximation algorithms via linear-program rounding.

CSE 667. Cryptography. (3)

This course presents the techniques and tools used in modern cryptography. The course covers common cryptographic assumptions and tools, including: pseudorandomness, symmetric key cryptography, and asymmetric key cryptography. Recommended co-requisite: CSE 464/CSE 564/564.

Prerequisite: graduate standing or permission of instructor.

CSE 671. Software Quality. (3)

This course emphasizes the importance of quality when developing software systems. Topics include design for reuse, formal specification, applications of software testing, and maintenance of evolving systems.

Prerequisite: none for MSCS students, permission of instructor for others.

CSE 690. Graduate Research. (3)

Research problems in computer science, computer information systems, or operations research, decided upon in consultation with the instructor and student's graduate adviser. Requires a public presentation of completed work. For grade only.

Prerequisite: permission of instructor, student's graduate adviser, and graduate director.

CSE 700. Research for Master's Thesis. (0-9; maximum 9)

Study under graduate faculty supervision of a research problem related to computer science or software engineering. Students should take CSE 601 either concurrently or before taking CSE 700 for the first time. Upon completion of research, the results must be defended before the advisory committee for approval. A minimum of two semesters of research can be counted toward fulfillment of the research requirement.

Prerequisite or Co-requisite: CSE 601.

CSE 704. Non-Thesis Project. (0-12; maximum 12)

This repeatable course is for non-thesis culminating experiences. Permission of the instructor is required.

Creative Arts (CCA)

CCA 101. The Entrepreneurial Artist. (2-3)

This course is an orientation to the resources, personnel, policies, curriculum, and student organizations in the arts at Miami as well as related resources across campus. Students will also gain an understanding of how to navigate the ever-changing landscape of the arts by starting to develop an entrepreneurial mindset and skills that prepare them for a career in the arts or as a supporter of the arts. Open to any major.

CCA 111. Innovation, Creativity and Design Thinking. (3)

This course will explore the roots of original thought and its role in the evolution of different areas of human endeavor. Students will explore the many facets of creativity and innovation, which are purely human traits at the heart of our ability to grow, change and adapt as individuals, and ultimately to survive as a species. The course will present scientific and scholarly ways of understanding creativity, but will also engage students in a series of exercises to experience processes through a diverse range of media and project types. Learning the roles and processes of innovation and design thinking will be central to this exploration. Team work, problem-solving and leadership skills will also be addressed, and students will both self-author and collaboratively author original concepts. IIA, V. PA-3A.

CCA 121. Introduction to the Integrated Arts and Culture. (3)

This course will focus on learning basic arts vocabulary, concepts and principles, with an emphasis on those words and ideas that are common to all the arts. (e.g.: syncopation, rhythm, pattern, etc.) Students will be exposed to the fundamental steps of the creative process that are integral to various artforms. This vocabulary and process will be examined in context through the historical and cultural study of a particular urban location. IIA. PA-3A.

Co-requisites: CCA 221 and 321.

CCA 177. Independent Studies. (0-6)**CCA 182. Experiencing the Arts. (1-2)**

Introduction to various arts. Attendance at art events required.

CCA 190. CCA Special Topics. (2-3; maximum 10)

Topics course exploring the visual and performing arts and other creative industries.

CCA 200. Arts Management Practicum. (1; maximum 3)

The studio is an opportunity for practical work experience in the field of arts management. Under the supervision of a faculty member, students complete experiential on-campus arts management projects in order to understand the role of arts managers in different contexts. Prerequisite: CCA 201 or permission of instructor.

CCA 201. Introduction to Arts Management. (3)

Introductory seminar to the field of arts management as a profession. The successful arts manager applies business principles in an arts context utilizing field specific skills in creating programming, stimulating public access, generating income, managing boards, and sustaining the mission and vision of the enterprise.

CCA 202. Introduction to Music Business. (3)

This class will introduce students to the exciting landscape of the commercial music business. Students will gain an understanding of the functional areas of the music industry including music publishers, record labels, performing rights organizations, artists management, touring management, and recording industry operations. Students will explore basics in copyright law as it pertains to composers, songwriters, artists, and musicians and gain insights into the digital environment and technological advances in the recording industry.

CCA 220. Arts Management & Arts Entrepreneurship Studio 1. (2)

In this course, students will gain practical experience by self-defining arts management & arts entrepreneurship projects. Students will begin to develop their arts management & arts entrepreneurship portfolio. Additionally, students will consider the current context in operating a creative enterprise. An emphasis will be on developing creative thinking, critical thinking, collaboration, and communication skills with the arts management & arts entrepreneurship project and portfolio.

Prerequisite or Co-requisite: CCA 201 or permission of the Director of Arts Management & Entrepreneurship.

CCA 221. Immersion in the Integrated Arts and Culture. (3)

Students will learn about various forms of art (architecture, theatre, design, music, etc.), simultaneously gaining an understanding of their unique characteristics, while learning how they are interconnected, integrated, and sit in a specific cultural context. By studying how architecture and interior space design affects the theatrical/musical performances in an opera house, for instance, students will gain a stronger understanding of how individual arts disciplines enrich one another. Learning would take place in the classroom, as well as in an experiential fashion.

Co-requisites: CCA 121 and 321.

CCA 277. Independent Studies. (0-6)**CCA 302. Arts Marketing & Engagement. (3)**

Effective marketing and connecting audiences through arts engagement are essential in developing sustainable arts enterprises. This course introduces students to the fundamentals of marketing the arts and the methods arts managers utilize to engage and develop the audience.

Prerequisite: CCA 201 or permission of the Director of Arts Management & Entrepreneurship.

CCA 304. Financial Management & Development in the Arts. (3)

Understanding and applying sound financial management tools are fundamental in creating and maintaining sustainable arts enterprises. This course focuses on understanding the financial challenges faced by the arts and the necessary tools to plan, control, interpret, and communicate the financial position of an arts enterprise. The course also examines the crucial role of development in the financial management of an arts enterprise.

Prerequisite: CCA 201 or permission of the Director of Arts Management & Entrepreneurship.

CCA 306. Arts Entrepreneurship. (3)

In this course, students will engage in the mindsets and practices of arts entrepreneurship and develop the ability to recognize and create opportunities for arts enterprises.

CCA 308. Policy & Advocacy in the Arts. (3)

Arts organizations operate within a public policy environment which impacts many aspects of their functions including planning, production, presentation, and funding. In this course, students will learn about the public policy system which concerns the arts and culture in the United States. Some key topics include arts policy history and purposes, policy formulation and implementation processes, as well as major issues involved in the policy system. Moreover, students will consider how as arts managers, artists, and audience, they can influence arts policy development and change through advocacy. Through a variety of course materials, from academic and policy resources to case studies and group discussions, students will be able to acquire knowledge and skills necessary to navigate the field of arts policy and advocacy.

Prerequisite: CCA 201 or permission of instructor.

CCA 320. Arts Management & Arts Entrepreneurship Studio 2. (2)

In this course students gain practical experience by self-defining arts management & arts entrepreneurship projects. Students will continue developing their arts management & arts entrepreneurship portfolio. Additionally, students will consider the current context in operating a creative enterprise. An emphasis will be on developing creative thinking, critical thinking, collaboration, and communication skills with the arts management & arts entrepreneurship project and portfolio.

Prerequisite: CCA 220 or permission of the Director of Arts Management & Entrepreneurship.

CCA 331. Acting for the Musical Stage. (3)

This course will focus on the integration of acting, singing and dancing to prepare a song for public performance. Open to students enrolled in the Music Theatre Minor only. This class is the culmination of the minor; students must complete all requirements in Music Theory, Applied Voice, Acting and Dance prior to taking this course.

Prerequisites: Complete required classes in: Music Theory, Applied Voice, Acting and Dance prior to taking this course.

CCA 340. Internship. (0-20)**CCA 377. Independent Studies. (0-6)****CCA 401. Strategic Innovation in the Arts. (3)**

In order to create innovative strategies, arts organizations must apply strategic thinking to their planning process. Strategic thinking and planning, based on the organization's mission statement or purpose, details both artistic and business strategies in order to fulfill the goals of the enterprise. Strategic thinking and planning should be entrepreneurial, organized, and ongoing. This course will also discuss the importance of leadership in this process.

Prerequisite: CCA 201 and 3 credits of 300-level courses in arts management or permission of the Director of Arts Management & Entrepreneurship.

CCA 410. Advanced Topics in the Creative Arts. (1-4)

Topics focus on a range of contemporary arts subjects, themes, or issues related to arts management, ethics and leadership; museum studies and practices; creative enterprise and entrepreneurship; among others as extensions of ideas in presented in College of Creative Arts courses and programs.

Prerequisites: CCA 201, CCA 340 or permission of the instructor.

CCA 420. Arts Management & Arts Entrepreneurship Studio 3. (2)

In this course students gain practical experience by self-defining arts management & arts entrepreneurship projects. Students will finalize their arts management & arts entrepreneurship portfolio. Additionally, students will consider the current context in operating a creative enterprise. An emphasis will be on developing creative thinking, critical thinking, collaboration, and communication skills with the arts management & arts entrepreneurship project and portfolio.

Prerequisite: CCA 320 or permission of the Director of Arts Management & Entrepreneurship.

CCA 443/CCA 543. Study Abroad: Arts and Culture. (6)

Rome-Florence: Arts & Culture is a field-based study abroad course in Italy designed to increase students' knowledge of the seeds of western culture by learning about the history, art, music and culture of Italy, specifically, Rome and Florence. It blends the highlights of masterworks in art and civilization. In the classroom learning is limited; students will spend their course time exploring Roman ruins such as the Colosseum and the Pantheon, in world's most famous museums, such as the Vatican Museums, Capitoline Museums and, the Uffizi and Accademia, home to Michelangelo's David. Concerts of classical music, opera and 21st century Italian film music are included. Italian food, fashion and cooking classes are highlight the course. Since art is a product of society, a history of western culture will be pursued as it affected the development of art and culture. Trips to the island of Capri and the Tuscan city of Siena are included.

CCA 477. Independent Studies. (0-6)**CCA 677. Independent Study. (0-6)**

Criminal Justice Studies (CJS)

CJS 101. Introduction to the Criminal Justice Studies. (3)

Offers an overview of America's criminal justice system, with an emphasis on the development, functions, and current issues/problems facing the current criminal justice system. Course specifically focuses on the history, roles, and present state of the police, courts, and corrections. IIC. PA-2A.

CJS 125. Law and the Courts. (3)

Provides a critical examination of the American judicial system and legal processes. Focuses on the contextual meaning of law and justice to society and will encourage critical thinking from political, sociological, historical, and philosophical perspectives.

CJS 177. Independent Studies. (0-6)**CJS 211. Policing in America. (3)**

Provides students with an in-depth analysis of America's system of law enforcement. Policing course which covers: eras of law enforcement, law enforcement styles and patrols, entering and working in the police subculture, police ethics/civil liability, and the future of American law enforcement.

CJS 220. Criminal Justice Field Experience. (3)

Students will contract with an appropriate independent agency for 120 hours of internship work. Hands-on experience within the students' chosen component of the criminal justice system, personal reflection, and opportunity for career direction will occur. Prerequisites: CJS 101, 125, 211 and 281.

CJS 231. Criminal Procedure. (3)

Investigates the development and evolution of constitutional protections for American civil rights and liberties. Provides a thorough examination of U.S. Supreme Court cases and supplemental readings, with attention to the legal, historical and political influences that have shaped constitutional liberties.

CJS 232. Criminal Law. (3)

Examines substantive criminal law, including: elements that comprise offenses and defenses in criminal law, the process of adjudication, and primary constitutional restrictions on criminal law.

CJS 235. Forensic Science Survey. (3)

This survey course examines the many facets of forensic science. Students will become aware of the diversity of disciplines in which it is practiced and be introduced to typical forensic science specialties.

CJS 245. Human Trafficking and Contemporary Slavery. (3)

Overview of the trafficking and enslavement of human beings in our globalized world, including forced prostitution, child soldiers, bonded labor, and hereditary slavery. Explores the contributing roles of states, organized crime, culture (corruption, discrimination, inequality, poverty), and the media in domestic and global contexts. IIIB. PA-4C.

CJS 251. Global and Comparative Justice Exploration. (1-3; maximum 6)

Offers academic and social interactions with people of a different culture. Social activities, global and comparative research, and discussion of comparative and global criminal and civil justice issues culminate in short research reports, reflection papers, and presentations. Some of these activities occur outside of the scheduled class times. Global Justice Exploration is intended for international students who are interested in learning about the U.S. justice system and engaging in a comparison to the justice system of his or her home nation and other nations, and who are interested in having social experiences with domestic students.

CJS 256. Police Organization, Administration, and Management. (3)

Examines the structures, processes, and behaviors specific to police administration including: politics behind governing a police department, leadership and communication issues specific to the law enforcement field, and legal aspects of police administration. Prerequisite: CJS 211.

CJS 270. Special Topics. (1-3; maximum 6)

An examination of a contemporary problem/issue in criminal justice through some combination of research, reading, discussion, and experiential learning. Topics will vary according to need and interest. This class may be repeated for credit provided different topics are studied.

CJS 271. Introduction to Criminal Behavior. (3)

Focuses on theories of criminal behavior and activity. Provides criminal justice students with a micro level, law enforcement approach to criminal behavior. Students will be expected to learn and apply criminological theory, criminal typologies, and appropriate agency responses.

CJS 272. Forensic and Crime Scene Evidence. (3)

Focuses on crime scene evidence collection and analysis. Provides students with the definition, scope, and utilization of forensic science within the criminal justice system. Students will be expected to learn and apply crime scene processing, differentiate and analyze crime scene evidence, and understand special services provided by forensic agencies.

CJS 276. Homeland Security and Critical Incident Management. (3)

Focuses on the role of law enforcement within Homeland Security and critical incident response/management. Students are expected to critically analyze the conflict between civil liberties and civil defense within the context of Homeland Security, understand the sequence and importance of critical incident management, and learn how to effectively implement law enforcement response and prevention tactics.

CJS 277. Independent Studies. (0-6)**CJS 281. Corrections in America. (3)**

Focuses on the historical perspectives of corrections in America, institutional corrections, and the demographics of correctional clients. Provides an overview of correctional law, ethical and moral dilemmas and key issues in corrections.

CJS 282. Writing in Criminal Justice. (3)

Focuses on developing the writing skills of students who plan to pursue a criminal justice related career and/or continued education in the field. Students are instructed on writing an academic literature review and on grant writing which can be used to help secure funding for their future agencies. ADVW. PA-1C.

CJS 311. Punishment and Social Control. (3)

Offers an in depth discussion of social policy; including social ethics, social inequality, and social deviance. Focuses on how race, class, and gender affect the concept of punishment in America.

CJS 312. Community Corrections. (3)

Focuses on the history and development of community based corrections, the utilization of probation, parole, and intermediate sanctions, and issues related to special populations under correctional supervision. Provides a discussion of appropriate offender classification mechanisms, theories of offender treatment, and recidivism considerations used throughout the process of sentencing.

CJS 321. Criminal Justice Administration. (3)

This course will provide a critical examination of how the different agencies within the criminal judicial system (police, courts, and corrections) function and interact. Discussion will include the principles of management and administration, and their application to CJ agencies. Topics include: management, organizational theory, leadership, communication, the rights of public and private employers and employees, and the decisions making process.

CJS 331. Juvenile Law. (3)

Provides a critical examination of the major Supreme Court cases on juvenile law and society's concerns on how the law impacts youth. Discussions will include the history of juvenile system as well as the legal rights of youth within the juvenile justice process and at school.

CJS 340. Internship. (0-20)**CJS 356. Crime Prevention and Problem Solving. (3)**

This course examines the theoretical bases and application of crime prevention techniques, with emphases on situational crime prevention and problem solving. Relevant theories and principles to be discussed include routine activity theory, rational choice, problem oriented policing, crime patterns, and crime prevention through environmental design. Students will complete a range of field assignments and projects, including documenting signs of disorder, and creating a photography journal featuring examples of situational crime prevention efforts in the community. Finally, the strengths, weaknesses, practicality, policy challenges, and ethics of crime prevention approaches will be assessed.

CJS 377. Independent Studies. (0-6)**CJS 401. Race and Criminal Justice. (3)**

This course investigates the critical role that race plays in our criminal justice system. The course will provide a sociohistorical framework of the criminal justice system, the inequalities that are inherently part of its structure, as well as the effects those inequalities have on different racial/ethnic groups in the United States. This course will encourage debate on exactly how just is the U.S. criminal justice system for minority groups and people of color. The course will also employ a life course perspective to investigate criminal behavior from juvenile delinquents through adulthood. Students in this class should objectively view the racial differences in the criminal justice system and be encouraged to reduce the racialized justice system. Prerequisites: CRE 151 and either CJS 211 or 281. Cross-listed with CRE.

CJS 411. Evidence Law and Expert Testimony. (3)

This course examines pretrial discovery, the basic rules that govern the admissibility of evidence at trial, and in greater detail, the law that applies to scientific evidence and to expert witnesses. Practical advice and simulations intended to prepare the student to be an effective witness are included.

CJS 445/CJS 545. Geographic Information Systems for Criminal Justice. (3)

Collect, organize, analyze, and display spatial data used in criminal justice and emergency management. Part of the course will be a GIS Crime Analysis Product. Taught on Regional Campuses. Cross-listed with GEO.

CJS 451. Comparative Justice Systems. (3)

A survey of the major legal traditions in world, as well as an examination of rule of law, civil rights, policing, and punishment & corrections in specific jurisdictions for the purpose of understanding how law and justice systems develop, how systems interact and converge, and how peoples from around the world approach justice. Comparisons between the United States and other nations/systems will occur with the intention of better understanding, critically assessing, and improving systems in the United States. Prerequisite: junior or senior standing.

CJS 461. Applied Research Methods in Criminal Justice. (3)

Presents the philosophical and theoretical foundations of applied research, issues specific to research in the criminal justice system, and quantitative and qualitative data analysis. Course will culminate in the completion of an applied research project.

CJS 470. Special Topics in Criminal Justice. (1-6; maximum 9)

An examination of a contemporary problem/issue in criminal justice through some combination of research, readings, discussion, and experiential learning. Topics will vary according to need and interest. This class may be repeated for credit provided different topics are studied.

CJS 477. Independent Studies. (0-6)**CJS 485. Capstone: Seminar in Criminal Justice. (3)**

This course synthesizes the student's learning through reading, research, and discussion of issues in the criminal justice system. Students will conduct research on a topic of their choice, will learn how to present in a professional manner, and will engage in critical analysis and interaction with other learners. All students will complete a Service-Learning project who have not done so previously. SC.

CJS 612. Criminal Justice Systems: Practice. (3)

Focuses on the current state of criminal justice policy, program assessment and evaluation, the impact of public policy, and the necessity for future domestic criminal justice policy. Provides an overview of current policy within police, courts, and community and institutional based agencies. S. in Criminal Justice or permission of instructor.

Prerequisite: admission to the M.

CJS 615. Statistics for Criminal Justice. (3)

This course provides an expedited instruction of statistical analyses used in the social sciences. Additionally, students will learn statistical analytic techniques applicable in a wide variety of criminal justice agency settings.

Prerequisite: admission to the MS in Criminal Justice or permission of instructor.

Cross-listed with STA.

CJS 631. Law, Liberty, and Criminal Justice. (3)

An in depth examination of the major constitutional rights that impact criminal law, including the First, Fourth, Fifth, Six, Eighth, and Fourteenth Amendments. Evaluate the law in its historical, political, and social context. Special attention will be given to technology and privacy and other contemporary issues. S. in Criminal Justice or permission of instructor.

Prerequisite: admission to the M.

CJS 632. Legal Aspects of Justice Administration. (3)

This course provides a thorough examination of selected legal issues that arise in the administration of police organizations and corrections programs. Drawing from several scholarly literatures, CJS 632 exposes students to techniques of legal research, writing and analysis; it also equips students with extensive knowledge of the case and statutory law that governs police supervisors and corrections administrators in their day-to-day work. Major topics include tort liability of police and corrections personnel, federal civil rights law and litigation, the legal duty to train and supervise, legal restrictions on the use of force, procedural due process, collective bargaining law, constitutional rights of officers and public access to information. All students in CJS 632 complete an individualized research assignment focused on a relevant legal issue chosen in consultation with the instructor.

Prerequisite: admission to the MS in Criminal Justice or permission of instructor.

CJS 641. Crime and Place. (3)

This online course provides the theoretical framework, research findings, and policy implications relating to the occurrence of crime across time and space. Topics include measures of crime, social disorganization theory, rational choice theories of crime, the role of communities, crime prevention through environmental design (CPTED), situational crime prevention, crime analysis, crime mapping, and directions for future research. The course will culminate in the completion of a policy white paper.

CJS 670. Special Topics in Justice. (1-6; maximum 6)

An examination of a contemporary problem/issue in criminal justice through some combination of research, readings, discussion, and experiential learning. Topics will vary according to need and interest. This class may be repeated for credit provided different topics are studied. Permission of instructor required.

CJS 677. Independent Studies. (0-6)**CJS 685. Advanced Research Methods. (3)**

This course provides the methodological framework upon which criminal justice research is constructed, including how to conduct basic social science research and to be informed consumers of research. Topics include the role of research in criminal justice, ethics, measurement and concepts, sampling, research designs, survey research, qualitative research, the use of secondary data, evaluation and policy analysis, and data analysis and report writing. The course will culminate in the completion of a research proposal.

CJS 691. Project. (3; maximum 6)

Directed research and writing of professional report on a subject to be determined in consultation with student's faculty supervisor and defended before a faculty committee. Open to criminal justice graduate students who have completed at least 15 hours of coursework and have the permission of the instructor.

Critical Race and Ethnic Studies (CRE)

CRE 101. Introduction to Strategic Learning Tools in BWS. (1)

Provides students with basic skills for social science and humanities research, writing, note and test taking and orients students to the unique forms of research and knowledge basis specific to Black World Studies.

CRE 151. Introduction to Critical Race and Ethnic Studies. (3)

This course will introduce students to the core concepts and theories used in the critical study of race and ethnicity. It will examine historical and contemporary formations of race, ethnicity, and indigeneity to provide an understanding of how social difference is made, reinforced, and challenged in local, national, and global contexts. Topics include: theories of race and ethnicity; settler colonialism and slavery; citizenship and inequality; immigration and segregation; multiculturalism and colorblindness; decolonial and anti-racist struggles; and globalization and new racisms. IIB, IIC, IC. PA-4A. CAS-B or CAS-C.

CRE 156. Introduction to Africa. (4)

A survey of Africa's varied and complex history and culture. It focuses on African geography, environment, history, economics, politics, as well as its rich cultural heritage. It approaches the study of Africa from a comparative historical and interdisciplinary perspective as well as situates it within the context of global developments. IIB. PA-4C. CAS-C Other Social Science.

CRE 177. Independent Studies. (0-6)**CRE 181. Introduction to Civil Rights and Social Movements. (1)**

This course provides an introduction to the theories, concepts, and realities of civil rights and social justice from the perspective of the African Diaspora. The course will allow students to interrogate various social movements that have occurred both within the United States and Africa. Several specific civil rights, colonial movements, and post colonial projects will be explored as they highlight the interplay between various groups, leaders styles, and methods of building movements.

CRE 182. Human Rights & Social Movements. (1)

Looks at the interplay between human rights and social movements. Specifically, it investigates how human rights such as access to health, education, medical care, or the right to a fair trial are all intricately linked to global social movements and activism.

CRE 211. Writing with Purpose: Interdisciplinary Inquiry and Communication. (3)

This is an intermediate level course which enables students to investigate and discuss interdisciplinary practices of knowledge creation and dissemination. Students will practice a variety of writing and other communication strategies necessary for the effective dissemination of ideas to interdisciplinary audiences and the general public, and can expect to gain experience in working with a wide spectrum of interdisciplinary research, tools and methods while engaging intellectually in interdisciplinary modes of thinking, reading, listening, and speaking. PA-1C.

Cross-listed with AAA/AMS/LAS/WGS.

CRE 221. African-American History. (3)

Survey of African American History from African origins to the present. PA-3B, PA-4A. CAS-B.

Cross-listed with HST 221.

CRE 222. Race and Ethnicity in Antiquity. (3)

Relies on a variety of primary evidence to study how the Greeks and Romans defined race and ethnicity and how they defined themselves as individual peoples when they confronted cultures and peoples distinctly different from themselves. Examination of the relationship between current theories of race and ethnicity and the theories and practices of the Greeks and Romans.

Cross-listed with CLS 222.

CRE 224. Africa to 1884. (3)

Survey course focusing on the changing historiography of Africa, African ancient civilizations, the emergence and development of the Bantu and Nilotes, Eastern Africa and the Orient, early Christianity and Islam, trans-Saharan trade, the medieval Sudanic Empires, statelessness and state formation, Africa and the West between 1400 and 1800, South Africa to 1870, the Mfecane, the Sudanic Jihads, long-distance trade, and African-European relations in the 19th century. IIB. PA-3B. CAS-B.

Cross-listed with HST.

CRE 225. The Making of Modern Africa. (3)

Survey of the transformation of Africa, south of the Sahara, from the time of the scramble for, and partition of, the continent among European powers in the second half of the 19th century to the present. Emphasizes economic, social, cultural, political, and intellectual features. This is done through reading monographs, articles, and literary works (novels, plays, poems, etc.) on African experiences with colonialism, the rise and triumph of nationalism, African womanhood, popular culture and the experiences of change, and the rise and nature of post-colonial economic and political crises in the region. IIB. PA-3B. CAS-B.

Cross-listed with HST 225.

CRE 243. History of the Atlantic Slave Trade, 1400s to 1800s. (3)

Development of European slaving activity in the African continent in the 15th through 19th centuries. Emphasis on the activities of Portuguese, Spanish, English, French and Dutch slavers, including the Middle Passage and also the less-studied slave trade in the Mediterranean and Indian Ocean. Identifies the economic forces, as well as the social consequences, of the ongoing slave trade.

Cross-listed with HST 243 and LAS 243.

CRE 248. African-American Experience. (3)

Concentrates on a socio-historical analysis of the African-American experience. Purpose is to investigate and understand the interaction between race, power, privilege, institutional structures, and ideas associated with this experience in America; provides alternative perspective for viewing this experience.

CRE 265. Critical Inquiry: Penny Lecture Series. (2)

Weekly lectures given by different Black World Studies Affiliates. Credit/No Credit.

Cross-listed with SJS 265 and SOC 265.

CRE 277. Independent Studies. (0-6)**CRE 279. African Americans in Sport. (3)**

Socio-historical analysis of participation of African Americans in sport and society, and examination of the role sport has played in African Americans' integration into the larger society. Investigates the way the image of African Americans has been constructed and maintained through sporting practices. Sociological theories and concepts used to examine the impact of historical events, such as Reconstruction, black migration, and World Wars, on African American involvement in sport and other institutions. IC, IIC. PA-2A, PA-4B. CAS-C.

Cross-listed with SLM 279 and SOC 279.

CRE 287. Anti-Racism Social Movements: From ideas to action. (3)

This class, rooted in the experiences of Black, Asian, Indigenous, and Hispanic/Latino people, aims to critically investigate anti-racist protest and social movements that have occurred throughout U.S. and world history. #Students will explore anti-racist, etc. practice and organizing associated with vibrant massive movements for justice and equity.##This course will see how counter narratives and social movements have adapted anti-racist vision, leadership, and practice that have challenged and transformed many of these institutions.#t will focus on the long-term social and institutional transformation that are still needed to continue this work. ADVW. PA-1C. CAS-C.

Cross-listed with SJS 287.

CRE 301. Geography of Sub-Saharan Africa. (4)

Analysis of physical and cultural features of that area south of the Sahara Desert.

Cross-listed with GEO.

CRE 325. Identity, Race, Gender, Class. (3)

Develops conceptual tools and critical perspectives that enable students to better understand and analyze the processes through which identities are constructed and experienced. Learning activities facilitate analysis of individual identities as experienced through the life cycle and across diverse cultural and subcultural contexts, and build a systematic understanding of the processes and dynamics through which identities and identity groups develop and interact. IC. PA-4B. CAS-C.

Cross-listed with ATH/LAS/WGS.

CRE 335. Arts of West Africa. (3)

This course examines the visual and performed expressions of West Africa, spanning from centuries-old archaeological sculpture to contemporary art and artists working today. Due to Africa's long and layered history with neighboring regions and global interactions, the course also addresses connections to North Africa, the trans-Saharan trade network, the trans-Atlantic slave trade, Diaspora cultures and international artists who identify with West Africa. West Africa is well known for its rich artistic culture: wooden sculpture, masquerades, ritual, elaborate textiles, dress, ceramics, architecture, metalwork, multi-media installation, beadwork, festivals and many more. This course explores these artistic genres, learning about the role of art in the lives of the people who make and use it.

Cross-listed with ART.

CRE 336. African American Writing, 1746-1877. (3)

Focuses on eighteenth- and nineteenth-century African American writings, especially the slave's narrative, a unique form of autobiographical writing that sought to expose the horrors of slavery in America, to end this institution, and to contest ideas about the inhumanity of African Americans. Pre and post Civil War African American novels continue to address problems of race, injustice, and demands for equal rights for African Americans. Attention to the traditions of black writing established by slave narratives, which laid the foundation for African American literature and cultural and artistic production. CAS-B-LIT. IC. PA-4B.

Cross-listed with ENG 336.

CRE 337. African American Writing, 1878-1945. (3)

Despite the optimism occasioned by the fall of slavery, the years covered in this course are known as the era of Jim Crow, which was not characterized by the triumphs of a newly freed people welcomed by a repentant nation. Instead, black experience at this time is marked by the rise of the KKK, the epidemic of lynching, and the introduction of segregation into American society. This course considers the issues faced by these new American citizens—former slaves historically understood to be chattel and only three-fifths human—and how they strove, in their writing, to express and shape their identity and destiny. IC. PA-4B. CAS-B-LIT.

Cross-listed with ENG.

CRE 338. African American Writing, 1946-Present. (3)

Considers the relationship among literature, freedom, and racial identity as a major preoccupation of black intellectuals and writers, from slave narratives to current post-modern and hip-hop narratives. Black writers give special attention to the significance of race in literature, but does racial identity give a writer a special task as well as perspective? Is a black writer one who happens to be black or does his/her blackness obligate and/or empower this writer to write from a black perspective? And, is this perspective inevitable given the writer's racial experiences in this country? IC. PA-4B. CAS-B-LIT.

Cross-listed with ENG 338.

CRE 340. Internship. (0-20)**CRE 343. African-American Religions. (3)**

An historical survey of the formulation and expression of African-American religions from slavery to the present, including culturally specific forms of Christianity and Islam, as well as reinventions and reinterpretations of African traditions.

Cross-listed with REL.

CRE 348. Race and Ethnic Relations. (3)

Description and analysis of emergence and trends of minority relations in the U.S. IC. PA-4B.

Prerequisite: SOC 151 or SOC 153.

Cross-listed with SOC.

CRE 362. Family Poverty. (3)

Examines definitions, theories, causes and consequences of family poverty in the U.S. Identifies the extent and degree of U.S. poverty and demographic characteristics of those who are poor or likely to become poor. Consideration given to programs that reduce poverty and/or its negative effects, including those practiced in the past, those now practiced, and those that offer promise for improving the economic and social status of those who are poor. Costs and benefits of welfare and welfare reform and strategies for preventing poverty among future generations also discussed and evaluated. IC. PA-4B.

Prerequisite: FSW 295 or SOC 262.

Cross-listed with FWS 362 and SOC 362.

CRE 370. Selected Topics/Black World Studies. (3; maximum 9)

These courses examine specific aspects of the research, theories, roles, status, and experiences associated with blacks in America and throughout the world.

CRE 377. Independent Studies. (0-6)**CRE 381. Afro-Brazilian Diaspora Through Film and Arts. (3)**

A focus on questions of gender, race, class and stereotypes in the African Lusophone countries. Taught in English. CAS-B-LIT.

Prerequisite: any literature course.

Cross-listed with ENG/POR/FST.

CRE 385. Race, Science, and Disease in the Americas. (3)

Surveys a variety of debates over race and disease since the European overseas expansion to the Americas, particularly in those regions that developed plantation-based agriculture. Begins with the medical and scientific construction of ideas about race from the conquest to the eighteenth century. Places the development of racial theories of sickness and health in a broad social and political context, and, in particular, explains the medical salience of race in the settings of slavery and colonialism. Discussions will focus primarily on Latin America, the Caribbean, and the United States, but will also explore the making of knowledge about race in global setting.

Cross-listed with HST/LAS.

CRE 386. Race in U.S. Society. (3)

Examines the historical contexts within which major transformations in racial practices and policies have taken place and analyzes racialized customs and behaviors in the United States across time and place. IC. PA-4B. CAS-B.

Cross-listed with HST.

CRE 401. Race and Criminal Justice. (3)

This course investigates the critical role that race plays in our criminal justice system. The course will provide a sociohistorical framework of the criminal justice system, the inequalities that are inherently part of its structure, as well as the effects those inequalities have on different racial/ethnic groups in the United States. This course will encourage debate on exactly how just is the U.S. criminal justice system for minority groups and people of color. The course will also employ a life course perspective to investigate criminal behavior from juvenile delinquents through adulthood. Students in this class should objectively view the racial differences in the criminal justice system and be encouraged to reduce the racialized justice system.

Prerequisites: CRE 151 and either CJS 211 or 281.

Cross-listed with CJS.

CRE 402. Engaged Learning Practicum. (1-6; maximum 6)

This course connects feminist theory and practice, and is designed around service learning at a practicum site. The readings explore leadership, feminist grassroots organizing, service learning and civic engagement, feminist activism, and difference and cultural competence. Students will have the opportunity to translate the knowledge, skills, and critical thinking they have learned in the classroom to actual practice, to observe and work with professionals who are addressing women's/gender issues in the field, and to reflect on their own roles as future leaders and professionals.

Prerequisites: WGS 201 or 202 or 301.

Cross-listed with WGS.

CRE 432. Feminism and the Diaspora: U.S. Women of Color. (3)

Concerns issues of language, history, geography, social-psychology, and culture for U.S. women of color (black, Asian-American, Latina, American Indian, and others). Includes works by and about women on gender, ethnicity, class, sexuality, and other differences. CAS-B-LIT.

Cross-listed with ENG/WGS.

CRE 437. Black Feminist Studies. (3)

Examines critical and theoretical issues in black feminism from slavery to the present. One of the central goals of the course is to study constructions of race, gender, class, and sexuality in the context of black women's thoughts and experiences. The class will read, discuss and analyze a wide variety of texts including critical essays, films, selected fiction, print and visual media.

Cross-listed with ENG/WGS.

CRE 470. Social/Political Activism. (3)

Provides students with the opportunity to explore how indigenous groups effect change in their communities.

Prerequisite: SOC 151 or SOC 153, or SOC/SJS 165, or CRE 151.

Cross-listed with DST/SJS/SOC.

CRE 477. Independent Studies. (0-6)**CRE 677. Independent Studies. (0-6)**

Cybersecurity (CYB)

CYB 134. Introduction to Cybersecurity. (3)

This course focuses on the Societal Security knowledge area of cybersecurity. Cybercrime, law, ethics, policy, privacy and their relation to each other are the key concepts of this knowledge area. The threat of cybercrime across the global society is incredibly serious and growing. Laws, ethics and policies are vital to the security of corporate and government secrets and assets, as well as to the protection of individual privacy and identity.

CYB 177. Independent Studies. (0-6)**CYB 234. System Administration and Scripting for Cybersecurity. (3)**

Introduction to Linux and Windows system administration tasks focusing on system administration skills, administering user capabilities, the file system, access controls, and other system services (e.g., firewall and networking). Students are introduced to Windows-specific tasks such as Active Directory and Group Policies and to scripting for system administration tasks using bash, Python and PowerShell. Prerequisite: CSE 174 and CYB 134.

CYB 235. Computer Network Design and Administration. (3)

This course introduces students to the fundamentals of computer networking, the OSI stack, and the practical and conceptual skills needed to build simple local area networks, perform basic device configurations, and implement subnet schemes and their IP addressing. Students will also configure and troubleshoot simulated networks consisting of end devices, switches and routers. Prerequisite: CYB 234 or CSE 278.

Cross-listed with CSE 235.

CYB 236. Data Security. (3)

Data security is the study of techniques for protecting data (against cyberattacks, data breaches, etc.) at rest, during processing, and in transit. Data security is connected to almost all aspects of cybersecurity. This course presents the techniques and tools used in data security.

Prerequisite: MTH 231.

CYB 277. Independent Studies. (0-6)**CYB 331. Software Security. (3)**

This course focuses on the development and use of software that reliably preserves the security properties of the information and systems. The topics emphasized in this course include secure software design, implementation, testing, deployment, documentation, and maintenance. The ethics surrounding cybersecurity are also discussed from a software development and maintenance perspective.

Prerequisites: CYB 134, CSE 201.

CYB 332. Human, Organizational, and Societal Security. (3)

This course discusses human, organizational, and societal aspects of cybersecurity. The human part focuses on protecting individuals' data and privacy in the context of organizations (i.e., as employees) and personal life, as well as the study of human behavior as it relates to cybersecurity. The organizational part focuses on protecting organizations from cybersecurity threats and managing risk to support the successful accomplishment of the organization's mission. Finally, the societal part discusses aspects of cybersecurity that broadly impact society as a whole with a focus on various aspects of privacy. Pre-requisite: CYB 236.

CYB 334. Network Security. (3)

The course addresses topics related to network security. It starts with studying general network vulnerabilities and progresses to using techniques to protect networks. The use of cryptography is addressed in many of the different tools and techniques for protecting networks. The course relies heavily on lab exercises to both understand and deploy countermeasures that protect systems against network attacks.

Prerequisites: CYB 235, CYB 236, CSE 278.

CYB 335. Defensive Security. (3)

This course introduces students to the role and techniques of cyberdefense including attack identification, analysis, mitigation, and response. This course uses hands-on labs to build important applied skills for cyberdefense.

Prerequisite: CYB 334.

CYB 340. Internship. (0-20)**CYB 377. Independent Studies. (0-6)****CYB 435. Offensive Security. (3)**

This course introduces students to the techniques of offensive security through hands-on exercises using tools for evaluating system and network security. This course covers the techniques and principles of exploitation of computer and network vulnerabilities, monitoring tools, and identifying potential defensive measures.

Prerequisite: CYB 334.

CYB 437. Cybersecurity Senior Design Project/Capstone. (3)

This course is a Miami Capstone Experience in the area of cybersecurity. In this course the student will conduct a semester-long project that provides hands-on practice and assessment of their cybersecurity skills. Students will work in teams or groups to address current and relevant cybersecurity projects. SC.

Prerequisites: CYB 331, CYB 332, CYB 335, CYB 435.

CYB 477. Independent Studies. (0-6)

Disability Studies (DST)

DST 102. Beginning ASL II. (4)

The Beginning II course is a continuation of the Beginning ASL I course. This course will continue to introduce conversationally relevant signs, grammatical principles, and background information related to the Deaf culture with the objective of teaching students to sign and understand ASL with an increasing ability at the ACTFL proficiency intermediate low-mid level (Swender, Conrad, & Vicars, 2012). Swender, E., Conrad, D. J., & Vicars, R. (2012). ACTFL proficiency guidelines 2012. ACTFL, INC.

Prerequisite: DST/SPA 101 or SPA 248.

Cross-listed with SPA 102.

DST 169. Disability and Literature. (3)

This course studies the construction of disability identity in literature, personal memoir, and popular culture by investigating how texts that feature disability question notions of "normalcy" and "deviancy." It emphasizes interdisciplinary understandings of disability in historical and contemporary frameworks. IC, IIB. PA-3B, PA-4B. CAS-B-LIT. Cross-listed with ENG 169.

DST 177. Independent Studies. (0-6)**DST 272. Introduction to Disability Studies. (3)**

Explores the link between the social construction of disability and that of race, class, gender, ethnicity, and sexual orientation as they pertain to social justice in a multicultural and democratic society. Promotes critical analysis of dominant and nondominant perspectives on disability. IC, IIC. PA-2A, PA-4B. CAS-C. Cross-listed with EDP/SOC.

DST 277. Independent Studies. (0-6)**DST 278. Women and (Dis)ability: Fictions and Contaminations of Identity. (3)**

Provides a critical analysis of the historical, sociological, cultural, media and educational images and representations of women with disabilities. Current research and theories from Disabilities Studies and Womens Studies will serve as the lenses for the exploration of disability as a social construct. The course will focus on exploration of oppressive social forces embedded in the re/presentations of and by women with disabilities which transform and complicate such images. Cross-listed with EDP/WGS.

DST 312. American Deaf Cultures. (3)

This course will provide an introduction to the American Deaf community. Students will be introduced to the medical and cultural models of deafness, and the differences that result from these two perspectives in terms of identity, language, behavior, values, education, and/or intervention. IC, IIC, IIB. PA-4A, SI-02. Cross-listed with SPA 312.

DST 315. Disability History in America. (3)

An introduction to the history of disabilities in America, providing an overview of major themes, events, individuals, policy developments and political and social activism of, by, and for people with disabilities, as well as an introduction to the historical subfield of history of disabilities. IIB, IC. PA-4A. Cross-listed with EDL 315.

DST 375. (Dis)Ability Allies: To be or not to be? Developing Identity and Pride from Practice. (3)

Explores what it means to be ally to/in/with the disability community in America. The course emphasizes identity formation and how that formation can inform the construction of the ally identity. Through deconstructing learned values, knowledge, and images of disability that mitigate ally behavior, students discover the micro and macro structures that support ally behavior. By exploring how social control and social change have worked in other civil rights movements, students understand the necessity of identifying and including allies in the disability movement for civil rights. IC. PA-4B. CAS-C. Cross-listed with EDP/SOC/WGS.

DST 377. Independent Studies. (0-6)**DST 378. Media Illusions: Creations of "The Disabled" Identity. (3)**

Provides a critical analysis of past and present media constructions of persons with disabilities. Through exploring theory and research from diverse disciplines (communication, sociology, gerontology, educational psychology and others), students explore how perceptions of persons with disability are formed and analyze how the media is implicated in creating, distorting, and reflecting stereotypical and fictionalized images of disability. The course analyzes how these images shape public perception and reproduce the unequal power and privilege relationships that maintain the status quo while providing resources and techniques for the provision of alternative images of disability in various media genres. Cross-listed with EDP.

DST 470. Social/Political Activism. (3)

Provides students with the opportunity to explore how indigenous groups effect change in their communities. Prerequisite: SOC 151 or SOC 153, or SOC/SJS 165, or CRE 151. Cross-listed with CRE/SJS/SOC.

DST 477. Independent Studies. (0-6)**DST 494. Disability in Global and Local Contexts. (3)**

Examines contemporary disability issues and policies and the lived experiences of persons with disabilities in international and local contexts, with emphasis on understanding disability within particular communities-both locally and in other countries-and on learning multiple research methods. SC. Prerequisite: permission of instructor. Cross-listed with EDP 489.

Economics (ECO)

Note: ECO 201 and ECO 202 are a course sequence of basic economic principles and their applications aimed to develop an analytic framework for interpreting economic events, trends, institutions, and public policies. The two semesters are conceived as a year course; the recommended sequence is ECO 201, ECO 202.

Advanced Economic Courses: prerequisites for advanced courses are ECO 201 and ECO 202 unless otherwise stated. For ECO 311, ECO 315, and ECO 317 a grade of at least a "C" in all prerequisite courses or permission of the instructor is required.

ECO 131. Economic Perspectives on Inequality in America. (3)

Introduction to economic perspectives on inequality in the United States, particularly the relationship between inequality and population diversity. The role of the market and of public policy in generating, transmitting, and ameliorating inequality. Dimensions of inequality include earning inequality, poverty, and unequal access to education and health care. Dimensions of diversity include race, ethnicity, gender, age, socioeconomic class, immigration status, and sexual orientation. IC, IIC. PA-2A, PA-4A, SI-02. CAS-C.

ECO 177. Independent Studies. (0-6)**ECO 201. Principles of Microeconomics. (3)**

Nature and scope of microeconomics, including the role of the market in resource allocation, the role of competition, market forces, the forces governing the distribution of income, and the role of foreign trade in economic welfare. IIC. PA-2A. CAS-C.

ECO 202. Principles of Macroeconomics. (3)

Analysis of the determinants of output, prices, employment, and interest rates. Includes long run behavior of the economy, business cycle theory, monetary system, stabilization policy, and international finance. IIC. PA-2A. CAS-C.

ECO 277. Independent Studies. (0-6)**ECO 301. Money and Banking. (3)**

Nature of money and its role in the functioning of a modern monetary economy; the institutional framework of the U.S. monetary system; and aims, potentialities, and limitations of monetary policy. Prerequisites: ECO 201 and ECO 202.

ECO 311. Examining Economic Data and Models. (3)

Introduction to the use of linear regression techniques for examining economic data and evaluating economic models. Topics may include hypothesis testing, dummy variables, forecasting, and limited dependent variable models. Sources of economic data are explored. Applications to topics in economics are stressed. CAS-C, CAS-Q, CAS-QL, CAS-W.

Prerequisites: earn a grade of at least a C in ECO 201, ECO 202, and ISA 125 or STA 125 or STA 261 or STA 301 or STA 368, and MTH 151 or MTH 141; or permission of the instructor.

ECO 315. Intermediate Microeconomic Theory. (3)

Analysis of the theory of consumer behavior and theory of the firm. Emphasis on logic of rational choice, model building, and economic efficiency. Other topics may include general equilibrium analysis, decision making under uncertainty, and applications of game theory in understanding strategic behavior in imperfect competition. CAS-C, CAS-W.

Prerequisites: earn a grade of at least a C in ECO 201, and 202, and MTH 151 or 153 or 141; or permission of the instructor.

ECO 317. Intermediate Macroeconomic Theory. (3)

National income, as a measure of economic activity, including examination of theories of consumption and investment spending, monetary demand and supply, and implications of alternative models for level and stability of output, employment and prices, and economic growth. CAS-C, CAS-W.

Prerequisites: earn a grade of at least a C in ECO 201, 202, and MTH 141 or 151 or 153; or permission of instructor.

ECO 320. Special Topics in Economics. (2-3; maximum 9)

Examination of special topics in theoretical or applied economics not treated in the existing economics curriculum. Specific topics and hours to be determined by instructor.

ECO 325. Economic Analysis of Law. (3)

Survey of the use of microeconomics in the analysis of law by looking at selected issues in law and economics such as property rights, contracts, torts, crime, enforcement, litigation, and precedents. Emphasis on use of microeconomic analysis to understand implications of existing and proposed legal mechanisms.

Prerequisites: ECO 201 and ECO 202.

ECO 331. Public Sector Economics. (3)

Discussion of the rationale for government expenditures and taxation and how they affect resource allocation, efficiency, and equity in the distribution of income. Other topics may include the role of voters, special interests and government bureaucracy in determining government policy, other current tax and expenditure issues.

Prerequisites: ECO 201 and ECO 202.

ECO 332. Health Economics. (3)

Investigation of the markets for health care and related sectors of the economy with attention to institutions and data for the U.S. health care sector. Emphasizes the presence of moral hazard and asymmetric information in various health care markets. Topics may include proposals for reform, malpractice, drug regulation, Medicare and Medicaid, problems of access to care for the uninsured, and cross country comparisons.

Prerequisite: ECO 201.

ECO 340. Internship. (0-20)

Available to Farmer School of Business (FSB) majors and minors. Available for 0 credit hour during spring, summer and fall terms. Available for 1 credit hour during summer terms only. For one hour of credit, student must secure a sponsoring FSB faculty member within his/her major or minor to supervise the internship and accompanying required internship reflection paper. ECO 340 is not available during winter term. Students are to work through their respective academic departments to enroll in the course. Credit/no credit only. Note: FSB students may earn a maximum 2 credit hours toward graduation for BLS/BUS/ECO/ESP/FIN/ISA/MGT/MKT 340.

Prerequisite: 55 earned hours and permission of department.

ECO 344. International Economic Relations. (3)

Comparative advantage as basis for gains from specialization and trade examined in some detail. Supply and demand analysis used to study the effects of barriers to trade (tariffs, quotas, etc.). Study of monetary aspects of international economic relations, including: alternative forms of international monetary organization, balance of payments, exchange rates, and mechanisms of balance of payments adjustment.

Prerequisites: ECO 201 and ECO 202.

ECO 347. Economic Development. (3)

Analysis of current problems of developing countries in Asia, Africa, and Latin America. Emphasis on the role of economic theory in devising policies to achieve improvements in the level and distribution of economic welfare in these countries.

Prerequisites: ECO 201 and ECO 202.

ECO 356. Poverty and Income Distribution. (3)

Application of economic analysis to poverty, income inequality, and factor shares. Discussion of determinants of earnings, including education, ability, and discrimination. Analysis of efficiency and costs of programs to reduce poverty, such as minimum wages, cash transfers, and in-kind transfers. IC. PA-2A. CAS-C.

Prerequisites: ECO 201 and ECO 202.

ECO 373. Economic Growth. (3)

Investigates the sources of economic growth within a country and the factors that affect relative growth across countries. The course addresses issues of income convergence and the role of policy in determining the long-run rate of growth.

Prerequisites: ECO 201 and ECO 202.

ECO 377. Independent Studies. (0-6)**ECO 405. Economics of Strategy. (3)**

Uses microeconomic models to apply concepts from the FSB core areas to solve problems and make decisions that managers of firms may face daily. Class time is allocated to the development of economic models that integrate the core areas, problem solving to apply the models in typical business settings, and the analysis of cases. Gives students opportunity to present as a team an analysis of cases using skills and concepts from the core courses. Prerequisite: available only to students with senior standing who have completed the common core of business courses; students who have not completed all of these courses must have permission of the instructor to enroll. SC.

Prerequisites: ECO 201 and ECO 202.

ECO 406/ECO 506. Environmental Economics. (3)

Economic analysis of environmental quality. Strategies for collective environmental action. Benefit-cost analysis. Economic growth and environmental quality.

Prerequisites: ECO 201 and ECO 202.

ECO 411/ECO 511. Advanced Empirical Methods. (3)

Examination of the use of estimation techniques for analyzing economic data and evaluating economic models. Topics may include properties of estimators, hypothesis testing, serial correlation and heteroscedasticity, and simultaneous equations. Applications to topics in economics are stressed.

Prerequisites: ECO 311 and ECO 315.

ECO 414/ECO 514. Mathematical Economics. (3)

Development of mathematical techniques essential for understanding economic theory and performing economic research. Topics include calculus of several variables; linear algebra; classical, nonlinear, and convex programming; comparative statics; and dynamic programming.

Prerequisite: ECO 315 and one of the following: MTH 222, 231, or 251 or permission of instructor.

ECO 415/ECO 515. Topics in Microeconomics. (3; maximum 6)

In this course students apply advanced economic theory, and statistical analysis to study applied problems faced by economic agents such as firms and government agencies.

Prerequisites: ECO 315 and ECO 411/ECO 511 (MA students must have prerequisite coursework of ECO 511 and ECO 615) or by permission of instructor.

Co-requisite: MA students have ECO 671 as a co-requisite.

ECO 417/ECO 517. Topics in Macroeconomics. (3)

In this course students apply advanced economic theory, and statistical analysis to study applied problems related to growth, fiscal policy, and monetary policy.

Prerequisites: ECO 317, ECO 311, ECO 414/ECO 514 (MA students must have prerequisite coursework of ECO 511 and ECO 617) or by permission of instructor.

Co-requisite: MA students have ECO 672 as co-requisite.

ECO 418/ECO 518. Monetary Theory and Policy. (3)

Study of the behavior of financial institutions and their respective roles in transmission of monetary policy. Elements of monetary theory including quantity theory of money and its restatements, theory of interest, and inflation.

Prerequisite: ECO 317.

ECO 420. Seminar on Economic Problems. (1-3; maximum 9)

Selected topics in economics.

Prerequisite: permission of instructor.

ECO 431/ECO 531. Antitrust and Damages. (3)

Antitrust law attempts to maintain and promote competition. This course examines economic issues related to anticompetitive conduct and antitrust law. The course will examine how the United States conducts reviews of mergers. It will also examine common business practices to determine whether that practice has met the economics standards to be considered anticompetitive. Quantitative techniques used to examine mergers, define relevant antitrust markets, assess the effect of a business practice on competition, as well as estimating damages if a firm is found to violate antitrust laws may be covered.

Course materials will be drawn from various sources, such as scholarly articles and court rulings. CAS-C.

Prerequisite: ECO 315.

ECO 441. International Trade and Commercial Policy. (3)

Examination of underlying causes of international trade, determinants of trade, effects of trade on income, relationship between trade and international factor movements, and theory and practice of restrictions on trade.

Prerequisite: ECO 315.

ECO 442/ECO 542. International Monetary Relations. (3)

Monetary aspects of international economic relations. Alternative forms of international monetary organization, balance of payments, exchange rates, and mechanism of balance of payments adjustment.

Prerequisite: ECO 317 or permission of instructor.

ECO 451/ECO 551. Economic History. (3)

Primarily American economic history as studied from the point of view of economic theory and quantitative methods. Qualitative determinants of long-run economic growth and structural change investigated.

Prerequisite: ECO 315 and 317, or permission of instructor.

ECO 461/ECO 561. Industrial Organization and Public Policy. (3)

Effects of structure, conduct, and performance of imperfectly competitive firms upon social welfare. Includes social costs of imperfect competition, determinants of market structure, mergers, barriers to entry, advertising, and research and development.

Prerequisite: ECO 315 or 603.

ECO 462. Economics of Compensation. (3)

Survey of the economics of human resources. Topics may include rationale for and effects of alternative forms of compensation and contracting; theory and measurement of discrimination against minorities and women; and causes and consequences of unionism.

Prerequisite: ECO 315.

ECO 477. Independent Studies. (0-6)**ECO 480. Independent Reading. (1-6)**

Seminar leading to a qualifying written report for graduation with departmental honors.

Prerequisite: approval of honors coordinator (see current class schedule).

ECO 482. Independent Reading. (3)

Seminar leading to a qualifying written report for graduation with departmental honors.

Prerequisite: approval of honors coordinator (see current class schedule).

ECO 615. Advanced Microeconomic Theory. (3)

Exposition of the general principles and analytical tools of microeconomic theory. Includes theory of consumer choice, production and cost, pricing in various market structures, distribution theory, general equilibrium analysis, and welfare economics. Prerequisite: ECO 315 or 603.

ECO 616. Microeconomic Analysis for Managerial Decisions. (3)

Focuses on microeconomic analysis of consumers, firms, and market organization. Topics may include analysis of antitrust and regulatory issues.

ECO 617. Advanced Macroeconomic Theory. (3)

Development of an aggregative model of output, employment, interest rates, and prices. Analysis of the effect of government policy on these variables. Implications of alternative specifications of the model are also examined.

Prerequisite: ECO 317 or equivalent.

ECO 618. Game Theory and Decisions. (1.5)

Covers topics and methods from the field of game theory and applies them to microeconomic decision problems.

Prerequisite: ECO 201.

ECO 640. Internship. (0-12; maximum 12)**ECO 663. Econometrics. (3)**

Theoretical and applied regression analysis under ideal and non-ideal conditions. Includes simultaneous equation models and time series techniques.

Prerequisite: STA 301 and STA 401/STA 501 or equivalent.

ECO 671. Topics in Applied Econometrics. (3)

Topics include simultaneous equations bias, omitted variable problems, estimation with limited dependent variables, differences-in-differences models, quantile regressions, event studies in finance and the Fama-French model.

ECO 672. Applied Time Series Analysis. (3)

Topics include autoregressive and moving average models, unit root topics, co-integration, autoregressive conditional heteroscedasticity, and applications to financial economics and other applied areas of economics.

ECO 677. Independent Studies. (0-6)**ECO 685. Economic Research Methods. (3)**

Consideration of alternative economic methodologies; selection and specification of critical hypotheses; model construction; sources of data; model verification, evaluation, and revision.

Prerequisite: graduate standing in economics.

ECO 690. Master's Research. (1-12)

In-depth research paper written with supervision of at least two members of graduate faculty.

ECO 700. Research For Masters Thesis. (1-10)**ECO 704. Non-Thesis Project. (0-12; maximum 12)**

Educational Leadership (EDL)

EDL 100. Career Development for College Students. (2)

This course is designed to take students through the process of clarifying career and/or academic goals. Students will do research assignments and activities designed to help them to learn about themselves and how to apply this information to career decision making.

EDL 110. The University and the Student. (1)

Helps students understand how the university operates and how its resources can be used to develop their educational goals. Taught in seminar style; designed to help develop personal relationships among students and instructor. For freshmen only. Credit/no-credit only.

EDL 115. Miami Tribe Contemporary Issues I. (1)

Introduce and explore the major issues that the Miami Tribe of Oklahoma faces today as a sovereign Nation. These issues will be contextualized within Indian Country as a whole as well as within the broader global indigenous community. Focus is on the issues of sovereignty, self-determination, governance, leadership, economic development, and education.

EDL 151. The American University. (2)

This course is intended to acclimate and acculturate first year International students to the U.S. educational culture and in particular to the Miami University culture. Through this highly experiential course, International students begin to build intercultural competencies, including the cultural intelligence necessary to succeed in an American university, and in the broader U.S. cultural context; are introduced to resources and offices on campus to assist in transition and adjustment; develop, adjust, and use academic skills needed to understand and navigate study load, test culture, academic integrity, class participation, residence hall life, advising, classroom technology, counseling and health issues, and extracurricular activities, among others.

EDL 177. Independent Studies. (0-6)**EDL 195. Team Building Development - Facilitation & Group Dynamics. (2)**

This course is an introduction to group facilitation and group management. The course will focus on building and development of community within a team of people. Students will think critically, process and debrief experiences within the community of their class. Students will explore and develop skills necessary to become a competent group leader and group member. The course will offer multiple opportunities to experience team building activities that can later be applied to one's professional life.

EDL 203. Introduction to Critical Youth Studies. (3)

An overview of Critical Youth Studies which allows class participants to explore and appreciate their identities, to develop an awareness of issues affecting different populations of youth, and to learn a variety of tools for self-expression and activism. This curriculum draws from key fields in youth studies such as Educational Studies, Cultural Studies, Ethnic Studies, Gender Studies, Sexuality Studies, Performance Studies, Literary Studies, and Art Criticism to provide students with a multidisciplinary and layered understanding of youth. EDL 203 foregrounds underrepresented voices and bodies that have been invisible and/or marginalized within the study of youth, specifically, and U.S. society, generally. The primary aims of this course are to: 1) Introduce students to the area of critical youth studies, 2) Alert students to existing programs, initiatives, and movements connected to this area of study, 3) Expose students to multidisciplinary ways of engendering self-expression as youth and working with youth. IIC. IC. PA-2A, PA-4B.

EDL 204. Sociocultural Studies in Education. (3)

Introduction to the field of social foundation of education using humanities and cultural studies approaches to investigate education in a diverse and democratic nation. IIB, IC. PA-3B, PA-4B.

EDL 215. Miami Tribe Contemporary Issues 2. (1)

In this course we will introduce and explore the major issues that the Miami Tribe of Oklahoma faces today as a sovereign Nation. These issues will be contextualized with comparisons to Indian Country as a whole as well as to broader global indigenous experiences. In this second semester of the course, we will specifically focus on the global manifestations of nationhood, sovereignty, and self-determination in classic governmental structures, like constitutions, and in locations or activities that are not normally associated with issues of political or economic sovereignty, like art. Through this exploration, we will attempt to develop a framework of comparative indigenous nationhood.

Prerequisite: EDL 115.

EDL 216. Myaamia Ecology & History 1. (1)

In this course we will introduce, explore, and weave together various perspectives of Myaamia (Miami) ecology and history. The ecological observations of this first course will be heavily influenced by the seasonal transition from summer into winter that occurs during the fall semester. From these observations, the class will create a shared understanding of the web of relationships that links humans, animals, plants, landscapes, other-than-human beings, and the stories that one particular group of humans "the Myaamiaki" have told about these interactions over time. Through an exploration of some of the general aspects of Myaamia ecology and history, each individual participant of the class will begin develop their own personalized understanding of this complex web of relationships. Half of the class meetings will be dedicated to discussing historical topics, i.e. focused on the past, but one of our explicit goals is to discuss how historical understandings and ecological practices are a part of, or can be made a part of, our contemporary lives.

EDL 218. Leadership Identity Development. (3)

This course provides students with an intentional and guided examination of their leadership identity. Over the course of the year, students will participate in leadership development and reflection activities grouped within four domains of exploration: Self, Others, Knowledge and Experiential. Students will draw from these domains to develop a personal leadership philosophy that can help guide their future leadership activities. The course activities are completed in a self-paced format and complemented by monthly seminar meetings.

EDL 222. Mindfulness Contemplative Intr. (1; maximum 5)

The course is an introduction to mindfulness and contemplative practices (movement, ritual, creative, relational, activist, generative, stillness) their global/cultural histories, readings, and reflection. Mindfulness, meditation, visualization, self-compassion, practices used in this course provide students with a mind/body approach to learning, living, and acting. This lab can be taken alone as a one-credit course.

EDL 224. Introduction to Education Policy. (3)

This course provides an introduction to educational policy in the United States. We will examine both the broader political context within which education policy is made as well as the policy making process. The course will introduce students to a range of current topics that define the current debates in education, including, but not limited to, test based accountability, equity and adequacy for special populations, and school choice. In analyzing these debates, students will use the various disciplinary perspectives to understand the complexity of current issues in American K-12 education.

EDL 232. Introduction to Community-Based Leadership. (3)

Introduction to Community-Based Leadership explores theories and practices of leadership in public institutions and communities. Through an examination of research in leadership studies, community organizing, and civic studies, students apply theoretical knowledge in collaborative projects which explore the work of community leaders and organizations working in diverse community contexts. Specific community leadership capacities developed in this course include: Critically interpreting leadership theory; working effectively and ethically in diverse organizations and groups; understanding of political, social, and cultural contexts of leadership work; and developing abilities to catalyze action to address problems. IIC. PA-2A, SI-02.

EDL 260. Undergraduate Research: Special Topics. (1; maximum 4)

Using the discovery learning model and inquiry-based learning, this course is designed to push students beyond their desire to gain information from external authorities. This course will be offered to students who are engaged in undergraduate research. This is a special topics course that may include experience and discuss library research techniques; research ethics and human subjects; organizational strategies for college researchers; literature reviews, research annotations and abstracts; leadership and communication skills; quantitative and qualitative research techniques; statistical software; research careers and professional development; learning plans, personal mission statements and goal setting; proposal writing and poster development and presentation.

EDL 277. Independent Studies. (0-6)**EDL 281. Outdoor Leadership Study Away/Study Abroad. (3)**

This course examines the role of an outdoor leader through study and work at off-campus sites. Students explore theoretical and practical implications of this type of leadership in a study-away context. Pre-trip preparation will include learning about group dynamics, trip planning models, expedition behavior, risk management, and environmental stewardship in the context of outdoor leadership. The course will include a variety of location-based outdoor adventure activities and experiences to enable students to put theory to practice in an outdoor setting. EL.

EDL 290. The Nature of Group Leadership. (2; maximum 6)

A two-credit course for students interested in exploring multiple approaches to leadership and building capacity for socially responsible leadership. The course involves engaged learning through community action work, skill building, reading, writing, case analysis, and dialogue.

EDL 301. Student Development in Residence Halls. (1)

Practical study of theories and techniques used in creating and maintaining learning environments that foster student growth and development in college residence halls. Includes student development theories, community development techniques, personal and environmental assessment, and strategies for influencing group living and behavior.

Prerequisite: current resident assistant or permission of instructor.

EDL 302. Career Entry Skills and Post-College Planning. (2)

Designed to assist students in making the transition from college to the world-of-work, service, self-employment, and/or graduate or professional school. Gain awareness of self and how skills, interests, and values impact career satisfaction and success, clarify career options and/or post-college opportunities, develop necessary job search correspondence and interview techniques and prepare for the transition from student life to professional life.

EDL 310. College Student Development and Group Process for Peer Educators. (1)

An interactive course providing a theoretical and applied examination of college student development and group process as they relate to peer education. Major content areas include: models of college student development, communication and helping skills, workshop design, and multicultural considerations in programming.

EDL 312. Foundations of Education in Global Contexts. (3)

This class focuses on the theoretical foundations of education in global contexts, as well as issues influencing the field. Topics include: globalization; education reforms, political, cultural, and religious influences, centralization and decentralization policies, colonialism and its legacies, and access to education among others. The goal of this class is to uncover why education is the way it is in other contexts, determine the limitations of understanding other contexts, and evaluate the extent to which elements of education are transferable between contexts. IIB, PA-4C.

Cross-listed with TCE 312.

EDL 315. Disability History in America. (3)

An introduction to the history of disabilities in America, providing an overview of major themes, events, individuals, policy developments and political and social activism of, by, and for people with disabilities, as well as an introduction to the historical subfield of history of disabilities. IIB, IC, PA-4A.

Cross-listed with DST 315.

EDL 316. Myaamia Ecology & History 2. (1)

In this course we will continue to weave together the various perspectives of Myaamia (Miami) ecology and history, which were introduced in the first semester. The ecological observations of the second course will be heavily influenced by the seasonal transition from winter into summer that occurs during the spring semester. From these observations, the class will create a shared understanding of the web of relationships that links humans, animals, plants, landscapes, other-than-human beings, and the stories that one particular group of humans "the Myaamiaki" have told about these interactions over time. Through an exploration of some of the general aspects of Myaamia ecology and history, each individual participant of the class will begin develop their own personalized understanding of this complex web of relationships. Half of the class meetings will be dedicated to discussing historical topics, i.e. focused on the past, but one of our explicit goals is to discuss how historical understandings and ecological practices are a part of, or can be made a part of, our contemporary lives. The second semester of this course will more explicitly focus on traditional stories and historical narratives. These oral and textual sources will be used to contextualize the ecological knowledge that students began developing in the first semester of the course.

EDL 317. Myaamiaatawenki: Myaamia Language & Culture 1. (1)

This course is the first of a two-course series that introduces the Myaamia language and culture. The goal of this class is to expose students to Myaamia language and culture and create thoughtful discussions about why maintaining the Myaamia heritage language and culture is important. This course will build off of the experiences, knowledge, and skills acquired in EDL 316 by adding greater linguistic and cultural complexities to students' knowledge of contemporary issues and historical and ecological contexts. The course will advance each student's use of the Myaamia language towards a more functional level. Students will be exposed to more immersive language environments and will demonstrate an ability to express simple wants and needs in the Myaamia language.

Prerequisite: EDL 316.

EDL 318A. Teacher Leadership and School Organization. (3)

This course is designed to challenge and shape students' conceptions of educational organizations and cultures; their professional development as teachers and/or educational staff members; as well as the acts of teaching, curriculum development, teaming and leadership. The course encourages the development of personal and professional theoretical frameworks and practical tools for enhancing awareness of and action in educational roles as decision-maker, curriculum-creator, inquirer, community member/builder, democratic citizen, team member, teacher and leader.

EDL 318E. Teacher Leadership and School Organization. (3)

This course is designed to challenge and shape students' conceptions of educational organizations and cultures; their professional development as teachers and/or educational staff members; as well as the acts of teaching, curriculum development, teaming and leadership. The course encourages the development of personal and professional theoretical frameworks and practical tools for enhancing awareness of and action in educational roles as decision-maker, curriculum-creator, inquirer, community member/builder, democratic citizen, team member, teacher and leader.

EDL 318M. Teacher Leadership and School Organization. (3)

This course is designed to challenge and shape students' conceptions of educational organizations and cultures; their professional development as teachers and/or educational staff members; as well as the acts of teaching, curriculum development, teaming and leadership. The course encourages the development of personal and professional theoretical frameworks and practical tools for enhancing awareness of and action in educational roles as decision-maker, curriculum-creator, inquirer, community member/builder, democratic citizen, team member, teacher and leader.

EDL 333. Youth, Media & Pop Culture. (3)

This course offers a critical analysis of role of media and pop culture in the lives youth. Students will examine how youth interact with and influence diverse forms of media. Course content will explore how cultural products such as media and pop culture shape societal views of youth and inform how youth view themselves. EL.

EDL 334. Transnational Youth Cultures. (3)

Using contemporary social and educational theory, this course introduces the student to the historical construction of adolescence and youth in global context. The course also explores cultural practices of transnational youths as a socio-historical construction that is affected by contemporary conditions of neo-liberalism, neo-colonialism and globalization. IIB, IC, PA-4B, PA-4C.

Cross-listed with AAA.

EDL 340. Internship. (0-20)**EDL 351. Leadership Ethics in Community Contexts. (3)**

An applied ethics course for students pursuing leadership studies or roles within community, non-profit, or educational contexts. Students will learn about moral theories relevant to leadership work, apply theory to practice through case analysis, and engage in reflection to deepen moral perception and commitments for leadership work. IIB. PA-3B.

EDL 369. Sexuality, Youth, Education. (3)

This interdisciplinary course utilizes insights from a variety of areas - such as literature, sociology, popular culture, law, and medicine - to analyze how contemporary discourses of sexuality are viewed from multiple perspectives. The course investigates how discourses of sexuality co-mingle with discourses of youth with special attention to the intersections of race, ethnicity, class, gender, nationality and ability. Working from a Critical Youth Studies (CYS) framework and similar theoretical positions, the course privileges scholarship and community-based educational models which foreground issues of equity, social justice, and youth participatory activism. Central questions addressed throughout the course include: What is sexuality, and what does race have to do with it? How are notions of innocence, purity, risk and danger tied to particular bodies, identities and desires? How do the logics, structures and processes of late capitalism and globalization shape the cultural politics of sexuality?.

EDL 377. Independent Studies. (0-6)**EDL 382. Community-Based Research & Learning in Education. (3)**

This course introduces students to community-based approaches to research, learning, and development with an emphasis on education issues. Working with local non-profits, schools, and community organizations students will use community-based participatory research (CBPR) as a research paradigm to explore and address a range of education issues at the community level. This course will familiarize participants with key principles of CBPR practice; community assessment; issue analysis; research planning; data gathering; and data sharing. The course will also develop student capacities in cultural competence; working with diverse populations; and ethical considerations in community-based work.

EDL 383. Service in Urban Communities. (1-6; maximum 6)

The purpose of this course is to afford students the opportunity to implement or be involved in a service project in or with a local urban community that will run over the duration of the semester. The course provides students the opportunity to further develop themselves as servant-leaders who are culturally proficient, critically aware of the race and class dynamics that shape life in urban communities, and thoughtful about how best to respond to challenges that hinder community wellbeing.

EDL 416. Myaamiaataweenki: Myaamia Language & Culture 2. (1)

This course is the second of a two-course series that introduces the Myaamia language and culture. The goal of this class is to expose students to intermediate concepts in the Myaamia language and culture and to develop thoughtful representations of the use of the Myaamia language and culture. This course will build off of the knowledge students gained in EDL 317 by adding greater linguistic and cultural complexities to students' knowledge of contemporary issues, historical contexts, and ecological changes. In this course, students will continue to practice the functional language skills developed in EDL 317. By the end of the course, students will have developed an ability to recount and understand short narrative speech in the Myaamia language.

Prerequisite: EDL 317.

EDL 464. Community-Based Leadership and Change. (3)

This course provides students with an opportunity to synthesize what they have learned about community-based leadership through their coursework in the CBL minor and demonstrate mastery of primary leadership competencies, concepts, principles and practices. Students will be guided in designing and developing a substantial research project that incorporates significant learning from their program. This course challenges each student to choose an aspect of community to impact, and to create and begin implementing an actual community engagement strategy. Readings and discussions focus on effective tools and strategies for creating lasting change, including the leader's role as a catalyst and convener.

Prerequisite: EDL 232.

EDL 477. Independent Studies. (0-6)**EDL 600. Independent Reading. (1-3; maximum 9)**

Planned reading in a field of educational leadership with guidance of a department member.

Prerequisite: graduate standing and permission of department chair.

EDL 601. Educational Leadership Theory. (3)

Study of theory and practice of educational leadership. Instructional strategies include case study, simulations, and tutorials. Integrates theory with issues of field-based practice. First in a series of four required courses.

Prerequisite: graduate standing and permission of instructor.

EDL 606. Curriculum Innovation and Transformation through Understanding and Design. (3)

This course is designed for educators interested in learning more about the curriculum in use in classrooms, schools, and community organizations, and the possibilities for shaping and transforming curriculum and teaching practices. The course will introduce students to important issues in curriculum theory and practice.

Cross-listed with TCE 606.

EDL 607. School Law. (3)

General study of public education law with particular emphasis on school law in Ohio. Major attention given to landmark cases and their effects upon public education.

EDL 609. Politics In Education. (3)

Provides broad understanding of the politics of school governance and management, including the analysis and ethics of educational policy at the local, state, and federal levels.

EDL 611. Theories of Leadership. (3)

This course introduces students to the methods, theories and perspectives of educational leadership; including explorations of activism, advocacy and organizing. The course emphasizes critical introspection of personal leadership efforts and provides opportunities to develop leadership practices that prioritize equity, collaboration and community engagement while navigating policy and/or organizational landscapes.

EDL 614. Family-Community-School Partnerships. (3)

Analysis of school-linked and community-based partnerships aimed at enhancing the well-being of children, youth, families and schools. Family-centered, culturally-responsive practice principles and empowerment strategies are emphasized.

Cross-listed with FSW.

EDL 615. Communities, Power, and Change. (3)

This course prepares students working on education related issues to engage diverse families and communities in strengths-based, collaborative methods that promote equitable learning opportunities. In particular, the course seeks to empower students to develop critical reflective skills in order to better meet the needs of families marginalized by school-sanctioned parent involvement initiatives. Students will develop working understandings of these concepts and the dynamics of power structures as they prepare to work with and alongside students, families, and communities in anti-racist, culturally sustaining, and community-oriented ways.

EDL 619. Educational Policies & Teachers. (3)

This course is designed to familiarize early career teachers with educational policies that impact their schools and everyday classroom practices. Through this course they will develop a critical lens to analyze and reframe policies that lead to or exacerbate deficit thinking about students and their families. Teachers in this course will also examine how their own positionality interplays with their use of policies that lead to inequity and injustice. Through policy analysis and personal examination, teachers will go back into their classrooms with the ability to view educational policy and implementation through a critical lens.

EDL 621. Foundations of Multi-Cultural Education. (3)

Using interdisciplinary approach, course investigates what multicultural education is and why and how it has become an integral part of public school education.

EDL 622. Foundations of Multicultural Education. (3)

This course introduces students to the field of social foundations of education and critical approaches to multicultural education. Drawing on critical, anti-racist, and culturally sustaining frameworks, this interdisciplinary course investigates multicultural education in historical, sociocultural, philosophical and global contexts. Issues of power, privilege and oppression are centered in understanding the role of education for building democratic societies based on diversity, equity, inclusion and social justice.

EDL 624. Ethics and Values in Education. (3)

An applied philosophy course focusing on the study and use of ethical frameworks for educational practice and decision-making for educators working in K-16 contexts. Theories and applications of moral education are also examined.

EDL 627. Curriculum Theorizing for Innovation and Transformation. (3)

This course positions students to explore important issues in curriculum theory and practice. It is designed for educators, both inside and outside of schools, who are interested in shaping and transforming curriculum to center anti-racist, culturally-sustaining, and community-oriented pedagogies.

Cross-listed with TCE 627.

EDL 629. History of Education in America. (3)

Origin and development of educational thought and institutions in the United States.

Prerequisite: graduate standing or permission of instructor.

EDL 630. Applied Studies in Educational Administration. (1-3; maximum 15)

Practicum focusing on contemporary administrative and organizational issues in schools, including data analysis, effective professional communication, and special education policies and procedures.

Prerequisite: permission of instructor.

EDL 638. Identity, Community, & Activism. (3)

The course extends the deep learning about community based leadership with a focus on identity formation, cultural expression and citizenship, and socio-political representation, towards the goals of personal and collective empowerment. The main goal of the course is to prepare students to work with/in cultural, arts, digital-media, and community-based projects.

EDL 640. Internship. (0-12; maximum 6)**EDL 645. Supervision of Teaching. (3)**

Principles, methods, techniques, and problems of leadership in improving programs in elementary and secondary schools.

Prerequisite: graduate standing; elementary, middle, or secondary curriculum course; or permission of instructor.

EDL 646. Curriculum Development for Instruction. (3)

Curriculum organization procedures, evaluation and theory in preparation of educational leaders. A course blending theory and field experiences.

EDL 647. Curriculum and Cultural Studies. (3)

Students will be exposed to cultural studies' perspectives of education, including critical media literacy and the role of popular culture in American education.

Prerequisite: EDL 639.

EDL 648. Data-Informed Decision Making in Education. (3)

Students in this class learn contemporary educational research methods and develop skills to plan and complete a systematic action research inquiry into educational practice. The class introduces students to research design, review of relevant literature, implementation, and evaluation.

Cross-listed with TCE.

EDL 654. Foundations of Educational Research in Higher Education. (3)

Introduction to the diverse theoretical foundations of educational inquiry and exploration of the diverse approaches used in empirical educational research to enhance practice in student affairs/higher education contexts.

Prerequisite: enrolled in SAHE or permission of instructor.

EDL 656. Professional Development and Field Experience in Student Affairs. (1-4)

Supervised practice in student affairs and higher education contexts. Prerequisite: enrolled in SAHE or permission of instructor.

EDL 656G. Field Experience Exploration. (4)

Supervised practice in student affairs and higher education contexts. Prerequisite: enrolled in SAHE or permission of instructor.

EDL 656I. Field Experience Synthesis. (3)

Supervised practice in student affairs and higher education contexts. Prerequisite: enrolled in SAHE or permission of instructor.

EDL 657. Internships in Student Affairs. (1-7; maximum 7)

Graduate students participating in a Student Affairs in Higher Education (SAHE) internship register for this course during the semester they are on work assignment. Prerequisite: EDL 676.

EDL 660. Seminar in Student Affairs/Higher Education. (1-3)

Focuses on specialized topics in student affairs in higher education. Prerequisite: enrolled in SAHE or permission of instructor.

EDL 661. Quantitative Research in Higher Education. (3)

Introduction to quantitative research in student affairs/higher education. Explores implications for disciplined inquiry in higher education (e.g., research, assessment, and evaluation). Prerequisites: EDL 654 and SAHE major or permission of instructor.

EDL 667. Diversity, Equity, and Dialogue in Student Affairs. (3)

Critically examines issues in higher education access and equity with special attention on race and social class. As a way to learn to have conversations about diversity, this course introduces students to Intergroup Dialogue, a facilitated strategy for engaging in dialogue across difference. Prerequisite: enrollment in SAHE program or permission of instructor.

EDL 672. Intergroup Dialogue in Higher Education. (3)

Provides students an opportunity to engage in Intergroup Dialogue, a facilitated approach to engaging in dialogue across identities, such as race, sexual orientation, social class, gender, and religion. Explores notions of privilege, oppression, and development as a social justice ally in education contexts. Prerequisite: EDL 667 or permission of the instructor.

EDL 675. Student Development Theory I. (3)

Study of basic theoretical perspectives underlying college student development, assessment of development, and application of theory to student affairs practice. S. or Ph.D. in SAHE or permission of instructor. Prerequisite: enrolled in M.

EDL 676. Foundations of Student Affairs in Higher Education. (3)

Focuses on the historical, philosophical and theoretical foundations of student affairs. Prerequisite: enrolled in SAHE or permission of instructor.

EDL 677. Independent Studies. (0-6)**EDL 678. Student Development Theory II. (3)**

In-depth study and critique of selected student and adult development theories, assessment of students' development of those theories, and application to student affairs practice. Prerequisites: EDL 677 and enrolled in SAHE or permission of instructor.

EDL 683. Qualitative Research in Education. (3)

Introduction to the field of qualitative research in K-16 educational environments, including multiple interpretivist and critical traditions. Prerequisites: EDL 654 and SAHE major or permission of instructor.

EDL 685. Spirituality and Leadership in Education. (3)

This course examines key literature and pertinent issues related to spirituality and educational leadership such as character development, servant and ethical-moral leadership, and culturally relevant faith traditions across multiple higher education contexts. These issues, among others, are closely linked to values-based personal development and are critical elements in learning about and promoting holistic leadership development. We will examine literature in this growing field of study, discuss the affect and significance of various key concepts, and mutually construct ways to connect theory to practice. Prerequisite: enrollment in SAHE program or permission of instructor.

EDL 687. Community-Based Leadership & Action I. (3)

In this course students will learn about navigating shifting political landscapes and strategies for engaging with diverse stakeholders and communities. This course will include discussions of inter and intra group power dynamics, networking and collaboration, and various models for authentic partnership development to accomplish desired objectives.

EDL 688. Community-Based Leadership & Action II. (3)

In this course students will apply diverse theoretical frameworks related to community engagement to current professional contexts and acquire practical skills that can be utilized to achieve organizational and community objectives.

EDL 691. Graduate Capstone Experience in Education. (3)

This course provides the opportunity for students to synthesize their course work and experiences from throughout the program with an individualized research project that demonstrates critical thinking, understanding contexts, and reflection into action. The end product could include a research paper, journal manuscript, grant proposal, or strategic plan.

Cross-listed with TCE 691.

EDL 696. Student Success in Higher Education. (3)

Less than 60% of college students earn a bachelor's degree within six years in the United States. Creating and sustaining conditions that foster student success is essential to increasing access, persistence, and graduation rates in higher education. Despite the increased representation of first-generation, low-income, and racial/ethnic minority college students, these populations continue to be underrepresented and underserved at U.S. colleges and universities. This course will explore different theoretical perspectives to advance research, policies, and programs that increase student success in higher education.

Prerequisites: based on their concentration, students will need to take on the following courses: EDL 654, EDL 667, EDL 677 or EDL 706.

EDL 697. Higher Education Administration. (3)

This course will introduce students to topics and issues that commonly occur within higher education and on college and university campuses. Students will explore higher education within the U.S. socio-economic and political contexts at the national, state, institutional, departmental, and/or programmatic levels. Key topics include: student success, legal issues, finance, and crisis management and response.

EDL 706. Educational Leadership and Organizational Development. (3)

Study of concepts, literature, and research in leadership and its relationship to the development and maintenance of the organization.

Prerequisite: EDL graduate program admission or permission of the instructor.

EDL 710. Internship in Educational Leadership. (3; maximum 6)

Planned program of leadership responsibilities in an educational institution or agency with major emphasis on participation in practical applications of roles associated with school administration. Enrollment only after contact with the internship director.

EDL 721. Pupil Personnel Services. (1-3; maximum 3)

Organization and analysis of pupil services offered to a school district. Current issues, especially legal and ethical, are examined.

EDL 723. Public School Finance. (3)

Local, state, and federal systems of financial support for education. Addresses basic revenue and allocation issues from a national and an Ohio perspective.

EDL 725. School Staff Personnel Administration. (1-3)

Basic course in school personnel sequence; emphasis on licensed staff; recruitment, supervision, evaluation, staff development, collective bargaining, and employer-employee relationships.

EDL 727. School Business Affairs and Physical Resources. (3)

Basic principles and procedures of business management as they relate to educational institutions and agencies, including budgeting, purchasing, maintenance, management of school facilities, educational specifications, enrollment projections, capacity and utilization, and auxiliary services.

EDL 729. Board-Superintendent-Staff Relationships. (3)

Case study and simulation approach to the identification and analysis of interrelationships, conflicts, and effects of employee organizations and pressure groups on educational decision making and policy formulation.

EDL 730. New Literacies for Educational Leadership. (2)

An orientation to mass media, social media, and online learning environments as they contextualize the practice of educational leadership in schools and districts. Emphasis on new technological literacies for engaging students, teachers, and parents/citizens through innovative, responsible uses of diverse media formats.

EDL 731. Learning Partnerships & Transformational Learning. (3)

Introduction to learning as personal transformation for social change and social justice. Interdisciplinary perspectives on learning in higher education: role of college student development, diversity, and culture in learning; role of higher education organizations and structures in learning; historical perspective on higher education learning; global implications for college learning.

Prerequisite: SAHE major or permission of instructor.

EDL 741. Perspectives on College Learners' Experience. (3; maximum 6)

Exploration of college learners' experience from multiple disciplinary perspectives including history, comparative education, anthropology, and developmental psychology. Each seminar offering will include two of these perspectives. Repeatable up to 6 credits.

Prerequisite: SAHE major or permission of instructor.

EDL 745. Perspectives on Higher Education Learning Contexts. (3; maximum 9)

Exploration of college learning contexts from multiple disciplinary perspectives including history, social foundations, comparative education, anthropology, organizational theory, and developmental psychology. Each seminar offering will include two of these perspectives. Repeatable up to 9 credits.

Prerequisite: SAHE major or permission of instructor.

EDL 750. Advanced Independent Reading. (1-3; maximum 9)

Independent readings appropriate for advanced graduate students. Cannot earn more than nine hours credit toward minimum requirements for any one degree with combination of EDL 600 and EDL 750 (see EDL 600).

Prerequisite: post-master's standing.

EDL 751. Social & Political Engagement in Higher Education. (3)

Explore philosophical theories and discourses to address moral and political questions regarding the ultimate aims of post-secondary education, focusing primarily on the United States 2- and 4-year college and university system. Opportunity to integrate and synthesize understanding of learning, learners, and learning contexts into a professional philosophy of education.

Prerequisite: EDL 731 and SAHE major or permission of instructor.

EDL 761. Introduction to Doctoral Study in Educational Leadership. (3)

An orientation to doctoral study in educational leadership, emphasizing goal setting, research skills, and studying in a diverse community.

Prerequisite: admission to EDL doctoral program.

EDL 762. Culture and Leadership in Education. (3)

This core introductory doctoral seminar is designed to explore various social theories that consider the relationship between culture and educational leadership. The course will focus on a few theories that provide promise for new ways of constructing a theory of culture-based leadership.

EDL 763. Seminar in Advanced Qualitative Research Methodology. (3)

This course prepares doctoral students to conduct independent dissertation research utilizing qualitative research methodologies including critical narrative analysis, ethnography and case study research. As an advanced interdisciplinary seminar, students should come with some experience involving the theory and practice of person-based or textual research.

Prerequisite: EDL 683 or permission of instructor.

EDL 764. Education and Democratic Society. (3)

This core doctoral seminar explores educational questions of democracy, justice, and cultural difference through disciplinary lenses of the social foundations of education, primarily philosophy and history of education. Students will study, compare, contrast and critique several different conceptual frameworks for understanding democratic theory and educational practice.

EDL 765. Curriculum, Pedagogy and Diversity. (3)

A core doctoral seminar providing students with a foundational understanding of the historical and contemporary issues, theories, and practices that make up the curriculum field.

EDL 771. Educational Policy Analysis. (3)

Provides broad understanding of educational policy considerations of formulation and implementation of decisions. Conceptual and methodological conclusions about the complex nature of educational governance and organizational analysis are examined.

EDL 772. Quantitative Research Design in Education. (3)

Introduction to Quantitative Research in education. Students identify a research problem and apply analytic and design skills necessary to develop a dissertation proposal.

Prerequisites: EDL 661 or EDL667/EHS 667.

EDL 774. Scholarship of Practice. (2; maximum 6)

To cultivate the knowledge, habits and skills associated with inquiry-driven leadership through exploring, designing, and executing research around problems of practice in educational contexts.

Students will gain advanced knowledge and skills related to application of research-based knowledge in educational leadership to policy and practice, including applications that address the critical challenges of improving education for all learners in complex, multicultural environments.

EDL 775. Capstone in Educational Inquiry. (3)

Seminar to explore major theoretical foundations used in educational research. Examines different educational researchers conceive of the concepts of knowledge and social reality and how those concepts affect educational research.

Prerequisite: EDL 683 and EDL 772.

EDL 776. Research/Inquiry Practicum in Student Affairs/Higher Education. (3; maximum 6)

Conduct supervised research with faculty. Students will gain hands-on experience in all aspects of research process including: framing research questions, choosing methodology and methods appropriate to the research question, Institutional Review Board approval, data collection, data analysis and interpretation, and scholarly writing.

Prerequisite: EDL 654; SAHE major or permission of instructor.

EDL 780. Advanced Seminar in Educational Administration. (1-5; maximum 15)

Various topics of current interest.

Prerequisite: permission of instructor.

EDL 782. Social Justice and Transformation. (3)

This course introduces major theories of social justice and links these to the practice of social justice education in schools and communities through active school-community engagement in a field-based project.

EDL 783. Curriculum, Politics, and Policy. (3)

This course explores how curriculum is conceived in educational policy. Students engage in critical analysis of the politics and policies of formal and informal curriculum.

EDL 784. Power, Knowledge and Difference. (3)

This course examines the educational and curricular consequences of the epistemological foundations of western educational philosophy. In particular the course examines the challenges posed to these foundations by diverse standpoint epistemologies, including feminist theory, critical race theory, queer theory and post colonial theory.

EDL 785. Theorizing Gender, Sexuality, and Education. (3)

This course examines the multiple, changing meanings and political effects of gender and sexuality in various socio-cultural and educational contexts. It foregrounds analysis of how social institutions, such as education, the law, family and economy, and cultural representations, such as literary and popular media, shape competing concepts of gender and sexuality. The course readings and collective dialogue place particular attention on feminist scholarship on women, girls and sexual minorities.

Cross-listed with WGS 785.

EDL 786. Race, Ethnicity, Education. (3)

This course introduces key theories, concepts and epistemologies in critical race studies and considers how they frame and address educational injustice.

EDL 790. Seminar in Curriculum and Supervision. (1-3)

Intensive study of an aspect of or problem in curriculum and supervision.D. or Ed.D. and permission of instructor.

Prerequisite: advanced graduate student with a major or minor in curriculum and supervision, working toward Ph.

EDL 850. Doctoral Dissertation. (1-16; maximum 60)

Prerequisite: doctoral admission by department and permission of adviser.

Educational Psychology (EDP)

EDP 101. Psychology Of The Learner. (3)

Critical investigation of issues, theories, and principles related to the nature of the learner and learning process, including such topics as psychological methodology, perception, cognitive processing, personality, and social dynamics, within the context of historical, social diversity, and cross-cultural perspectives. Credit not granted to students who have earned credit in PSY 111. IIC. PA-2A. CAS-C.

EDP 177. Independent Studies. (0-6)**EDP 201. Human Development and Learning in Social and Educational Contexts. (3)**

In-depth examination of theoretical issues and principles of human development and learning, including developmental changes, motivational and learning processes, exceptionalities and other individual differences, and dynamics of social groups. The ways human development and learning can be fostered within diverse social and educational contexts and the interactive influences of contextual differences on direction and nature of these processes are a major focus for systematic inquiry. IIC. PA-2A. CAS-C.

EDP 220. Field Experience in Special Education. (1)

Structured experiences for students to visit special education settings and inclusive settings serving individuals with a variety of exceptionalities, including early childhood, middle childhood, and adolescence. Restricted to special education pre-majors. Pre or co-requisite: EDP 256.

EDP 256. Psychology of the Exceptional Learner. (3)

Critical analysis of human beings considered exceptional (outside the norm) in learning and behavior. Topics include inter- and intra-individual differences comprising exceptionalities, issues surrounding identification and classification of individuals, society's responses to exceptional individuals, and societal challenges to develop the human potential of all persons. IIC. PA-2A.

EDP 272. Introduction to Disability Studies. (3)

Explores the link between the social construction of disability and that of race, class, gender, ethnicity, and sexual orientation as they pertain to social justice in a multicultural and democratic society. Promotes critical analysis of dominant and nondominant perspectives on disability. IC, IIC. PA-2A, PA-4B. CAS-C. Cross-listed with DST/SOC.

EDP 277. Independent Studies. (0-6)**EDP 278. Women and (Dis)ability: Fictions and Contaminations of Identity. (3)**

Provides a critical analysis of the historical, sociological, cultural, media and educational images and representations of women with disabilities. Current research and theories from Disabilities Studies and Womens Studies will serve as the lenses for the exploration of disability as a social construct. The course will focus on exploration of oppressive social forces embedded in the re/presentations of and by women with disabilities which transform and complicate such images. Cross-listed with DST/WGS.

EDP 279. Technology + Media Literacy and Learning. (3)

Technology + Media Literacy and Learning is a 3 credit hour course to foster technology and media literacy for undergraduate students in teacher preparation programs. This course focuses fostering knowledge in skills and integration of technology tools, media and digital resources for teaching and learning. IIC. PA-2A.

EDP 301. Assessment and Evaluation in Educational Settings. (3)

Application of measurement principles in the assessment of individual differences and learning in educational environments. Includes: formative, summative and diagnostic testing, instructional objectives and classroom tests, judging complex performance, and social and political issues with administration and interpretation of evaluation instruments.

Prerequisite: EDP 101 or 201 and junior standing.

EDP 301A. Assessment and Evaluation in Educational Settings. (3)

Application of measurement principles in the assessment of individual differences and learning in educational environments. Includes: formative, summative and diagnostic testing, instructional objectives and classroom tests, judging complex performance, and social and political issues with administration and interpretation of evaluation instruments.

Prerequisite: EDP 101 or 201 and junior standing.

EDP 301M. Assessment and Evaluation in Educational Settings. (3)

Application of measurement principles in the assessment of individual differences and learning in educational environments. Includes: formative, summative and diagnostic testing, instructional objectives and classroom tests, judging complex performance, and social and political issues with administration and interpretation of evaluation instruments.

Prerequisite: EDP 101 or 201 and junior standing.

EDP 324. Research and Applied Writing Across the Disciplines. (3)

This is a three-credit hour GMP Advanced Writing course that will provide the opportunity for students to be mentored through the development of a research proposal, a literature review, and/or develop a manuscript for publication and/or a poster presentation. The overall goal of this course is to guide students in learning to develop research in their chosen field of study and write effectively using APA style for general population. Writing exercises will take the form of assignments that require the student to develop successive sections of the research proposal or other writing project until it is complete. Students will learn to (a) identify the attributes of a well written proposal, paper or poster, (b) search and cite in proper APA formatting appropriate, relevant literature (c) develop an awareness of plagiarism and ethics in science writing, (d) understand the role of constructive, critical feedback and editing and revising their writing. ADVW. PA-1C.

EDP 351. Miami Connections Mentoring. (1)

This course involves students in an on-campus mentoring experience working with local high school students enrolled in the Miami Connections (Oxford) or Miami Bridges (Middletown) program. It is open to students of any major who are interested in service learning. Background checks and a one-year commitment are required.

EDP 366. Cross-cultural Examination of the United States and China within an Educational Context. (3)

This course is designed for students to gain basic knowledge, including both similarities and differences, revolving about China and America, in an educational context. The goal of this course is to help students broaden their knowledge about varying cultures in order to better understand how teachers can best help students learn and grow. The students will gain a deeper understanding of China and America and what each country faces in the years to come. Students will focus on the challenges and opportunities each culture provides to individuals through examining similarities and differences. Students will explore different culture related topics and come to a conclusion regarding their pre and post conceptions of the topic. Students will explore and research one topic more in depth to prepare for a research paper. IIC, IIIB. PA-2A, PA-4C. Cross-listed with EDL.

EDP 375. (Dis)Ability Allies: To be or not to be? Developing Identity and Pride from Practice. (3)

Explores what it means to be ally to/in/with the disability community in America. The course emphasizes identity formation and how that formation can inform the construction of the ally identity. Through deconstructing learned values, knowledge, and images of disability that mitigate ally behavior, students discover the micro and macro structures that support ally behavior. By exploring how social control and social change have worked in other civil rights movements, students understand the necessity of identifying and including allies in the disability movement for civil rights. IC. PA-4B. CAS-C. Cross-listed with DST/SOC/WGS.

EDP 377. Independent Studies. (0-6)**EDP 378. Media Illusions: Creations of "The Disabled" Identity. (3)**

Provides a critical analysis of past and present media constructions of persons with disabilities. Through exploring theory and research from diverse disciplines (communication, sociology, gerontology, educational psychology and others), students explore how perceptions of persons with disability are formed and analyze how the media is implicated in creating, distorting, and reflecting stereotypical and fictionalized images of disability. The course analyzes how these images shape public perception and reproduce the unequal power and privilege relationships that maintain the status quo while providing resources and techniques for the provision of alternative images of disability in various media genres.

Cross-listed with DST.

EDP 387. Chinese Education through Culture, Customs, History, and Development. (3)

This course is designed for students to gain basic knowledge about the history and culture of China. The goal of this workshop is to help students gain international experiences and global perspectives on history (the past, present, and future) of China, the culture, and any related issues in order to build and enhance students' ability to work successfully in a global setting. Students will be paired with Chinese students from two universities in a large city and a small or medium sized city, respectively. Students may travel and visit different types of organizations, historical and cultural sites, as well as Chinese families in China. Travels will either be completed in actuality or virtually through the internet and other technological sources. Students will also attend lectures by carefully selected company executives and professors from both the US and China if actually traveling to China. Small group meetings and informal interviews during the travel in China will be conducted to enhance student's understanding of the observations and lectures.

Cross-listed with EDP.

EDP 405/EDP 505. Advanced Issues: Moderate/Intensive Special Education. (3)

The course examines critical issues in educating students with moderate and intensive disabilities. Students will learn key issues and challenges in person centered planning, effective collaboration, community and wraparound supports, and advocacy that promote fully inclusive lives across school and community environments for individuals with moderate and intensive disabilities.

Prerequisite: EDP 256.

EDP 419F. Supervised Teaching for Mild/Moderate and Moderate/Intensive Intervention Specialist Licensure. (15)

Supervised Student Teaching is a 16-week teaching experience during which the teacher education candidate will gain significant experience planning instruction, teaching and engaging learners, managing the classroom and assessing student progress. The student teacher will participate in two placements equal in length, one in mild/moderate and the other in moderate/intensive. The student teacher will be supported by a Cooperating (mentor) teacher and University supervisor.

Prerequisite: Successful completion of EDP sophomore block, TCE MCE block, and EDP junior methods block.

EDP 432/EDP 532. Assessment and Educational Planning for Children in Preschool through Fifth Grade. (3)

Discusses development and use of formal and informal assessment instruments and procedures, including observational, authentic, performance-based, classroom test, and standardized methods to plan curriculum and teaching practices with attention to interaction of individual differences with learning environments for children in preschool through fifth grade who are developing typically, have disabilities, or are at biological or environment risk for developmental delay. Emphasizes interdisciplinary, transdisciplinary, and multifaceted approaches to assessment, developing individualized educational plans, and planning curriculum objectives based on assessment information. Early childhood undergraduates must take with junior field block.

Prerequisite: EDP 201.

EDP 437/EDP 537. Blended and Online Learning Design. (3)

This course teaches concepts and design for blended and online learning. In addition, this course aids students, teachers and instructional designers in the development of distance education concepts: theory, administration, programs, methods, practice and curriculum development.

EDP 443/EDP 543. Audiovisual Instruction: Methods, Media, and Technology. (3)

Develops media skills that aid communication. Stresses selection, use, and preparation of educational media in instructional planning. Includes laboratories in basic production processes and equipment operation. Because of greater content and additional projects, this course may be substituted for technology requirement.

EDP 446. Educational Interactive Design. (3)

This course focuses on developing an understanding of theory and production of interactive technologies and media for teaching and learning. While the emphasis will be on educational and training application, this course will also look at how interactive media can be used in non-traditional educational environments.

EDP 447/EDP 547. eLearning in K-12 Education. (3)

This course surveys models of eLearning in K-12 educational environments and focuses on developing an understanding of the current state of eLearning in K-12 schools ranging from classroom examples to fully online and distance learning environments. This course provides experience in (1) evaluating electronic resources for use in eLearning environments, (2) designing and developing eLearning instructional modules for online learning systems, (3) planning for use of eLearning tools in assessment. This course will provide both a broad overview of the emerging role of eLearning in K-12 education as well as opportunities to design eLearning materials for students' unique major/career emphasis.

EDP 450/EDP 550. Special Problems. (1-4)

Course in varying special topics areas.

EDP 456/EDP 556. Advanced Seminar in Evaluation with Evidence-Based Interventions. (3)

Advanced seminar oriented toward the development of competencies in formative assessment and teaching using evidence-based interventions (EBIs). Students will learn to lesson plan with EBIs and to evaluate student performance and responsiveness to interventions using formative assessments, assessment systems, and reflective journaling. There is a service component required in this course involving the provision of interventions to children who are struggling learners and/or English Language Learners. Upon completion of the course, students will be able to evaluate EBIs, collect and make sense of instructional data, and have the necessary elements to write and/or contribute to a report on a student's responsiveness to intervention. SC.

Prerequisite: School Psychology Program Admission and/or Senior status as a Special Education Student for Capstone Course.

EDP 458/EDP 558. Methods I: Learners with Moderate to Intensive Needs. (3)

Focuses on curricular and instructional strategies for supporting learners aged 5-21 who have moderate to intensive needs in inclusive school settings. Emphasizes planning and implementing developmentally, culturally and individually appropriate practices and methods for successful learning, using principles of Universal Design for Learning, inclusive practice and evidence based practice in transition planning.

EDP 459. Practicum in Special Education: Mild/Moderate. (3; maximum 3)

Provides guided field experiences in instructing children with mild/moderate disabilities. Focus is on application of theory and research in curriculum development, educational technology, applied behavior analysis, assessment, and the development of instructional skills. Prerequisite: EDP 256.

EDP 459G. Practicum in Special Education: Moderate/Intensive. (3)

Provides guided field experience in instructing children with moderate/intensive needs. Focus is on the application of theory and research in curriculum development, educational technology, applied behavior analysis, and the development of instructional skills. Co-requisite: EDP 458/EDP 558/558.

EDP 460. Action Research/Problem-Based Seminar in Exceptional Education/Developmental Differences. (3)

Provides opportunity to develop, implement, and evaluate an action research or action service project related to identification, psychology, education, and/or treatment of individuals whose development is exceptional. Provides intensive seminar; instructor and peers share the research/problem-solving process and prepare written and oral reports that describe the project and document the student's accomplishments. SC.

Prerequisite: senior standing.

EDP 468/EDP 568. Methods II for Learners with Moderate - Intensive Needs. (3)

The course is focused on student centered planning to examine curricular and instructional methods and strategies for supporting children and youth who have moderate/intensive needs in inclusive settings. This course emphasizes planning and implementing individually appropriate methods, assessments, goals, adaptations and accommodations in inclusive settings.

Prerequisites: EDP 256 and EDP 458/EDP 558.

EDP 471/EDP 571. Literacy Seminar: Clinical. (3; maximum 6)

Problem-based seminar designed to provide opportunities for students to learn, practice, and evaluate instructional approaches to teaching literacy skills (reading, writing, and spelling) to school-age children with written language disabilities. Students receive intensive training in literacy and work in tutorial settings. Seminar discussions focus on issues of literacy skills, and approaches for working with these children. SC.

EDP 477. Independent Studies. (0-6)**EDP 478/EDP 578. Collaboration and the Law in Special Education. (3)**

This course examines the legal aspects of special education and the procedural safeguards of students and their families. It emphasizes home-school relationships, resource assistance, and collaboration among stakeholders. It involves strategies for increasing collaboration and communication among parents, schools and community service agencies to support each step within the special education process. Teacher candidates in this course will become familiar with special education law, including the Individualized Education Plan document and procedures and will develop student goals and objectives.

EDP 479/EDP 579. Autism: Introduction and Current Research. (3)

This course provides an overview of autism spectrum disorders (ASD). The course content examines the psychological, social, and educational characteristics of individuals who have been identified as having ASD. Prevalence rates, recent changes in definition/diagnostic criteria (e.g., DSM-5) and controversial issues will be reviewed.

EDP 482/EDP 582. Autism Spectrum Disorder: Best Practice in Teaching Strategies. (3)

This course will focus on evidence-based teaching strategies for the children with Autism Spectrum Disorder in the inclusive classroom. Students will learn best practice in classroom instruction, including integrating technology and visual supports into the classroom for students with Autism Spectrum Disorder.

EDP 483/EDP 583. Game-based Learning Design. (3)

This course offers students the opportunity to explore the use of games and simulated environments for teaching and learning. The three main topics investigated in this course are: (a) the integration of popular games for teaching and learning, (b) serious and educational games, and (c) the integration of game design elements for teaching and learning. In addition, this course aids students in understanding how learning theories can inform the design of serious and educational games for instructional design.

Prerequisite: junior/senior or graduate standing.

EDP 484/EDP 584. Autism Spectrum Disorder: Social and Communication Development. (3)

This course provides an overview of the unique communication and social characteristics of individuals with autism spectrum disorders (ASD) and teaches an array of strategies and methods for developing social and communication skills. Appropriate supportive frameworks to enhance social and communication development will be explored.

EDP 485/EDP 585. Autism Spectrum Disorder: Positive Behavior Supports and Interventions. (3)

This course will focus on evidence-based behavioral supports & interventions for the inclusive classroom for students with Autism Spectrum Disorder. Students will learn best practices in behavior management, including components of Applied Behavior Analysis, positive reinforcement, contingency plans and token economy systems.

EDP 486/EDP 586. Methods I: Learners with Mild/Moderate Disabilities. (3)

The content of this course will examine the roles assessment, instructional framework, and implementation of evidenced based practice have on the development and progress towards the academic and behavioral goals of students with mild to moderate disabilities. A lifespan view of intervention models that will support inclusive practices that provide access to general education curriculum will be explored.

Prerequisite: EDP 256.

EDP 487/EDP 587. Student-Centered Practices to Support Social and Emotional Needs. (3)

This course explores the ways evidence-based student-centered supports can build socially just, accessible, and culturally responsive practices to meet the individual social, emotional, and behavioral needs of students with disabilities. This course provides specific methods in Positive Behavioral Interventions and Supports (PBIS), trauma-sensitive schools and trauma-informed teaching strategies, social skill development, transition supports, and assistive technology as best practices to strengthen both universally designed and student-centered education for all learners.

EDP 489. Disability in Global and Local Contexts. (3)

Examines contemporary disability issues and policies and the lived experiences of persons with disabilities in international and local contexts, with emphasis on understanding disability within particular communities-both locally and in other countries-and on learning multiple research methods. SC.

Prerequisite: permission of instructor.

Cross-listed with DST 494.

EDP 491/EDP 591. Methods II: Learners with Mild to Moderate Disabilities. (3)

The content of this course will examine the roles assessment, instructional framework, and implementation of evidenced based practice have on the development and progress towards the academic and behavioral goals of students with Learning Disabilities, Mild Cognitive Disabilities and Behavior disorder. A lifespan view of intervention models that will support inclusive practices that provide access to general education curriculum will be explored.

Prerequisites: EDP 256.

EDP 494/EDP 594. Assessment, Evaluation, and Educational Planning for Learners with Exceptionalities. (3)

Construction and use of formal, informal, and authentic assessment related to adapting content and teaching strategies in reading, spelling, writing, oral communication, mathematics, and other areas for children and youth with exceptionalities (including individuals with mild/moderate and moderate/intensive needs; gifted).

EDP 495/EDP 595. Critical Inquiry in Special Education. (3)

Critical inquiry in special education provides future teachers with the skills they need to become scholarly lifelong learners. Using methods for conducting systematic literature searches, the student will critically analyze an area of interest related to special education for further exploration and to advance depth of student understanding that will culminate into a written paper and public presentation. The student will also learn about methods for collecting data and develop competency in professional writing.

Co-requisite: EDP 459F/559F, 459G/559G, or 459H/559H.

EDP 495E. Inclusion and Adaptations for Students with Mild/Moderate and Gifted Needs in PreK to 5 Classrooms. (3)

Provides instruction on adapting curriculum, methods, and materials for individuals with mild/moderate exceptionalities and/or giftedness in inclusive settings. Emphasizes adaptations in reading, math, social studies, science, and language arts as developmentally and culturally appropriate for children in preschool through fifth grade.

Prerequisite: EDP 256.

EDP 496/EDP 596. Behavioral Interventions: Theory, Principles, and Techniques. (3)

Emphasizes theoretical foundations of the behavioral model with supporting research. Presents a variety of proactive techniques for increasing appropriate behavior and for prevention and reduction of problematic behaviors. Emphasizes positive, proactive treatment approaches using the least restrictive treatment model for individual and group interventions. Addresses applications for individuals with exceptionalities mild/moderate, moderate/intensive, and gifted.

EDP 600. Independent Reading. (1-5; maximum 8)

Planned reading in any field related to educational psychology with faculty guidance.

Prerequisite: regular standing in graduate school, eight hours in education including four hours graduate credit, and approval of plan by department chair.

EDP 601. Advanced Educational Psychology. (3)

Prepares student to critically evaluate existing educational practice and to innovate sound practices in light of theoretical and empirical findings of educational psychology.

Prerequisite: eight hours of education including educational psychology.

EDP 603. Theories of Human Learning. (3)

Examines major theoretical perspectives concerning the process of how human beings learn. Historical, as well as contemporary views of the biological, behavioral and cognitive bases of human learning are presented. Considers how cultures (ethnic, gender, and systemic) influence the process and mode of learning. Involves direct application of theoretical approaches to classroom instruction. Critical analysis of these theories and current research are emphasized to facilitate students' understanding of the complex process of learning.

EDP 604. Role and Function of the School Psychologist. (3)

Survey of current practices in the field of school psychology and examination of emerging models. Attention to school psychological service in the organization of schools, relationships with other pupil personnel workers, ethics, state standards, and various other related issues.

Prerequisite: admission to school psychology program or permission of instructor.

EDP 605F. Supervised Field Experience: Mild/Moderate Intervention Specialist. (1-12)

Full-time supervised field experience in student's area of specialization. Experience provided at early, middle, and/or adolescent levels within current program models and standards.

Prerequisite: admission to graduate program in special education and completion of all course work in the licensure area.

EDP 607. Educational Measurement and Evaluation. (3)

Principles of measurement and evaluation applied to educational contexts. Includes instructional objectives, construction of teacher-made tests, assessing complex performance, determining grades, standardized testing, measuring individual differences, and using test data for decision-making.

EDP 611. Psychoeducational Assessment and Interventions I. (5)

Provides foundation in a variety of assessment areas and methodologies that lead to development, implementation, and evaluation of interventions. The school psychologist is viewed as a scientist practitioner using a problem-solving orientation in working with students experiencing behavioral and/or academic problems. Emphasis on analyses of assessment information with the goal of developing successful interventions.

Prerequisite: admission to school psychology program.

EDP 612. Psychoeducational Assessment and Interventions II. (5)

Provides foundation in a variety of assessment areas and methodologies that lead to development, implementation, and evaluation of interventions. The school psychologist is viewed as a scientist practitioner using a problem-solving orientation in working with students experiencing behavioral and/or academic problems. Emphasis on analyses of assessment information with the goal of developing successful interventions.-

Prerequisite: admission to school psychology program.

EDP 620. Research Project. (1-3)

Individual research to satisfy research project requirement for master's degree.

Prerequisite: EDP 651, 667, and permission of department chair.

EDP 631. Foundations of Instructional Design and Technology. (3)

This course provides a foundation of Instructional Design and Technology (IDT) and an overview of the field a. Students will learn about the theoretical foundations of the field and of the program. Some software will be introduced.

EDP 632. Instructional Design Theory and Models. (3)

This course provides an opportunity for students to analyze, synthesize, and evaluate instructional design models based on learning theories and principles, while taking into account various situations and differences of learners. Students will acquire the knowledge, skills, and abilities necessary to provide leadership in the area of instructional design.

EDP 633. Formative/Summative Evaluation of Learning Design. (3)

Formative and Summative evaluation provides students with theories and practice related to conducting needs analysis and formative and summative evaluations. At the end of the semester students should be able to assess and evaluate instructional media.

EDP 635. Theories of Human Development. (3)

Involves broad perspective of human development with primary focus upon theories as well as historically significant and contemporary research. Theoretical and research applications considered within the context of educational settings and in other areas of helping professions.

EDP 636. Diversity, Learning & Technology. (3)

The purpose of this course is to explore the mutual impact of diverse learner populations and technology. The focus of this course is to explore instructional design of media and technology integration that supports learner diversity in all forms. Special attention is devoted to how instructional design can support and foster inclusion of traditionally underrepresented learner populations (ESOL, special education, non-traditional learners, and economic disadvantaged learners). The goals of this course are to provide strategies for designing curriculum and instruction using technology for meeting the needs of diverse, multicultural, special needs, and at-risk learners in k-12 schools. Students will engage in global connections, exploration, and analysis of various technologies to differentiate and/or accommodate instruction for students with diverse learning styles and special needs. This course will emphasize Universal Design as an inclusive model for technology integration.

EDP 639. Trends in Learning Design and Analytics. (3)

The intent of the course is to acquaint instructional technologists, teachers and administrators with critical challenges posed as a result of the increasing infusion of technology and learning analytics into the school and training environments. Students will exchange ideas about issues and trends with others through reports and leading discussions.

EDP 641. Visual Design for Instruction. (3)

This course is designed to provide participants with a sense of how visual images can be employed in the instructional design process. Digital imagery, visual design, motion design and imaging software are vehicles for studying the use of visual images in training and education.

EDP 643. Interactive Design. (3)

This course focuses on developing an understanding of theory and production of interactive design primarily for teaching and learning. While the emphasis will be on educational and training application, this course will also look at how interactive media can be used in non-traditional educational environments.

EDP 645. Curriculum and Technology. (3)

This class is designed to support P-12 educators in addressing the mutual impact of technology and curriculum and integrating technology to enhance teaching and learning. The focus is to produce teacher-created, learner-centered materials for effective technology integration. Class participants will work both independently and collaboratively to develop curriculum and to design a project that integrates technology for effective teaching or learning.

EDP 648. Capstone Project. (3-6; maximum 6)

Each student in the MA in Instructional Design & Technology or the MEd in Educational Technology are required to complete an experiential learning capstone project. Students will be guided to initiate a proposed topic. Each student in tandem with her/his faculty advisor will determine negotiate the scope, scale, criteria, and evaluation of the project.

Prerequisites: Completion of at least eight of the program courses.

EDP 650. Seminar in Special Education. (3; maximum 9)

In-depth study of specific topics in education of exceptional children and youth. Maximum hours toward graduate degree in special education are 16. Topics will be announced.

Prerequisite: permission of instructor.

EDP 651. Educational Research. (3)

Introduction to and critical study of research practices and reporting processes.

EDP 652. Educational Research Practicum. (3)

Practicum in research.

Prerequisite: EDP 651.

EDP 654. Counseling Practicum. (4; maximum 4)

Supervised counseling experience.

Prerequisite: EDP 672 and permission of instructor.

EDP 655. Theory and Problems in Educational Measurement. (3)

General concepts of reliability and validity and their implications in educational measurement are discussed. Interpretations and misinterpretations are presented with regard to standardized testing as well as seminar approaches to current issues and problems in educational measurement.

Prerequisite: EDP 667.

EDP 656. Education of Individuals with Exceptionalities. (3)

Advanced analysis of each exceptionality from an educational point of view. Topics include inclusion, inter- and intra-individual differences comprising exceptionalities, issues surrounding identification, classification of individuals, society's responses to exceptional individuals, and societal changes to develop the human potential of all persons.

EDP 660. Practicum in School Psychology Practice. (4; maximum 4)

Supervised practice using a variety of diagnostic/consultative procedures to discover nature and underlying causes of school difficulties and familiarization with current school psychology practice.

Prerequisite: at least 10 hours credit in study of individual psychological tests and approval of instructor.

EDP 662. Social, Emotional, and Behavioral Assessment. (3)

Discussion of normal and abnormal personality with emphasis on personality structure and dynamics of school aged children. Introduction to certain personality measures/techniques and implications for their use are examined.

Prerequisite: permission of instructor.

EDP 666. Educational Consultation, Collaboration, and Community Psychology. (3)

Application of consultation and collaboration processes to the school setting. Utilization of community and school resources in the prevention and resolution of child and adolescent behavior and learning problems. Methods, techniques, and skills in interviewing, consultation, collaboration, and mental health practices.

Prerequisite: graduate standing and approval of the instructor.

EDP 667. Behavioral Statistics I. (3)

Basic concepts of descriptive and inferential statistics. Stresses logical interpretation of results.

EDP 669. Qualitative Research in Educational Psychology. (3)

Offers a case study approach (as opposed to ethnography or action research) to qualitative research consistent with educational psychology research methods.

Prerequisite: graduate standing.

EDP 671. Counseling Theories. (3)

This course explores evidence based counseling theories to help students develop a baseline understanding of therapeutic intervention. Students will be guided through the process of developing their own personal theoretical orientation that will guide their clinical practice. This course will integrate issues of culturally responsive approaches to counseling throughout. Prerequisite: Graduate level standing.

EDP 672. Helping Skills in Mental Health Intervention. (3)

This course will assist you in developing an understanding of mental health intervention through examining individual and group counseling microskills. This course will utilize practical skill building activities to equip students with the knowledge and skills needed to effectively intervene in clinical situations. Students will be guided through the stages of counseling both within a single session and across the span of treatment. This course explores issues of building therapeutic relationships, accurate empathy, treatment planning, culturally responsive approaches to counseling, therapeutic efficacy and crisis prevention, response, and recovery.

Prerequisite: graduate standing.

EDP 677. Independent Studies. (0-6)**EDP 688. Introduction to Data Management and Analysis. (3)**

Introduction to foundational methods and techniques in data preparation, screening, management, analysis, and presentation. Topics include both simple and advanced data preparation and management techniques and strategies, basic statistical analysis procedures, and techniques for presenting meaningful results. There will be a focus on one widely used statistical software package in social science and education along with a brief introduction of other popular statistical packages. This course is designed to prepare students for graduate research projects, theses, and dissertations.

EDP 689. Advanced Data Analysis. (3)

An in-depth study of data analysis to master the strategies, techniques and skills of advanced statistical methods in order to analyze data appropriately. Topics include data management strategies, complex and advanced statistical analyses procedures, and sophisticated techniques for presenting meaningful results. This course will focus on the application of the most widely used statistical software package in social science and education along with a brief introduction of other popular statistical packages. This course is designed to prepare students for graduate research projects, theses, and dissertations as well as authoring professional reports for conference presentations and peer-reviewed journal publication.

Prerequisite: EDP 688 or possess equivalent knowledge and skills.

EDP 690. Seminar in Educational Psychology. (1-3)

Varying topics in educational psychology.

Prerequisite: EDP 601 or permission of instructor.

EDP 695. Supervised Public School Experience for School Psychology Students. (2; maximum 4)

Thirty clock hours of on-site observation/participation per credit hour in public schools at a variety of grade levels, including various cultural/ethnic settings and special education classes.

Prerequisite: permission of instructor.

EDP 700. Research for Master's Thesis. (1-12)

Required for MA program.

Prerequisite: permission of instructor.

EDP 795. Internship for Educational Specialist Degree in School Psychology. (6-7)

Full-time experience with supervision of university faculty and qualified school psychologists in selected school districts.

Prerequisite: completion of all regular courses in the educational specialist curriculum and permission of department chair.

EDP 796. Internship for Educational Specialist Degree in School Psychology. (6-7)

Full-time experience with supervision of university faculty and qualified school psychologists in selected school districts.

Prerequisite: completion of all regular courses in the educational specialist curriculum and permission of department chair.

EDP 800. Specialist Degree. (1-10)

Education, Health and Society (EHS)

EHS 645. Introduction to Qualitative Research Methodologies. (3)

This course is intended as an introduction to qualitative methodologies for masters-level graduate students in the College of Education, Health, and Society. The particular emphasis of this course is on fieldwork or a set of techniques involving firsthand contact between the researcher and those who are the subjects of the research. This includes training in observation, in-depth interviewing, visual and textual analysis, and secondary analysis of qualitative data. NOTE: Because this course is focused on the specialized topic of qualitative methodology, it is assumed that all students will have previously taken a course in basic research methods (e.g. KNH 295, FSW 295, EDL 654, KNH 621). This course is not designed to cover basic research methods.

Prerequisites: EDL 654, KNH 621 or permission of instructor.

EHS 649. Action Research for Educators. (3)

Engages educators in action research as a way to study and improve, through informed decision-making, the dynamics of one's own practice. Culminates with a major action research project.

EHS 667. Behavior Statistics. (3)

The basic concepts of descriptive and inferential statistics are discussed. This course stresses the logical interpretation of results.

EHS 668. Behavior Statistics II. (3)

Advanced concepts of descriptive and inferential statistics are discussed. This course stresses the logical interpretation of results.

EHS 710. Interdisciplinary Doctoral Lab. (1-6; maximum 6)

This course will introduce the student to doctoral study focusing primarily on interdisciplinary and global issues that both cross and connect the domains of the school, family, health, and society. The course will be taught by a team of professors from different academic departments who are qualified to work with the doctoral students and also may include relevant field/research experiences. Topics for the doctoral labs may vary depending on the emphases of the students and the faculty facilitating the labs. Curriculum and faculty for the doctoral lab will be designated and monitored by the Educational Leadership Interdisciplinary Option Doctoral Committee in EHS.

Prerequisite: acceptance into the Educational Leadership interdisciplinary option doctoral program in EDL.

Electrical & Computer Engineering (ECE)

ECE 102. Introduction to Electrical and Computer Engineering. (3)

This course introduces students to electrical and computer engineering. The course focuses on various computing and engineering tools used in the profession. Students will apply these tools to complete homework assignments and labs required throughout the course. This course is open to all majors. Credit will be given for only one of CPB 102, CSE 102, ECE 102, MME 102, CEC 102.

ECE 177. Independent Studies. (0-6)**ECE 205. Electric Circuit Analysis I. (4)**

Study of electric circuits and networks. Includes resistive circuits, first-order transients, sinusoidal steady-state analysis, and frequency response. Emphasis on basic principles and their application to circuit analysis using linear algebra and calculus. Laboratory component included. 3 Lec 1 Lab.

Prerequisite: PHY 192 and (MTH 249 or MTH 251).

ECE 277. Independent Studies. (0-6)**ECE 287. Digital Systems Design. (4)**

Topics include switching algebra and switching functions, logic design of combinational and sequential circuits using TTL, combinational logic design with MSI and LSI, busing, flip-flops, registers, counters, programmable logic devices, memory devices, register-level design, and microcomputer system organization. Students must show competency in the computer-aided design (CAD) and laboratory implementation of digital systems.

3 Lec. 1 Lab.

ECE 289. Computer Organization. (3)

Study of the design and interconnection of digital hardware to create computers. Includes principles of Von Neumann computer architecture, data representation, computer arithmetic, memory hierarchy, CPU structure and instruction sets, assembly language programming, performance considerations and alternative computer architectures.

Prerequisites: ECE 287 and either CSE 174 or CSE 153.

ECE 291. Energy Systems Engineering. (3)

This course studies power producing systems using fossil and renewable energy sources. The components and operations of power producing systems such as hydro, thermal power plant, nuclear reactor, solar panel, wind turbine, and bioreactor are investigated. Economic decisions and societal and environmental consequences of using various energy sources are emphasized.

Prerequisites: PHY 121, 162 or 192 or the instructor's permission.

ECE 301. Advanced Circuits and Fundamentals of Renewable Energy. (3)

This course addresses second order circuits, Laplace transforms, AC power analysis, poly-phase circuits, magnetically coupled circuits, rotating machines, and advanced topics in circuits and renewable energy. The course lectures expose students to the theories and concepts of electrical engineering and apply these concepts to solving problems relevant to real world applications. Prerequisite or co-requisite: MTH 245 or MTH 246 or MTH 347.

Prerequisites: ECE 205.

ECE 302. MATLAB and its engineering applications. (3)

This course will introduce students to MATLAB programming and its applications in engineering problem solving. MATLAB topics include: programming fundamentals, display and visualization, and advanced topics. Mathematical concepts and theories essential to engineering disciplines will be reviewed and used as practice examples. Students will apply programming skills to solve practical problems, such as circuit analysis, mechanical vibrations and structure analysis, radar pulse compression, image processing, fractals, etc.
Prerequisites: PHY 192 and MTH 251, or permission of instructor.

ECE 303. Computer-Aided Experimentation. (3)

Study of theory and application of instrumentation and experimentation including: components and concepts of computer-machine interface systems; design of computer-controlled experimentation for real-time industrial measurement, monitoring, and control; AC power analysis; applications of the Laplace Transform. Laboratory component included.

2 Lec. 1 Lab.

Prerequisite: ECE 205.

Prerequisite or Co-requisite: MTH 245 or MTH 246 or MTH 347.

Cross-listed with MME.

ECE 304. Electronics. (3)

Analysis and design of electronic circuits and subsystems; study of diodes, transistors, and operational amplifier characteristics; amplification, frequency response and feedback in small signal amplifiers; applications of electronic devices and circuits.

2 Lec. 1 Lab.

Prerequisite: ECE 205.

Prerequisite or Co-requisite: MTH 245 or MTH 246 or MTH 347.

ECE 306. Signals and Systems. (3)

Study of the principles of signals and systems. The course combines lectures, simulation laboratory exercises, and/or design projects to expose students to the theories and concepts of both continuous-time and discrete time forms of signals and systems, as well as applications of the theories and concepts in communication systems, control systems, and signal processing.

Prerequisites: ECE 205 or PHY 292/294.

Prerequisite or Co-requisites: MTH 245, MTH 246 or MTH 347.

ECE 314. Elements of Robotics. (3)

Introduction to robotics, including: microprocessor, programming with robotics applications, comparators, ADC, DAC, interfacing circuits, H-bridge, motors, active and passive sensors.

Prerequisites: ECE 205 and (ECE 102 or CEC 102 or CPB 102 or CSE 102 or MME 102).

ECE 317. Industrial Robotics. (3)

This course covers the use of robotics for industrial applications. Topics include: safety measures for robotic systems; standard and collaborative robots; effectors and sensors; analysis of production output, cost and flexibility in designing a robotic system.

Prerequisite: ECE 205.

ECE 325. Applied Electromagnetics. (3)

Theories and applications of electromagnetic fields and waves; including signal integrity engineering, transmission line analysis, computational electro- and magnetostatics, and Maxwell's Equations.

Prerequisite: ECE 205.

Prerequisite or Co-requisite: ECE 306.

ECE 340. Internship. (0-20)**ECE 345. Introduction to Probability, Statistics, and Random Processes. (3)**

Introduces probability, statistics, and random processes. Topics include probability theory, discrete and continuous distributions, sample statistics, central limit theorem, parameter estimation, hypothesis testing, random processes, and application examples.
Prerequisite: MTH 249 or MTH 251 or equivalent.

ECE 370. Intermediate Special Topics. (1-3; maximum 6)

Intermediate special topics in electrical and computer engineering.
Prerequisite: ECE 205.

ECE 377. Independent Studies. (0-6)**ECE 387. Embedded Systems Design. (4)**

Fundamentals of computer systems design. Interfacing and basics of embedded computers (microprocessors). Laboratory projects will require students to successfully design, implement, debug, and document computer solutions requiring a mix of hardware and software. Models and methodologies for designing systems containing hardware and software. Models and methodologies for designing systems containing both hardware and software components, or co-design, will be introduced. Substantial design projects will be required of each student.

3 Lec. 1 Lab.

Prerequisites: ECE 287, CSE 153 or CSE 174.

ECE 388. Introduction to Smartphone Technologies. (3)

This course introduces students to the fundamental elements of smartphone technologies from the following four aspects: communications, hardware architecture, mobile safety and privacy, and operating system (OS) with mobile applications (APPs). Topics include mobile communication techniques and protocols, radio resource management, existing and emerging cellular communication systems, System on a Chip (SoC) Architecture, wireless authentication, location-aware privacy preservation, and APP developments in mobile OS.

Prerequisites: ECE 289 or CSE 278, ECE 345, and MTH 222 or MTH 246.

ECE 395. Undergraduate Research Immersion Project. (1-3; maximum 3)

This course will introduce students to a special topic in an area of science and/or technology. Students will conduct an in-depth research project. Through carrying out the project, students will experience and reflect on the research process, including literature review, information evaluation, problem definition, data analysis, results interpretation, and potentially a peer-reviewed publication. This course is typically offered only for study-abroad or study-away workshops.

Prerequisites: PHY 192 and MTH 251, or permission of instructor.

ECE 411/ECE 511. Sensors and Data Fusion with Robotics Applications. (3)

The course discusses sensing techniques and methods of data fusion for robotics applications. Topics include active and passive sensors, data filtering, deterministic and probabilistic data fusion methods.

Prerequisites: ECE 306 and (ECE 345 or STA 301 or STA 261); or permission of the instructor.

ECE 414/ECE 514. Design and Modeling of Robotic Systems. (3)

The course discusses the process of conceptualization, design, modeling and integration of robotic systems. Robotics Operating System programming and applications will be covered in depth. Students will apply the knowledge to build robotic systems. Prerequisites: ECE314 and (MTH 246 or MTH 245 or MTH 347).

ECE 425/ECE 525. Digital Signal Processing. (3)

This course investigates the relation between continuous-time and discrete-time signals and processing of discrete-time signals. Topics include sampling theory, signal representation, quantization noise, transformation and manipulation of digital signals, digital filter structure and design.

Prerequisite: ECE 306.

Prerequisite or Co-requisite: ECE 345 or STA 301.

ECE 426/ECE 526. Biomedical Signal Analysis and Machine Learning. (3)

The course discusses physiological origin, characterization, modeling, analysis and classification of biomedical signals. Topics include: time-domain and frequency domain processing; noise characterization and mitigation; power spectral estimation; time-frequency analysis; classifications of biomedical signals using machine learning techniques.

Prerequisites: ECE 306, and STA 301 or ECE 345.

ECE 427/ECE 527. Radar Signal Processing. (3)

Principles, theories and techniques of radar signal processing. Including: elements of radar systems; radar equation; sampling and quantization of pulse radar signals; radar waveforms; Doppler processing; target detections; and concepts of synthetic aperture imaging and beamforming.

Prerequisites: ECE 306, and either STA 301 or ECE 345.

ECE 429/ECE 529. Digital Image Processing. (3)

Study of digital image processing techniques, digital image fundamentals, digital image spatial filtering, digital image frequency filtering, image restoration, inverse filtering, Wiener filtering, and color image processing fundamentals.

Prerequisite: ECE 425/ECE 525 or ECE 426/ECE 526.

ECE 430/ECE 530. Electromagnetics in Wireless Sensing and Communications. (3)

Introduces electromagnetic aspects of modern wireless sensing and communications. Covers fundamentals of Electromagnetic (EM) wave propagation in various media, antenna design and wireless system analysis. Hands-on experience with computational modeling and contemporary EM software is provided.

Prerequisite: ECE 325.

Prerequisite or Co-requisite: STA 301 or ECE 345.

ECE 436/ECE 536. Control of Dynamic Systems. (3)

An in-depth study of the theory, design, and analysis of feedback control of dynamic systems. Integrate the problem-solving techniques and concepts of electric circuits and computer-aided experimentation into the design and construction of programmable-logic based control systems and its application in modern manufacturing systems. Design methodologies applied in lab exercises and short-term design projects.

2 Lec. 1 Lab.

Prerequisites: ECE 205 and (MTH 245 or MTH 246 or MTH 347).

Prerequisite or Co-requisite: ECE 303 or MME 303 or ECE 306 or MME 305.

Cross-listed with MME 436/MME 536.

ECE 448. Senior Design Project. (2)

Student teams, with varied academic backgrounds, conduct major open-ended research/design projects. Elements of the design process are considered as well as real-world constraints, such as economic and societal factors, marketability, ergonomics, safety, aesthetics, and ethics; feasibility studies performed. SC.

Prerequisite: ECE 306 or MME 312 or MME 314 or CPB 314 and senior standing in student's major.

Cross-listed with MME.

ECE 449. Senior Design Project. (2)

Continuation of ECE 448. Student teams, with varied academic backgrounds, conduct major open-ended research/design projects; implementation, testing, and production of design. Nonmajors can register for 1-2 credits. SC.

Prerequisite: senior standing in student's major and (MME 448 or ECE 448).

Cross-listed with MME.

ECE 453/ECE 553. Communication Systems. (3)

This course introduces students to basic communication system principles and practice. Topics include modulation, demodulation and multiplexing techniques. System design and performance analysis will also be covered.

Prerequisite: ECE 306 and ECE 345 or STA 301; or permission of the instructor.

ECE 461/ECE 561. Network Performance Analysis. (3)

Modeling and performance analysis of computer and communication networks including delay and occupancy models in networks, architectures, transmission media, multiple access, switching, and protocols. Emphasis is on lower layer network performance.

Prerequisites: ECE 345 or STA 301; or permission of instructor.

ECE 470/ECE 570. Special Topics. (3)

Advanced special topics in electrical and computer engineering.

Prerequisite: Permission of instructor.

ECE 477. Independent Studies. (1-6)**ECE 484. Embedded Systems Design. (3)**

Models and methodologies for designing systems containing both hardware and software components, or co-design, will be introduced. Computer engineering applications are emphasized. Design projects will be required of each student.

2 Lec. 1 Lab.

Prerequisites: ECE 287, CSE 174.

ECE 487/ECE 587. Computer Aided Design Tools for Computer Engineering. (3)

This course focuses on the understanding and creation of tools for design in related applications such as VLSI design, FPGA design, 3D printing, DSP design, and parallel and high-performance computation. This study will include focus on both advanced algorithms and structure/architecture of the target technologies. The course will include at least one major design project that will require students to extend (add features) to an existing software base.

Prerequisite: CSE 274 or ECE 289, or equivalent.

ECE 491/ECE 591. Power Systems Engineering. (3)

Study of electric power generation, utility load flow, fault analysis, system stability, surge protection, and the interconnection of the electrical grid system.

Prerequisite: ECE 301 or ECE 303 or MME 303.

ECE 493/ECE 593. Power Electronics. (3)

This course studies the analysis, design, and application of power electronic circuits. It covers the switching characteristics of power semiconductors, PWM (Pulse Width Modulation) techniques for voltage and frequency control, and the DC to DC, DC to AC, and AC to DC power converters.

Prerequisite: (ECE 301 or ECE/MME 303) and (ECE 304 or (PHY 292 and PHY 294)).

ECE 497/ECE 597. Electric Vehicle Technology. (3)

This course studies the elements of electric vehicles (EV), hybrid electric vehicles (HEV), and plug-in hybrid electric vehicles (PHEV). It focuses on three major components in an electrified powertrain: electric machines, power electronics, and energy storage systems. Additional concepts include vehicle-to-grid (V2G) and using PHEVs as mobile energy storage devices. The laboratory element involves simulation and hardware experiments that introduce these topics. Furthermore, it explores important control concepts that are fundamental when using a digital signal processor (DSP): analog-to-digital conversion, sampling time, and switching frequency of the traction inverter.

Prerequisites: ECE 301 or ECE 304, or graduate standing.

ECE 601. State Variables for Engineers. (3)

This course provides a description of state variable theory as applied to engineering principles covering continuous and discrete systems and transform theory. Various methods to determine the fundamental matrix of a linear system will be investigated. Recommended prerequisites include signals and systems, differential equations, and linear algebra.

ECE 610. Graduate Seminars. (1-3)

Weekly presentations on current research topics in multi-disciplinary areas of electrical and computer engineering, computational science and engineering, and their applications in other disciplines by graduate students, faculty, and visiting scientists and researchers. Research methods, processes, and presentation skills are emphasized. Approved for credit/no-credit grading only. May be repeated.

ECE 625. Advanced Digital Signal Processing. (3)

After taking this class, students should be able to (1) model a stochastic process; (2) apply Wiener and Kalman filtering in different engineering applications; (3) design an adaptive filter with different updating algorithms and apply the adaptive filter in signal processing applications such as modeling and equalization; (4) apply multirate signal processing in engineering applications such as communications; and (5) estimate power spectrum of random signals.

ECE 661. Advanced Optical Network Architectures. (3)

This course covers advanced optical network architectures, algorithms, and protocols. Architectural aspects of the course include wavelength-division-multiplexing and elastic optical networks; optical circuit, burst, and packet switching; and optical data center networks. Algorithms and protocols will cover routing and spectrum allocation, survivable and secure network design, GMPLS-based and software-defined-networking-based control planes, application-based network operation, and statistical modeling of optical networks.

Prerequisite: ECE 461/ECE 561 or permission of instructor.

ECE 670. Advanced Topics in Electrical and Computer Engineering. (1-3; maximum 6)

Advanced topics in electrical and computer engineering. Students may repeat the course if the contents offered are sufficiently different.

Prerequisite: graduate standing and permission of course instructor or coordinator.

ECE 677. Independent Studies. (0-6)**ECE 700. Research for Master's Thesis. (0-9)**

Study under graduate faculty supervision of a research problem related to electrical and computer systems. Maximum of six credit hours of ECE 700 may be applied toward fulfillment of the thesis research requirement for the Master of Science in Computational Science and Engineering.

Prerequisite: permission of student's graduate advisor.

ECE 704. Non-Thesis Project. (0-12; maximum 12)

This repeatable course is for non-thesis culminating experiences. Permission of the instructor is required.

Emerging Technology in Business + Design (IMS)

IMS 101. Introduction to Emerging Technology in Business and Design. (1)

This course provides an overview of all of the areas of specialization within the ETBD program as well as a review of the landscape of emerging media.

IMS 102. Digital Experience Bootcamp. (1; maximum 4)

This one-credit-hour course offers students the opportunity to experience a collaborative project that spans from brainstorming to a deliverable under a compressed timeframe. Offered in concert with Start Up Weekend and Global Game Jam, IMS Experience Bootcamp brings together students, faculty, staff, and experts from the community to engage in rapid iteration and development.

IMS 105. Digital Literacy. (1)

The course provides an overview of the software and hardware upon which nearly all emerging technology is predicated. Material is presented through the medium of a personal computer, but the course comprehends not only local (computer) issues but also issues fundamental to networks.

Prerequisite: Standing as a major in the Emerging Technology degree program.

IMS 109. Digital Ethics. (1)

The course explores the special challenges of behaving ethically in a digital culture and provides a primer toward good online citizenship. Prerequisites: Standing as a major in the Emerging Technology degree program.

IMS 111. Introduction to Game Careers. (1)

In this course, students learn the careers available in game design and development, the basics of games as an academic discipline, and become acquainted with the games faculty and university resources.

IMS 171. Humanities and Technology. (3)

Introduction to methods of thinking used in humanities disciplines (literature, history, philosophy, classics, etc.), computer technologies, and their relationship. Practical skills (web page making; research on the Internet) and analytical skills (how to tell good information from bad) combined with theories about the Information Society. IIB, PA-3B, CAS-B.

Cross-listed with ENG.

IMS 177. Independent Studies. (0-6)**IMS 202. Information Studies and Digital Citizenship. (1)**

Explores what it means to be information literate in today's "post-truth" world. Students will reflect on ethical and legal issues created by the information age and will develop awareness of the power of information and its effect on society. This course prepares students to ask critical questions about technologies and tools they encounter everyday, apply those skills to their own disciplines, and reflect on their own role as knowledge creators.

IMS 203. Applied Digital Humanities. (3)

Explores how digital technologies are transforming scholarly practice. Course is intended for students wishing to explore the use of technology to investigate scholarship in the humanities. Students will collaboratively plan, develop, and create a digital scholarship project over the course of the class. IIB, PA-3B.

IMS 211. Introduction to Game Studies. (3)

Offers an introduction to key historical and contemporary research in game studies and theories of play, with particular attention paid to the digital video game. The course surveys current debates and issues in the field of game studies, introduces various methods for interpreting games, and cultivates a deeper understanding of the importance of games and play in contemporary social, political, and cultural contexts. IIB, PA-3B.

IMS 212. Introduction to Game Design. (3)

This course is an introduction to the many philosophies of game design. Students will learn the core principles of game design, will create games (non-digital) and will learn to iterate and play-test. No previous game design training is required.

IMS 213. Introduction to Game Development. (3)

This course introduces students to the process of developing simple 2D games. It is built around a number of game-development challenges that are selected to develop a basic proficiency in 2D game development while learning basic programming and art principles. To complete the challenges, the students are provided with curated online videos and 1-1 in-class instruction.

IMS 215. 3D Digital Sculpting. (3)

Digital sculpting is an essential part of 3D content creation. This course needs to be a requirement for students in the game program who want to work as an artist creating assets for video games. This course teaches industry standard software and the methodologies that game studios use when producing professional quality 3D assets for video games and other media. The course is project driven, and grades will be based on the visual quality and passion expressed in the work submitted for assignments, ability to follow instructions for submission and their ability to meet deadlines for assignments. Cross-listed with ART.

IMS 218. 3D Shading and Texturing. (3)

In this course, students will learn the workflows necessary to create materials, textures, and shaders for physically based render systems. Students will learn how to edit shaders and materials through the creation and editing of textures in an image-editing program. Students will also be taught the theory behind physically based rendering and how it relates to rendering objects in real time through game engine technology. The course is project driven and grades will be based on the visual quality and passion expressed in the work submitted for assignments, ability to follow instructions for submission, and ability to meet deadlines for assignments. Cross-listed with ART.

IMS 221. Music Technologies. (3)

Introduces students to the fundamentals of music technology in the context of its historical and cultural use. Scientific foundations of acoustics, digital audio, and audio engineering as well as technical skills for music production and notation will be addressed. Participants will learn the skills-based foundations of music technology through hands-on projects. Critical discussion will consider the social impact of contemporary and historical systems of recording, notation, and dissemination. Applications in the fields of interaction design, music entertainment, game design, digital signal processing, electrical engineering, music education, acoustics, and mass communications will be explored. IIA, V, PA-1A, PA-3A. Cross-listed with MUS.

IMS 222. Introduction to Interaction Design and Development. (3)

This course is an opportunity to investigate interactive design and front-end development as it relates to a variety media types. Using industry standard tools, students will learn to design, implement, and refine interactive media for specific audiences. For the purpose of this class, interactive media includes a variety of software and hardware solutions that intersect the domain of human-computer interaction. Effective interactive design is often achieved by the creative application of sometimes disparate disciplines. Students should expect to incorporate their understanding of art theory, psychology, commercial business practice, and creative problem solving. V, PA-1A.

IMS 224. Professional Communication & Digital Rhetoric. (3)

Students will analyze and produce written and oral professional communications with a focus on digital rhetoric and multimediated digital content. ADVW, PA-1C.

Prerequisite: ENG 109 or ENG 111.

Cross-listed with ENG 224.

IMS 225. Games and Learning. (3)

Surveys and assesses the role of gaming within educational research. Topics covered include: games and literacy, designing games for schools, and the learning implications of gaming culture.

IMS 228. Collaborative Laboratory. (3; maximum 6)

The Co-Lab course is designed to enable students to work collaboratively on projects of their choosing while being coached and mentored directly by faculty and industry mentors. This will allow sophomores and juniors to begin using their skills to collaborate on emerging technology to build portfolio pieces that will push the envelope of what's possible.

Prerequisite: IMS 222 and either completion or concurrent enrollment in IMS 322.

IMS 238. Narrative and Digital Technology. (3)

Applies to digital games those notions about narrative structure and character development that have evolved in literature. Students will explore digital art as literary critics, asking whether games are "art" and analyzing how postmodern literary/digital art participates in globalization. Students compose narratives in writing as well as 3D graphics. IIB. PA-3B. CAS-B-Other.
Cross-listed with ENG.

IMS 240. Collaborative Client-based Project. (3-4; maximum 8)

In the context of a study abroad or away program, students will study different development models in a real-world setting and work with a client in business or industry to produce an interactive solution, under the guidance of ETBD faculty and industry mentors. This course particularly focuses on two aspects of the client project: (1) the management of new media development, and (2) the processes that best develop the synergy of an interdisciplinary team working toward a shared goal and the tools of development.

Prerequisites: IMS 222 and either completion of or concurrent enrollment in IMS 322 OR acceptance into an ETBD study abroad or away program.

Co-requisites: IMS 322 or acceptance into an ETBD study abroad or away program.

IMS 253. Building and Designing Interactive Devices. (3)

Building and Designing Interactive Devices is an introduction to Physical Computing for students interested in exploring and building alternative game controllers. Through building simple prototypes, students will learn how to use a variety of switches and sensors, how to build circuits for them, and various ways microcontrollers (like Arduino) can be used with them as well as interface with a variety of computing systems and software. We will prototype using various design lenses including form, function, accessibility, and immersion.

IMS 254. Design Thinking & Design Principles Applied. (3)

An understanding of design thinking & design principles is central to the creation of digital solutions and interfaces. Whether it be the design of a system/organization or the creation of a digital product, a design solution is the result of a multi-disciplinary approach. This approach builds empathy and understanding in order to solve problems for users who are often different from ourselves. The course will also examine the impact that culture has on aesthetic choices such as color, form and spacial relationships as well as the diverse history of design, typography and interaction. No prior design experience required. IIA. PA-3A.

IMS 259. Art and Digital Tools I. (3)

This course builds a solid foundation for making and manipulating digital images and graphics, and for thinking about the cultural nature of visual materials produced with these processes and software tools. Students will critically engage with a variety of related imagery, from fine art to marketing. Technical theory is coupled with projects to provide hands-on mastery of fundamental ideas, techniques, and specific software tools.

Cross-listed with ART.

IMS 277. Independent Studies. (0-6)**IMS 278. Digital Innovation Workshop Preparation. (1; maximum 2)**

Introduction to Digital Innovation is a 1 credit hour preparatory course designed for students that have already been accepted into the Digital Innovation Program. The course will cover program requirements, provide city-specific orientations, and support professional development activities in order to best prepare students for success during the program. To be taken the semester immediately preceding participation in Digital Innovation.

IMS 279. Luxembourg Digital Innovation Workshop Preparation. (1; maximum 2)

Introduction to Digital Innovation is a 1 credit hour preparatory course designed for students that have already been accepted into the Luxembourg Digital Innovation Program. The course will cover program requirements, business and cultural understanding, and professional development activities in order to best prepare students for success during the program. To be taken the semester immediately preceding participation in Lux Digital Innovation.

Prerequisite: Acceptance in Lux Digital Innovation.

IMS 285. Inside the Game Developers Conference. (2; maximum 6)

This Sprint course takes place before and after the San Francisco Game Developers Conference. It helps students to collaboratively prepare for the conference by providing information on the GDC events, creating supporting materials (such as business cards, portfolios, etc.) and setting personal goals. After returning from the conference, students are debriefed and reflect on their experience. (The course does not include admission or lodging. Students are expected to attend GDC by themselves and will be unsupervised during the conference.)

IMS 287. Streaming Media: Twitch.tv and Beyond. (3)

Streaming media has become ubiquitous. In this course, students will learn the mechanics and methods of creating and streaming video.

IMS 304. Electronic Music. (3)

This second-level electronic music class emphasizes composition as well as technical skills. Students further develop skills and knowledge covered in MUS/IMS 221, such as the use of Digital Audio Workstations such as Ableton Live and Reaper, more advanced areas of acoustics, and issues of production, mixing, and mastering. A broad range of styles are covered. Students are granted access to the Miami University Electronic Music Studios.

Prerequisite: MUS/IMS 221 or permission of instructor.

Cross-listed with MUS 304.

IMS 305. 3D Character Design. (3; maximum 6)

In this course, students will create fully realized characters using 3D animation software to be implemented in a game engine. Students will learn a complete workflow for taking a character concept through all stages of a 3D character-creation process. This includes concept art, proper scene setup, 3D modeling, digital sculpting, degrading assets, UV Unwrapping, texture painting, and character rigging, posing, rendering, and importing into a game engine. The course is project driven and grades will be based on the visual quality and passion expressed in the work submitted for assignments, ability to follow instructions for submission, and ability to meet deadlines for assignments.

Prerequisites: ART/IMS 215, ART/IMS 218, and IMS 319 or permission of instructor.

Cross-listed with ART.

IMS 306. Electroacoustic Music. (3)

This second-level electronic music class emphasizes composition and technical skills, with a focus on Electroacoustic music, a term used to describe a broad range of modern classical electronic music. Students further develop skills and knowledge covered in MUS/IMS 221, such as the use of Digital Audio Workstations such as Ableton Live and Reaper, more advanced areas of acoustics, and issues of production, mixing, and mastering. There is a particular focus on synthesis, explored through the use of our analog modular synthesizer and a music programming language called Max/MSP. Students are granted access to the Miami University Electronic Music Studios.

Prerequisites: MUS/IMS 221 or permission of instructor.

Cross-listed with MUS 306.

IMS 308. Audio Recording Techniques. (3)

This course will teach students the steps required to successfully complete a multi-track recording and mixing project. Students will learn microphone techniques, the signal flow of the recording console and patch bay, signal level management, proper creation of headphone (cue) mixes, and other tasks necessary for basic multi-track recording projects.

Prerequisites: MUS/IMS 304 or MUS/IMS 306.

Cross-listed with MUS 308.

IMS 314. Game Usability & Human Factors. (3)

Usability and user experience design are critical to the design and production of games. For most games, however, this has been limited to playtesting. While playtesting is important, it only addresses usability after the point that the game has been developed to the point of actual play. As any game designer will tell you, that's late in the process. This course looks at how to utilize existing UX concepts and testing on games, but the class will also focus on how games are different and why games require specific testing and research techniques.

IMS 317. Writing for Games. (3)

Writing for Games offers students an opportunity to learn the genres and professional standards of writing for games and the gaming industry, including instructions, proposals, design documents, publicity documents, and in-game scripts. ADVW. PA-1C.

Prerequisite: ENG 111.

Cross-listed with ENG.

IMS 319. Foundations in Digital 3-D Modeling and Animation. (3)

Provides knowledge in the underlying concepts and practical skills in the design and development of computer generated 3-D imagery. Examines 3-D modeling; animation, lighting and rendering; character animation; and other related topics.

IMS 322. Intermediate Interaction Design and Development. (3; maximum 6)

This course covers the basic coding patterns and practices present in all programming languages with an emphasis on those languages most common in web and mobile application platforms. It will take students through the fundamentals of algorithm design and then move on to expressing those designs in several popular languages. Because of the focus on web environments, this course will also explore the difference between presentation (such as with HTML) and interactivity (such as with JavaScript). The web and mobile focus will lead to rudimentary discussions on client/server architectures and what content delivery choices are available when a mobile device, such as a smartphone or a tablet, has such strong technical capabilities.

Prerequisite: B- or better in IMS 222.

IMS 333. Digital Innovation and Entrepreneurship. (3)

Focuses on building new interactive/digital ventures, venture capital, and private equity with respect to networking technologies in both existing and emerging industries based on opportunity and assembling the resources required.

IMS 337. Play, Game & Design: The Anthropology of Creativity and Innovation. (3)

Investigates the place of play in human creativity and social life. Draws on ethnography, semiotics and processual theory to explore the relationship of play to ritual, art, and games and gaming. Explores the ways games and design decisions reflect and reproduce cultural categories, including those that create social inequities. Analyzes contemporary "design thinking" and other social and cultural efforts to harness play and creativity. CAS-C.

Cross-listed with ATH 337.

IMS 340. Internship. (0-20)**IMS 351. Introduction to Mobile Application Development. (3; maximum 6)**

Examination of the critical issues related to development of mobile applications; creation of application non-native mobile applications using graphical and script-based programming languages; ethics of mobile applications; mobile media and user interfaces for mobile devices; problem analysis for assessing applicability of mobile solutions.

Prerequisite: IMS 322 or IMS 257.

IMS 354. Intermed Interaction Design. (3)

The synthesis of design principles, usability, and technology is vital to successful interaction design. This course will leverage the exploration of emerging design processes and emerging technology to delve deeper into interaction design. This course challenges students to integrate design principles from a variety of domains to create user interfaces that surprise and delight.

Prerequisites: IMS 254 and IMS 259.

IMS 355. Principles and Practices of Managing Interactive Projects. (3)

Students will prepare themselves for life beyond Miami by learning about leadership, client management, digital project organization, and team work. This course teaches lightweight methods of running an interactive project of any kind, allowing the student to apply what he/she learn through actual project-management and team work. Emphasizing the latest Agile project management techniques, the course teaches how to manage complex interactive media projects using a leadership philosophy that encourages teamwork, self-organization and accountability.

Prerequisites: IMS 228, IMS 413/IMS 513, IMS 418/IMS 518 or IMS 419, IMS 414.

IMS 375. Human Robot Interaction. (3)

This course introduces basic robotic principles including kinematics, robot architecture and control. The historic context of robotics will be discussed. Students research current technical and societal issues related to human robot interaction. Throughout the course, students develop a project to observe a small humanoid robot interacting with people. The project includes the design and implementation of the robotic activity.

Prerequisite: MME/ECE 303 or MME 305 or IMS 322.

Cross-listed with MME.

IMS 377. Independent Studies. (0-6)**IMS 381. Music for Games. (3)**

Music for Games (a) examines the theory and traditions of background or incidental music in various media, (b) discusses how to put theory into practice within game design, and (c) places new music into new games. Students create their own music for their own games or for games of colleagues. Unity is the preferred software platform.

Prerequisite: IMS 221.

Cross-listed with MUS.

IMS 382. The Business of Games. (3)

In this course students will learn the basics of gamification and of marketing games and will learn how to work as an independent developer or start their own games business.

Prerequisite: IMS 211.

IMS 384. Rhetoric of Games. (3)

The study of video games has exploded in the last decade. While the field of "game studies" is still relatively small in academia, when partnered with disciplinary knowledge, the study of the rhetoric of games constitutes some of the most cutting-edge theoretical and practical liberal arts work being done in all of the academy. In this class, students will learn to apply rhetorical thinking and disciplinary knowledge to the study of games. A particular focus will be placed on cultural (race and gender) rhetorics as related to games and gaming. IC. PA-4B.

Prerequisite: IMS 211.

IMS 390. Special Topics in Interactive Media Studies. (3; maximum 9)

This course offers a rotating series of topics to meet the changing needs and interest of students and faculty, specifically focusing on the varying applications and theories of interactive media. Though designed for those who live in a world of digital media, this course does not teach mechanical skills (PowerPoint, Fireworks, Flash, or Photoshop).

IMS 390C. Special Topics in Interactive Media Studies. (3)

This course offers a rotating series of topics to meet the changing needs and interest of students and faculty, specifically focusing on the varying applications and theories of interactive media.

IMS 391. 3D Character Animation. (3)

Introduction to 3D character animation and motion capture, with a strong emphasis on the principles of animation. The course examines how to design a good character, in a general sense, and how to express personality through motion. The course also covers related topics such as creating video-game animation clips and designing game-engine character controllers. A working knowledge of 3D modeling and animation is required.

Prerequisite: IMS 319.

IMS 392. Content Marketing. (3)

Content marketing is a profession, a central marketing strategy in contemporary business. Students acquire proficiency in the creation and distribution of digital media (e.g., blogs, videos, social media posts) to promote brand interest and awareness while providing value to users.

Cross-listed with MKT 392.

IMS 396. Inside Startups. (3; maximum 6)

This course is designed to provide students an inside look at some of the most successful startup companies in regional startup ecosystems. It provides a hands-on approach to investigating successful business models. The course is structured around company visits, guest lectures, and company research.

Prerequisite: IMS 278.

IMS 397. Inside the Startup Environment (SF). (3; maximum 6)

This course is designed to provide students an inside look at some of the most successful startup companies in regional startup ecosystems in San Francisco. It provides a hands-on approach to investigating successful business models. The course is structured around company visits, guest lectures, and company research. IIIB. PA-4C.

Prerequisite: IMS 278.

IMS 398. Startup Networking. (1; maximum 2)

Professional Networking is designed to complement the internship required in the Digital Innovation Program. Within this course, students will develop relationships with industry experts, build a network of professional contacts, and increase their exposure to the startup ecosystem in their respective cities.

Prerequisite: IMS 278.

IMS 407/IMS 507. Interactive Business Communication. (3)

Writing and communicating effectively within business contexts, with an emphasis on researching, reporting, proposing, and maintaining relationships using digitally networked interactive technologies.

Cross-listed with ENG.

IMS 411/IMS 511. Visual Rhetoric. (3)

Provides an introduction to the theory and techniques of visual rhetoric used by professional communicators. Covers elements of layout, design, and typography, giving students practice with short and longer print texts and non-print media.

Cross-listed with ENG.

IMS 413/IMS 513. User Experience Research. (3)

We will explore and discuss important concepts in human-computer interaction (HCI) theory and usability, and learn about cutting-edge technologies used to measure the effectiveness of digital media environment design. In so doing, we will pay particular attention to user expectations and how they drive user behavior. The major focus of the course assignments is designing and managing a usability study then reporting on the results of that study.

IMS 414. Web and Social Media Analytics. (3)

Examines and develops analytical ability with respect to the variety of information provided by web and social media behaviors. Students will learn about the mechanisms for observing behavioral and consumer generated information and the leading-edge technologies that aid in the collection and analysis of these data. We will focus on strategic and practical ways to provide radical personalization, improve consumer relationships, and develop effective and value-driven online marketing activities.

IMS 415/IMS 515. Advanced Usability and User Experience. (3)

This course is the second in a sequence (IMS 413/IMS 513 is the first) focusing on the study of user experience research and design. In this class, students work with a real client to evaluate and redesign an existing interface. As part of this engagement, students are assigned to small groups. They have client contact and consider and carry out the user experience research methodologies (including eye tracking and facial expression analysis) that will be most helpful to their client. After analyzing the data, teams then decide on an interactive design approach to take and work through the steps to build wireframes and a clickable prototype. Finally, they prepare a written recommendations report and client presentation. There is no coding involved.

Prerequisite: IMS 413/IMS 513.

IMS 416/IMS 516. Writing for Global Audiences. (3)

This course focuses on how to write effectively in print and digital media for global audiences. Students will research cross-cultural written communication, including networked communication, and they will develop intercultural literacy skills necessary for writing to global audiences. Through frequent writing assignments, students will learn and enact the theories and strategies for targeting print and digital communications to international and culturally diverse audiences.

Cross-listed with ENG.

IMS 418/IMS 518. Social Media Marketing and Online Community Management. (3)

Traditional advertising and marketing models are being increasingly challenged by a world in which content creation, transmission, and aggregation are being decentralized. Markets are now conversations - some very short. Social media are living conversations that present marketers with the challenge of how to understand and participate in those conversations in an authentic and value-based manner. Moreover, these conversations don't happen in a vacuum. The connected nature of different social (and physical) relationships define a community of interest. The community manager uses this entire space to help bring value to this community. This class examines the variety and taxonomy of social media and the strategies and tactics associated with social media marketing and community management.

Cross-listed with MKT 418.

IMS 419. Digital Branding. (3)

Survey course emphasizing a hands-on immersion into ECommerce; studies the impact this technology has on the basics of the marketing mix and effective and efficient marketing strategies. Focuses on applications, innovations, and future direction (not on the technology that enables the Internet and www). Heavy reading, electronic and in-class discussions, and 'surfing' required (recommended prerequisite: MKT 291).

Cross-listed with MKT.

IMS 421. Digital Product Management. (3)

Digital Product management can be defined as the general business structure within a company that supports and manages all the activities related to developing, marketing and selling a product - or even more than one - all through its lifecycle. Managing a product encompasses everything related to a specific product, from creating a concept and studying the targeted audience to developing, producing and marketing it (and providing customer support afterward).

Prerequisites: IMS 228, IMS 413/IMS 513, IMS 414 and IMS 418/IMS 518 or IMS 419.

IMS 422/IMS 522. Advanced Interaction Design and Development. (3)

This course is an opportunity to investigate interactive design as it relates to a variety of media types used by businesses. Using industry-standard measures of effective design methods, students will learn to design and evaluate interactive products for business needs. This includes the design and evaluation of websites, games, kiosk systems, and others. Topics include the use of standard interaction (e.g., mouse, touch screens) but also extend into emerging interaction through eye tracking, computer vision, and haptic interface. Effective interactive design is often achieved by the creative application of sometimes disparate disciplines. Students should expect to incorporate their understanding of art theory, psychology, commercial business practice, and creative problem solving.

Prerequisites: IMS 257/IMS 322 or a working knowledge of HTML/CSS/JavaScript; or by permission of instructor.

IMS 424/IMS 524. Ethics and Digital Media. (3)

Students will focus on key ethical issues related to online writing, communication, and visual design. Course will introduce key ethical principles, including principles of rhetoric, communication, and design ethics, as well as key principles of professional ethics as articulated in fields like professional writing, technical communication, and graphic design. Topics include intellectual property, access and universal design, privacy and surveillance, visual representation and manipulation, global communication and cultural difference, economic issues of justice and equity, and professional rhetorics.

Cross-listed with ENG/JRN.

IMS 426/IMS 526. Developing & Publishing Digital Books. (3)

Digital Publishing offers students opportunities to design, edit, and distribute electronic books. Students will learn theories and processes for digital publishing and work with a number of tools and platforms. They will also learn the genres, standards, and literacies required for web-based and ebook production. Students will gain real-world, client-based experience by assisting a non-profit academic press with the development of new ebooks and the digitization of earlier titles.

Cross-listed with ENG.

IMS 430/IMS 530. Motion Design Toolkit. (3)

Students will learn keyframe-based motion design, generative/parametric-based motion design as well as an introduction to 3D animation. Students will apply these skills to create standard graphic animations and generative content and to use non-traditional delivery formats like VR and projection mapping.

Prerequisite: IMS 259 or permission of instructor.

IMS 431/IMS 531. Creative Direction in Entertainment Design. (3)

Students will learn to lead and manage the conceptualization and execution of immersive entertainment design projects.

Prerequisite: IMS 430/IMS 530 or permission of instructor.

IMS 432/IMS 532. Invention, Innovation and Implementation in Entertainment Design. (3)

An introduction to entertainment design and a survey of the discipline; basic technologies, design principles, and career opportunities are explored. The course focuses on the implementation of entertainment design principles at Walt Disney World.

IMS 440/IMS 540. Emerging Technology Practicum. (3-4; maximum 8)

Examines the tools and methodologies involved in creating and managing the production of new media. Students will study different development models in a real-world setting and work with a client in business or industry to produce an interactive solution. This course particularly focuses on two aspects of the client project: (1) the management of new media development, and (2) the processes that best develop the synergy of an interdisciplinary team working toward a shared goal and the tools of development. It will also emphasize project planning and management. While it may be the case that programmers need to know coding and graphic designers need to know vector graphics, the successful manager will know something about all of these tools, about how they work together, and about how to specialize in one of them. SC.

Prerequisites: (IMS 355 or IMS 421) and (IMS 422/IMS 522 or IMS 351 or CSE 252).

IMS 443. Research Methods in Games. (3)

Research in the games space is different than in some other spaces. Major issues change. For example, what are the ethics of treating an avatar vs. treating a person? When observing a gamer playing, are you observing the on-screen activity, the human holding the interface device, or both? The goal of this course is to explore and better understand these issues.

IMS 445. Advanced Game Design. (3)

Develops theoretical foundations, methods, and skills in building complete games. Focuses are placed in particular on the understanding of how design influences gameplay and mechanics. Prerequisites: IMS 211, IMS 212, and IMS 213.

IMS 452. Senior Degree Project. (3)

Independent interactive media research project, to be completed in the final year of IMS coursework. This project provides an opportunity for the student to synthesize various strands of their academic work, professional experiences, and knowledge into a work that should stand as a demonstration of the student's accumulated skills and critical perspective. IC. SC.

Prerequisite: IMS 257 or IMS 322 and IMS 228.

IMS 453. Indie Game Development I. (3; maximum 6)

All IMS students with a games focus must complete an independent project in which they create and publish a finished game (on an online distribution platform). This project provides an opportunity for the student to synthesize various strands of their academic work, professional experience, and design knowledge. Furthermore, it requires the student to develop the ability to scope their projects realistically and see them through within a strict time budget. This is the first of a two-course sequence.

Prerequisite: IMS 211, IMS 212, and either IMS 213 or CSE 251.

IMS 454. Indie Game Development II. (3; maximum 6)

All IMS students with a games focus must complete an independent project in which they create and publish a finished game (on an online distribution platform). This project provides an opportunity for the student to synthesize various strands of their academic work, professional experience, and design knowledge. Furthermore, it requires the student to develop the ability to scope their projects realistically and see them through within a strict time budget. This is the second of a two-course sequence.

Prerequisite: IMS 453.

IMS 461/IMS 561. Virtual Reality. (3)

Advanced course in Virtual Reality, 360-degree video, 3D simulations, motion tracking, and 3D data visualization. Provides background, theory, and practice in creating virtual reality simulations, games, training applications, and 3D visualizations. Prior experience with Game engines is strongly recommended (e.g., CSE 251 or IMS 466). Prerequisites: CSE 251 or CSE 487 or IMS 465 or permission by instructor.

IMS 465. Game Engine Scripting. (3)

This is an advanced game development course meant to build on the introductory game engine groundwork laid by the coding and game development courses students must take as prerequisites. Students will design and code a short series of game prototypes using a commercial-level game engine, increasing proficiency in navigating the engine tools and speed in which they are able to prototype and iterate on game mechanics and design. Guidance and constraints will be provided to keep projects within a reasonable scope. Students are expected to put a great deal of effort into learning how to debug problems and understand engine features while being provided guidance, not answers, by the professor. The goal of this course is to increase student comfort with professional game engine tools and prepare students to learn (and self-teach) increasing advanced features based on their development interests.

Prerequisite: IMS 213 and CSE 251.

IMS 466. Critical Game Development. (3; maximum 6)

It often takes an entire collegiate career for a student to develop their first finished game. This course aims to change this by letting students develop a short game (by themselves or with friends who are also taking the class). The course starts with the development of a game design that has a realistic scope. Afterwards, the students get to use their class time to work, discuss the games, playtest them, and tackle development problems as a group, all under the guidance of an experienced game design professor. The students are expected to invest a minimum of 100 hours into developing this game (which will be divided between home work and in-class time). The goal of the course is for to develop a short game that is publishable on an indie gaming website, such as Itch.io, Game Jolt, Desura, and that can be submitted to design competitions.

Prerequisite: IMS 212, IMS 445 or IMS 487/IMS 587.

IMS 470/IMS 570. Introduction to Esports. (2)

This course introduces students to the taxonomy and structure of videogames that are played as esports. It also outlines the history of the sport, the full ecosystem of the sport, and the present state of the sport.

IMS 471/IMS 571. Esports Broadcasting. (2)

This course provides a structural understanding of the broadcast of esports as well as best practices for broadcasting. The course examines business models, media right, and legal issues in streaming. Students will also learn about hardware and technology used in streaming as well as production and strategic decisions the successful streamers employ.

IMS 472/IMS 572. Esports Event Management. (2)

This course introduces the world of esports event management, also known as TO (tournament organization.) Students will learn how to promote, recruit, research, and run an esports event. Students will learn customer relationships, sponsorship, promotion, and venue logistics.

IMS 473/IMS 573. The Business of Esports. (2)

This course is an in-depth and advanced study of the business and management aspects of esports. This course, team-taught with Miami Faculty and a practitioner from the world of esports, provides an deep understanding of esports logistics, legal considerations, business models, finance, and project management.

Prerequisites: IMS 470/IMS 570, IMS 471/IMS 571, and IMS 472/IMS 572.

IMS 474/IMS 574. Special Topics in Esports. (2)

This course varies in content each time it is offered and is meant to explore timely and significant topics in the world of esports.

Prerequisites: IMS 470/IMS 570, IMS 471/IMS 571, and IMS 472/IMS 572.

IMS 475/IMS 575. Esports Brand Management. (2)

This course is an in-depth and advanced study of marketing and promotion in esports. This course provides an deep understanding of brand management, social media marketing, pr/journalism, sponsorship, and community management in esports.

Prerequisites: IMS 470/IMS 570, IMS 471/IMS 571, and IMS 472/IMS 572.

IMS 476/IMS 576. Esports Event Practicum. (2; maximum 4)

This course is the practicum where students will manage and run a full-scale professional esports tournament sponsored by one of Miami's event partners.

Prerequisites: IMS 470/IMS 570, IMS 471/IMS 571, and IMS 472/IMS 572.

IMS 477. Independent Studies. (0-6)**IMS 478/IMS 578. Esports Ecosystems. (1)**

This one-credit-hour course prepares students for IMS 476/IMS 576, the first esports event practicum. It is an overview of the structure of the practicum, the event, and their role in it, as well as an overview of the events industry ecosystem.

Prerequisites: IMS 470/IMS 570, IMS 471/IMS 571, and IMS 472/IMS 572.

IMS 480/IMS 580. Esports Tournament Ecosystems. (1)

This course provides an overview of esports tournament ecosystems to prepare students for the practicum, where they will be working an actual tournament. This one hour course has guest speakers from the esports tournament space who will provide the landscape of all the organization, structure, timing, and promotional considerations for live esports events.

Prerequisites: IMS 470/IMS 570, IMS 471/IMS 571, IMS 472/IMS 572.

IMS 485/IMS 585. Technology Entrepreneurship Ecosystems. (1)

This one-hour course, tied to the Bootcamp course in the graduate program in emerging media and entrepreneurship is an introduction to the tech startup space for a specific geography. While this course is traditionally in San Francisco, it may also be in other startup hubs. The course helps students understand how startup, funders, founders, employees, government and geography help define unique startup ecosystems such as the Bay Area.

IMS 486. Advanced Digital Marketing. (3)

This course builds on IMS 418/IMS 518 and 419, which provide the strategic and theoretical framework to support state-of-the-art digital tactics. The tactics taught in this course would vary each semester, as the frontiers of digital marketing are always moving.

Prerequisites: IMS/MKT 418 and IMS/MKT 419/MKT 519.

IMS 487/IMS 587. Game Prototyping, Pipeline and Production. (3)

In this course, students will be introduced to skills, concepts, and competencies that deal with video game pipeline production. This course serves as a precursor to IMS 488. Students will not only develop as individual artists, programmers, and designers, but will learn how to thrive in an interdisciplinary team to create video games. Students will work on original, small-scope, small-team projects that will culminate into playable prototypes of a real-time interactive experience. Strategies for working proactively on a development team will be introduced and applied.

Prerequisites: IMS 445 and IMS 465.

IMS 488. Game Preproduction. (3)

In this course, students will bring together everything they learned during the program and start preproduction for a digital game that they will develop and (independently) publish in the games capstone production class. They learn skills, concepts and competencies that deal with the video game production pipeline. The goal of the course is to finalize the game concept, to complete tech demos, to finish concept art, and to deliver a production plan. As the students work in a team format in which they are assigned a role that corresponds to the role that they seek to take on in the industry after graduating, the deliverables for each student differ based on their role. Programmers will develop tech demos, artists will develop concept art, designers write technical documents, etc. Unique, interesting or unorthodox ideas are encouraged. SC.

Prerequisites: IMS 487/IMS 587.

IMS 489. Game Production. (6)

This course follows IMS 488. In this course, students move from pre-production for their capstone game into the production phase. At the end of this course, the game is intended to be completely functional and ready for distribution. SC.

Prerequisite: IMS 488.

IMS 490/IMS 590. Advanced Topics in Interactive Media Studies. (3; maximum 6)

This course complements IMS 390, the IMS "Special Topics" course. This course is taught by various faculty about topics that may be timely, unique, or experimental and are not covered by the permanent curriculum. This course may be a test bed for a future permanent course or it may be a one-time exploration of a topic. Topics vary each time the course is taught. Look for a notation in the course listing that provides additional detail about which special topic is being covered at the advanced level.

IMS 491/IMS 591. Tech Startup Bootcamp. (2)

This course is an all-day, week-long, deep dive into the business side of technology startups, providing a track/expertise in the ET graduate programs. This course is designed to provide expertise and depth to aid in an internship or future job search.

IMS 492/IMS 592. Startup Development Bootcamp. (2)

This course is an all-day, week-long, deep dive into the programming and development side of technology startups, providing a track/expertise in the ET graduate programs. This course is designed to provide expertise and depth to aid in an internship or future job search.

IMS 493/IMS 593. Startup Design Bootcamp. (2)

This course is an all-day, week-long, deep dive into the design side of technology startups, providing a track/expertise in the ET graduate programs. This course is designed to provide expertise and depth to aid in an internship or future job search.

IMS 496. KICKGLASS Digital Marketing. (4)

The experiential learning course will provide students with hands-on experience at activating human-centered marketing in a digital ecosystem. The course will be delivered in three stages that mirror the stages of skill acquisition - Prepare, Practice, and Perform. In the Prepare stage, students will learn how to: (1) identify and mitigate bias (2) develop empathy across difference, and (3) activate human-centered digital marketing. Students will complete an Inter-Group Dialogues certification program facilitated by the Center for American and World Cultures. During the Practice stage, students will apply human-centered marketing concepts in a collaborative experiential learning context. In the Perform stage, student teams compete in the KICKGLASS Digital Marketing Challenge, providing solutions to a real-world challenge by a client company or organization. EL.

Prerequisite: IMS 486.

IMS 617. Interactive Web Programming. (3)

This course covers the basic coding patterns and practices present in most prevalent programming languages in web application platforms. It will take students through the fundamentals of the semantics, syntax, and algorithms of the languages, and then move on to expressing the knowledge in developing applications. This course will explore the difference between structure, presentation, and behavior. It also will examine client-side, server-side, and mobile programming and their computing environments.

IMS 640. Internship. (0-12; maximum 6)**IMS 652. Graduate Research Project. (3)**

This course is the culminating experience in the IMS/ESP graduate program. Students will propose a new product/venture/service that meets a need identified in their internship. Once approved, they will conduct research, propose a solution (as an entrepreneurial "pitch"), build a solution, and test the efficacy of the solution. This will require the student to demonstrate mastery of the learning objectives of the degree.

IMS 677. Independent Studies. (0-6)

Engineering & Computing (CEC)

CEC 101. Computing, Engineering & Society. (1)

This course is designed for first-year students with majors in the College of Engineering and Computing. Its goal is to facilitate student transition to college by introducing key information, resources, and skills needed to succeed. It will also introduce students to the curriculum and fields in engineering and computing and provide opportunities to connect with faculty, staff, and other students. This course facilitates opportunities for open discussion and individual advising; addresses issues including information literacy, academic integrity, personal responsibility and career development; and identifies key campus resources to enhance academic success.

CEC 102. Problem Solving and Design. (3)

This course introduces an approach to problem solving for engineering students. The students will learn systematic approaches to problem solving. Topics covered include: problem identification, requirement analysis, research on existing and alternative solutions, and quantitative analysis of solutions, synthesis and evaluation of data, prototyping, and testing. Students will also develop their oral and written communication skills as well as team work skills. Credit will be given for only one of CPB 102, CSE 102, ECE 102, MME 102, CEC 102.

CEC 111. Imagination, Ingenuity and Impact I. (2)

This course is for first-year students interested in exploring engineering and computing. Students engage in hands-on, interdisciplinary design that addresses societal and environmental challenges. Students work in teams to design innovative solutions and develop communications skills. The course facilitates student transition to college by introducing key information, resources, and skills needed to succeed. It addresses issues including information literacy, academic integrity, personal responsibility and career development; and identifies key campus resources to enhance academic success. SI-02, SI-03.

CEC 112. Imagination, Ingenuity, and Impact II. (2)

Students engage in hands-on interdisciplinary design that addresses societal and environmental challenges. Students work in teams to apply design thinking principles and computing to solve open-ended problems related to socio-environmental issues. Students acquire computational and engineering skills and develop their communication abilities. SI-01, SI-03.

CEC 130. Special Topics and Student Projects I. (1-3; maximum 6)

Introductory level course focused on a special topic and/or interdisciplinary student project.

Cross-listed with ESP.

CEC 140. Grand Challenge Scholars Experience. (1; maximum 6)

This course is restricted to students in the Grand Challenge Scholars Program (GCSP). It will ensure that students meet particular GCSP requirements such as submission of progress reports, submission of reflections, participation in the Grand Challenge Scholar in Residence program, and participation in the peer mentor program. Students are required to enroll in this course each semester (fall and spring) that they participate in the GCSP with a minimum of three semesters of participation.

Prerequisite: Admission to the Grand Challenge Scholars Program.

CEC 150. CEC Scholars Seminar. (0)

This seminar for Engineering and Computing Scholars will bring in weekly guest speakers from across Miami to introduce the Scholars to valuable people, centers, and opportunities. It will also help the students build a core community for future networking.

CEC 177. Independent Studies. (0-6)**CEC 205. Agile Launchpad I. (3)**

Agile is a term for a set of values, principles, and practices that have been shown to improve the efficiency, productivity, and quality of software development and delivery. The key objectives are to deliver working software that meets the needs of a customer while mitigating risk in the development process. This set of courses addresses the theory and practice of Agile in the context of globally dispersed teams. Students will learn and apply the values, principles, and practices of Agile while working in multi-disciplinary international teams. The course includes a significant practicum experience in which students collaborate with developers in other countries such as Australia, India, or China to develop working software using the Agile approach. Students will need to collaborate across time zones, cultural differences, and communication barriers.

Cross-listed with CIT 205.

CEC 222. Socio-Environmental Responsibility in Engineering and Computing. (3)

Students explore the first two phases of the design thinking process -- empathizing with a community and defining a problem -- by engaging with a local community and actively listening to community stakeholders. Students practice civic engagement and service to others by proposing an engineering and/or computing design solution to the identified problem. The design solution is required to take into account interdisciplinary research and multiple considerations, including societal, environmental, cultural, historical, ethical, and economic factors. Students reflect on their experience with the early steps of the design thinking process and present their initial design. Students analyze and facilitate discussions on interdisciplinary readings and case studies exemplifying existing solutions and their impact on communities. SI-01, SI-02.

CEC 230. Special Topics and Student Projects II. (1-3; maximum 6)

Fundamental activities in the research and implementation of a special topic and/or interdisciplinary student project.

Prerequisite: permission of instructor.

Cross-listed with ESP.

CEC 255. CEC Preparation - Study Abroad. (2; maximum 4)

The purpose of this course is to prepare students for an international cultural immersion experience where they will work on projects that are appropriate to the culture and communities of the host country. This seminar will introduce students to the country and its cultural basics, provide an overview of logistical details, living conditions, and other country-specific information. Students will research possible projects focusing on planning, technical constraints, and accessing appropriate resources. Topics concerning goals for working with communities in other countries and effective strategies will also be included. Intercultural competence will be discussed and students will identify areas for improvement.

Prerequisite: Permission of instructor.

CEC 258. Reflection on CEC Study Abroad Projects. (1; maximum 2)

This seminar will provide a review and reflection on the cultural immersion and project experience in an international setting. Students will evaluate the effectiveness of project work done in the host country and the cultural impact on their project designs, solutions, and implementations. Students will re-assess their Intercultural competence and evaluate the results in the context of the study abroad experience.

Prerequisite: CEC 255.

CEC 266. Globalization and Engineering in Heavy Metal Music. (3)

This course addresses the linkages among heavy metal music, global culture and engineering developments. Heavy metal is a truly global popular music with major impacts from Europe, Asia, the Americas and beyond. Advances in various technologies have extensively influenced heavy metal, enabling some of its most defining characteristics. This course explores the interplays of technology, music and culture by integrating the powerful history of metal with an overview of the engineering impacts. Students will engage in demonstrations and discussions of the musical breadth along with the engineering technologies. IC, IIIB. PA-4C.

CEC 277. Independent Studies. (0-6)**CEC 291. Personal Leadership I. (2)**

The 200 level courses are designed for the CEC Leadership Institute sophomore cohort. They introduce the various dimensions of personal leadership to assist students in understanding the traits for becoming a better leader in their professional and personal lives. These courses span an academic year and serve as a dynamic, integrative and practical introduction to a leadership development program. Students will explore emotional intelligence, teamwork, crucial conversations and group dynamics. The activities in these courses will help students define individual personality preferences, strengths and areas of development and understand how to utilize the self-awareness to become more effective leaders. With the guidance of advisors, students will create their individual leadership plans. Students will also interact with a variety of executives and professionals from diverse industries.

CEC 292. Personal Leadership II. (2)

Continuation of CEC 291.

Prerequisite: CEC 291.

CEC 330. Special Topics and Student Projects III. (1-3; maximum 6)

Intermediate-level activities in the research, management and implementation of a special topic or project in engineering and computing with a focus on innovation.

Prerequisite: CEC 230.

CEC 340. Internship. (0-20)**CEC 377. Independent Studies. (0-6)****CEC 391. People Leadership I. (2)**

The 300 level courses are designed for the CEC Leadership Institute junior cohort. They focus on various dimensions of leading others, and assist students in becoming better leaders in their professional and personal lives. These courses span the second year of a dynamic, integrative and practical leadership development program. Students will explore creativity (brainstorming, creative conflict, storyboarding), negotiation, listening and speaking skills, conducting meetings, diversity (cultural, gender, age awareness), how others perceive them (360 reviews), and related topics. Students will continue to implement and revise their personal leadership development plans created in the first year, and deepen their relationships with executive mentors and peers.

Prerequisite: CEC 292.

CEC 392. People Leadership II. (2)

Continuation of CEC 391.

Prerequisite: CEC 391.

CEC 460. Special Topics in Engineering and Computing. (1-3; maximum 6)

Topics in engineering and/or computing beyond the technical requirements of a major. These topics and activities may be of an interdisciplinary nature, not restricted to a specific department.

CEC 477. Independent Studies. (0-6)**CEC 491. Strategic Leadership I. (1-2; maximum 2)**

The 400 level courses are designed for the CEC Leadership Institute senior cohort. These courses span the third and final year of a dynamic, integrative and practical leadership development program and focus on various dimensions of strategic leadership and the transition from college to future careers. Topics to be explored include strategic planning, customer focus, decision analysis, ethics/values, global and diversity perspectives, innovation, and the language of business.

Prerequisite: CEC 392.

CEC 492. Strategic Leadership II. (1-2; maximum 2)

Engineering Management (EGM)

EGM 177. Independent Studies. (0-6)**EGM 277. Independent Studies. (0-6)****EGM 377. Independent Studies. (0-6)****EGM 411/EGM 511. Leading and Managing Projects. (3)**

Addresses fundamental aspects of leading and managing complex projects including: organizational leadership, strategic planning and project selection, project life cycle planning, estimating project schedule and cost, planning, organizing, directing and monitoring resources, analyzing and managing risk, team building and conflict management, assessing progress and performance, project audit and closure, and related topics.

Prerequisites: STA 301, ECE 345, ISA 205, or STA 261; or equivalent.

EGM 477. Independent Studies. (0-6)

Engineering Technology (ENT)

ENT 135. Computer-Aided Drafting. (3)

Study of drafting as the graphic language of industry and application of computer-aided technology to two and three-dimensional engineering drawings. Microcomputers are used.

1 Lec. 2 Lab.

ENT 137. Introduction to Engineering Technology. (1)

An introductory course for students entering Engineering Technology. This course covers broad elementary engineering concepts to include a definition of engineering technology, the distinction between the various areas of focus in engineering technology, introduction to engineering "terminology," and a survey of current issues (problems, research efforts, recent developments, etc.) in the engineering field.

Prerequisite: high school algebra.

ENT 151. Engineering Materials. (3)

Study of basic engineering materials; metals, plastics, ceramics, and composites. Structure, properties, and applications emphasized. (Mechanical technology).

2 Lec. 1 Lab.

Prerequisite: two years of high school algebra.

ENT 152. Computer-Aided Manufacturing I. (3)

Introduction to manufacturing processes and the use of the computer as a tool in those processes. Students introduced to computer numerical control programming, statistical process and control, and topics related to automated factory. (Mechanical technology).

2 Lec. 1 Lab.

Prerequisite: two years of high school algebra.

Co-requisite: MTH 125 or MTH 124.

ENT 177. Independent Studies. (0-6)**ENT 192. Circuit Analysis I. (3)**

A detailed study of d-c electric circuits and related bilateral devices. Conventional and computer circuit analysis will be used.

Prerequisite: high school algebra.

ENT 193. Circuit Analysis II. (3)

A detailed study of analog a-c electric networks, including resistive, reactive, and combinational thereof. Analysis techniques include conventional and computerized modeling methodology. (Electrical technology)

2 Lec. 1 Lab.

Prerequisite: ENT 192, MTH 125.

ENT 196. Electronics. (3)

Detailed study of analog electronic circuits and devices. Emphasis placed on operating parameters of linear (analog) circuits; techniques of circuit analysis applied as an integral part of the course. Use of computerized data analysis encouraged. (Electrical technology).

2 Lec. 1 Lab.

Prerequisite: ENT 193.

ENT 202. Special Problems. (0.5-3; maximum 3)

Intensive concentration of a problem or set of problems in an approved area of study in technology to be determined in consultation with instructor. May be used as an elective for ENT associate's degree programs.

Prerequisite: sophomore standing and departmental approval.

ENT 235. Computer-Aided Design. (3)

Computerized graphic design study of industrial related engineering problems with emphasis on three-dimensional data base. Laboratory portion uses microcomputers. (Mechanical Technology)

2 Lec. 1 Lab.

Prerequisite: ENT 135, MTH 125 or MTH 124.

ENT 252. Computer-Aided Manufacturing II. (3)

Covers topics related to the automated factory including: computer numerical control and computer-assisted part programming, distributive numerical control (DNC), computer-assisted process planning, flexible manufacturing systems, and robotics. (Mechanical technology).

2 Lec. 1 Lab.

Prerequisite: ENT 152, CSE 153, 163, or equivalent recommended.

ENT 271. Mechanics I: Statics. (3)

Introduction to the application of the equations of equilibrium to the solution of two- and three-dimensional problems involving rigid body structures and machines. Concept of friction and mechanical work introduced.

Prerequisite: A grade of C or better in MTH 125 or MTH 124; this course must be taken for a grade, it may not be taken on a credit/no-credit basis.

Co-requisite: PHY 161 or equivalent recommended.

ENT 272. Mechanics II: Strength of Materials. (3)

Elastic relationships between external forces acting on deformable bodies and resulting stresses and deformations are studied. Industrial applications of these relationships to the solution of engineering design problems are emphasized. (Mechanical technology).

2 Lec. 1 Lab.

Prerequisite: A grade of C or better in ENT 271; this course must be taken for a grade, it may not be taken on a credit/no-credit basis.

ENT 277. Independent Studies. (0-6)**ENT 278. Mechanics III: Analysis of Machine Components. (3)**

Introduction to the use of statics and strength of materials to the analysis of individual machine components. Application of these principles to overall machine analysis presented. (Mechanical technology).

2 Lec. 1 Lab.

Prerequisite: A grade of C or better in ENT 272; this course must be taken for a grade, it may not be taken on a credit/no-credit basis.

ENT 291. Industrial Electronics. (3)

A study of the basic components and systems used in industrial electronics including operational amplifiers, linear integrated circuits, brushless and stepper dc motors, control devices, optoelectronics, pulse modulation, sequential process control and programmable logic controllers. (Electrical technology).

2 Lec. 1 Lab.

Prerequisite: ENT 196.

ENT 293. Digital Systems. (3)

Principles and applications of digital systems. Emphasis placed on the study of combinational and sequential logic from a systems approach. Actual ICs and Programmable logic devices (PLDs) are used as well as digital timing diagrams and waveforms.

2 Lec. 1 Lab.

Prerequisite: CSE 163 and ENT 192.

ENT 294. Local Area Networks. (3)

Introductory coverage of the technology and administration of Local Area Networks. Various transmission mediums are covered including Ethernet, fiber optics, and wireless communication.

ENT 295. Microprocessor Technology I. (3)

Introductory study of architecture, operation, and application of microprocessors for commercial and industrial use. Emphasis on understanding internal architecture, segmentation, arithmetic instructions, and the role I/O ports, memory, and machine language play in putting the microprocessor to work. (Electrical technology).

2 Lec. 1 Lab.

Prerequisite: ENT 293.

ENT 296. Programmable Logic Controllers. (3)

Study of the principles and application of Programmable Logic Controllers including ladder logic, program control, data manipulation, math instructions, sequencers, shift registers, networking, PLC-mechanism interfacing and human-machine interfacing.

2 Lec. 1 Lab.

Prerequisite: ENT 192.

ENT 298. Data Communications. (3)

Introduction to data communications, computer networks, and media. Includes transmission basics, digital representations, data link concepts, and other networking issues. Networking data telecommunications project assigned as a significant part of the course requirement.

Prerequisite: CSE 153 or 174.

ENT 301. Dynamics. (3)

The basic concepts of force, mass, and acceleration; work and energy; and impulse and momentum are introduced and applied to problems involving particles and rigid bodies. Topics include displacement, velocity, and acceleration of a particle; relations between forces acting on a particle or rigid body; and the changes in motion produced.

2 Lec. 1 Lab.

Prerequisite: ENT 271 and MTH 151 or equivalent.

ENT 302. Fundamentals of Signals and Systems. (3)

Introduction to the field of signals and systems analysis, which is prevalent in many areas of engineering and technology. Central to this is an understanding of the mathematical formalisms, which define this field, such as the Fourier and Laplace transforms, not only in their mathematical sense, but also in their direct application to the solving of real engineering problems. MatLab® will be used extensively in this course to visualize signal flow and illustrate tough theoretical concepts.

Prerequisites: CSE 153 or CSE 163 and MTH 251.

ENT 303. Digital Signal Processing Technology. (3)

Study of how digital signal processing is used in industry, including spectral analyzers, analog and digital filtering, Fourier series and transforms, data compression, image processing, and DSP hardware design issues.

2 Lec. 1 Lab.

Prerequisites: STA 261 or STA 301, ENT 302.

ENT 310. Fluid Mechanics. (3)

The application of fluid statics and fluid dynamics to the solution of fundamental engineering fluid problems. The one dimensional energy and momentum equations are introduced and applied to the solution of fluid flow problems.

2 Lec. 1 Lab.

Prerequisite: ENT 271 and MTH 151 or equivalent.

ENT 311. Process Control Interface Design. (3)

Introduction to data acquisition and control with a graphical user interface (GUI). Topics include parallel, serial, and network access. Data transfer technology such as Object Linking and Embedding and Dynamic Data Exchange also covered.

2 Lec. 1 Lab.

Prerequisite: CSE 153, ENT 193 or equivalent and completion of an engineering technology associate's degree or permission of instructor.

ENT 312. Thermodynamics and Heat Power. (3)

Fundamental concepts of energy transformation and transport are introduced. The First and Second Laws of thermodynamics are applied to process and cycle analysis. Heat conduction, convection, and radiation modes are introduced and applied to simple heat balance problems.

Prerequisite: PHY 162, MTH 151 or equivalent, and completion of an engineering technology associate's degree or permission of instructor.

ENT 313. Introduction to Robotics Systems. (3)

This course provides an overview of robot components, mechanisms, dynamics, and intelligent control algorithms. Topics include planar and spatial kinematics, and motion planning; mechanism design for manipulators and mobile robots, multi-rigid-body dynamics. Weekly laboratories provide experience with servo drives, real-time control, and embedded software.

Prerequisites: ENT 301 and ENT 192.

ENT 314. Mechanisms for Machine Design. (3)

Rigid body kinematics is applied to the analysis and design of mechanisms used in machines. The course includes motion and force transference from power source, motion characteristics of real-world machinery, and analysis and design concepts to facilitate optimization of the machine arrangement.

Prerequisite: ENT 301.

ENT 316. Project Management. (3)

A course for upper-level students in Engineering Technology. This course covers background, techniques, and case studies in project management particularly focused on engineering technology applications. The student will develop a fundamental understanding of the concepts for managing both small and large projects. Discussion, evaluation, and presentation skills will be enhanced. Some of the specific topics to be covered include: Gantt charts, PERT charts, project life-cycle, budgeting, cost analysis, breakeven analysis, conflict resolution, organization tools, project planning, statistical process control, and other selected quality improvement tools. Microsoft Project and Microsoft Excel will be used as software tools throughout the course.

Prerequisite: ECO 201 or 202 or permission of instructor.

Co-requisite: STA 301, 368, or equivalent.

ENT 333. Computational Methods for Engineering Technology. (4)

An in-depth study of engineering analysis techniques with emphasis on mathematical analysis of mechanical and electrical subsystems. Detailed study of a variety of situations using techniques based on state-variable analysis and state transition matrix; convolution and circuit response in the time domain; system function and response in the frequency domain; and time shift and periodic functions.

3 Lec. 1 Lab.

Co-requisite: MTH 251 or equivalent.

ENT 340. Internship. (0-20)**ENT 355. Introduction to Finite Element Analysis. (3)**

An application of the basic concepts of finite element modeling and analysis to various types of engineering technology problems including structural and machine component analysis, conduction and convection heat-transfer analysis, and fluid mechanics analysis. Selected analytical aspects of finite element analysis are introduced throughout the course without becoming too theoretical. ANSYS computer software is an integral part of the course and is used within the laboratory portion.

2 Lec. 1 Lab.

Prerequisite: MTH 245.

ENT 377. Independent Studies. (0-6)**ENT 387. Embedded Systems Technology. (3)**

This course focuses on utilization of microcontroller/microprocessor architecture in system design. It covers understanding of interfacing standard protocols associated with common microcontroller based embedded systems, implementation on hardware platform, and associated debug software requirements.

Prerequisites: CSE 153 and ENT 295.

ENT 401. Computerized Instrumentation. (3)

Overview of the requirements for the design of servo-mechanisms including stability, transfer functions, loop dynamics, and digital signal processing. Covers digital and analog signal conditioning, transducers, and controllers.

2 Lec. 1 Lab.

Prerequisite: ENT 311 and MTH 151 or equivalent.

ENT 402. Industrial Automation Lab. (3)

This course uses lab based experiences to investigate common electrical and mechanical instrumentation including hydraulic and pneumatic equipment, programmable logic controllers (PLC), microcontrollers, and industrial SQL databases. Prerequisite: ENT 311.

ENT 403. Wireless Communication and Networks. (3)

Fundamental techniques of wireless communication, signal transmission, encoding, propagation theory, cellular wireless networks, Wireless LANs, Wireless Access Protocol (WAP), Wi-Fi, Bluetooth and IEEE 802.15.4 ZigBee protocols, security in wireless networks.

2 Lec. 1 Lab.

Prerequisite: ENT 303.

ENT 404. Experimentation Techniques. (3)

Coverage of experimentation techniques pertaining to mechanical engineering technology measurement methods and performance testing. Emphasis is on basic principles involved in measurement techniques. Topics range from mechanical systems to air pollution measurement techniques.

2 Lec. 1 Lab.

Prerequisite: MTH 251.

ENT 407. Modern Manufacturing Systems. (3)

Coverage of topics related to the manufacturing environment including metal deflection and tolerance, robotics, programmable controller applications, and manufacturing cells.

Prerequisites: ENT 151 and ENT 272.

ENT 413. Industrial Robotics Lab. (3)

Lab intensive course covering the fundamental and advanced topics on common industrial robotics systems. Provides detailed definitions and classifications of industrial robot systems. Discusses grippers and other end-of-arm tooling for robots. robot teach/pro Programming, program languages, robot arm, robot controller, workstation and safety systems. There is a significant lab-based component in which teams of students compete in several main industrial robotics areas to optimize mission performance under real world time constraints.

Prerequisites: ENT 313.

ENT 415. Heat Transfer with Applications. (3)

Concepts of the three modes of heat transfer, conduction, convection, and radiation, discussed separately and in combination. Each mode of heat transfer is presented by relating fundamental principles and computational methods to practical, real-world thermal systems and applications. Practical application projects from such industries as aerospace, automotive, and chemical processing are assigned to reinforce these principles.

Prerequisite: ENT 312.

ENT 416. Topics in Mechanical Vibrations. (3)

This course provides a study of mechanical vibrations topics with emphasis on mathematical analysis methods that may be applied to the solution of industrial engineering technology problems. Computer analysis software and experimental methods are introduced within the laboratory portion of the course.

2 Lec. 1 Lab.

Prerequisite: ENT 301, MTH 245.

ENT 417. Integrated Robotics Systems Engineering. (3)

This course combines the components of Fundamentals of Robotics into the design, testing and deployment of fully working interdisciplinary robotic systems. This course discusses the history and development of industrial collaborative robots, programming and integration of robotic work cells and other computer, and robot-integrated systems used in industrial applications. The course explores the interrelations of automation and robotics equipment via communication and networking. The course discusses intelligent control algorithms, sensors and vision systems and their value in expanding the potential application for robots. The course also covers topics related to computer integrated manufacturing, flexible manufacturing, automated material handling, smart warehousing. Weekly laboratory modules are given for design, integration and programming of integrated robotics cells.

Prerequisites: ENT 313 and ENT 296.

ENT 418. Electro-Mechanical Control Systems. (3)

Covers advanced control topics including state variable models, higher order system response, transient response, and stability analysis.

Prerequisite: ENT 311 and MTH 245 or ENT 333.

ENT 477. Independent Studies. (0-6)**ENT 478. Product Development in Engineering. (3)**

This course is for upper level students in Engineering Technology. This course covers the technical aspects of a product development lifecycle. The student will develop a fundamental understanding of the concepts for Design, Manufacturing, Quality and Reliability methodology. This course is somewhat unique in dealing with all aspects of the development cycle and how all of these areas are inter-related throughout a product's lifecycle and the following generations of products, as seen in the current manufacturing industry.

Prerequisites: ENT 278, ENT 316, and Senior Standing.

ENT 497. Senior Design Project. (2)

Student teams conduct major open-ended research and design projects. Elements of the design process including establishment of objectives, synthesis, analysis, and evaluation are integral parts. Real-world constraints such as economical and societal factors, marketability, ergonomics, safety, aesthetics, and ethics are also integral parts. Feasibility studies performed. Includes guest lecturers, team presentations, team building sessions, team meetings, and guided discussions relating to design. Continuous interaction with faculty and outside professionals. SC.

Prerequisite: senior standing, ENT 316, and 9 credit hours of 300 and 400 ENT/ECE level courses or permission of instructor.

ENT 498. Senior Design Project. (2)

Student teams conduct major open-ended research and design projects. Elements of the design process including establishment of objectives, synthesis, analysis, and evaluation are integral parts. Real-world constraints such as economical and societal factors, marketability, ergonomics, safety, aesthetics, and ethics are also integral parts. Implementation, testing, and production of design. Includes guest lecturers, team presentations, team building sessions, team meetings, and guided discussions relating to design. Continuous interaction with faculty and outside professionals. SC.

Prerequisite: senior standing, ENT 316, and 9 credit hours of 300 and 400 ENT/ECE level courses or permission of instructor.

English (ENG)

ENG 007. Fundamentals Of Writing. (1-3)

Developmental work in grammar, mechanics, diction, and the writing process. Focuses on both form and content in preparation for ENG 111.

ENG 104. Writing Studio. (1)

A lab that supports students in their writing across the curriculum. Small group interaction provides intensified engagement with essentials of college writing such as invention, peer response, revision, critical thinking, research, documentation, editing, and delivery. Students reflect upon specific guidelines, goals, and contexts of writing assignments they encounter in courses in which they are enrolled across the curriculum.

ENG 105. Writing Studio. (1)

A lab that supports students in their writing across the curriculum. Small group interaction provides intensified engagement with essentials of college writing such as invention, peer response, revision, critical thinking, research, documentation, editing, and delivery. Students reflect upon specific guidelines, goals, and contexts of writing assignments they encounter in courses in which they are enrolled across the curriculum.

ENG 107. Reading & Writing in Academic Contexts. (4)

For non-native, English speaking students, an intensive reading and writing course focusing on reading comprehension, textual analysis, vocabulary, composing, and rhetoric. Students learn critical skills needed for success in academic writing.

Prerequisites: Direct placement assessment or permission of the department.

ENG 108. U.S. Cultures & Composition for Second-Language Writers. (4)

For students who need further work in English before enrolling in college composition. Course is restricted to non-native speakers of English. First-time registration for ENG 108 is limited to students who have not taken ENG 109, 111, or 112. At most 10 credit hours toward graduation can be earned from any combination of ENG 108, ENG 109, ENG 111, and ENG 112. IIB. PA-4C.

Prerequisite: EWPI 108000 or B- or better in ACE 113 or ENG 107.

ENG 109. Composition and Rhetoric for Second-Language Writers. (4)

Adaptation of ENG 111 for non-native speakers; satisfies IMPF Foundation I. I. PA-1B. At most 10 credit hours toward graduation can be earned from any combination of ENG 108, ENG 109, ENG 111, and ENG 112.

Prerequisite: EWPI 109000 or a passing grade in ENG 108.

ENG 111. Composition and Rhetoric. (3)

Study and practice of effective explanatory, expressive, and persuasive writing. At most 10 credit hours toward graduation can be earned from any combination of ENG 108, ENG 109, ENG 111, and ENG 112. I. PA-1B.

ENG 112. Composition and Literature. (3)

Study and practice of effective explanatory, expressive, and persuasive writing in the context of an introduction to critical study of literature. At most 10 credit hours toward graduation can be earned from any combination of ENG 108, ENG 109, ENG 111, and ENG 112.

Prerequisite: ENG 111.

ENG 115. Introduction to Literature: Making, Meaning, and Mattering. (3)

ENG 115 prepares students to think deeply, creatively, and critically about the myriad cultural artifacts we call literature -- from poems, stories, plays, novels, and other multi-genre and/or multimedia forms of writing. Throughout the semester students will hone their ability to define and identify essential characteristics of various genres and literary texts, explain how particular texts function as examples of particular genres, analyze texts with reference to literary terminology, and create original interpretations of texts from multiple genres. We will work as a community of learners to discuss what literature does to and for us as readers who continuously make sense of the world around us and the worlds we would like to inhabit. CAS-B.

ENG 119. English for International Graduate Students. (3)

This course is for international graduate students at Miami University who are assigned to the course based on their TOEFL scores and the English Department placement exams. The course serves as an American academic orientation with a reading and writing focus and helps graduate students develop advanced skills in academic writing and research, with opportunities to focus on the resources and expectations of their graduate majors. Assignments in research and in English grammar complement the aims of the writing assignments; all course work is intended to increase student awareness and mastery of the organizational and grammatical patterns of a successful academic writing. As much as the course is reading and writing-oriented, the course also provides students opportunities to practice their spoken and listening skills through class discussions, peer reviews, and presentations.

ENG 122. Popular Literature. (3)

Exploration in detail of one genre of popular literature. Possible subjects include detective fiction, science fiction, western, and romance novel. Special attention given to why a culture invests in popular genres. IIB. PA-3B. CAS-B-LIT.

ENG 123. Introduction to Poetry. (3)

Exploration of the wide range of literature and oral performance called poetry. Study of critical terms used to discuss and write about poetic conventions, forms, and sub-genres. IIB. PA-3B. CAS-B-LIT.

ENG 124. Introduction to Fiction. (3)

Study of basic characteristics (narrative design, character, point of view, style, and tone) and essential forms (short-short story, story, novella, and novel) of the genre of literary fiction. IIB. PA-3B. CAS-B-LIT.

ENG 125. Introduction to Drama. (3)

Critical analysis of dramatic literature from the ancient Greeks to modern performance art, using dramatic structure and theory to read play texts as productions of their cultural contexts. IIB. PA-3B. CAS-B-LIT.

ENG 129. Books You Need To Read. (3)

Introduction to Literature through formal analysis of major works by authors such as William Shakespeare, Jane Austen, Mark Twain, and Toni Morrison. Designed for non-majors. Texts and authors vary. IIB. PA-3B. CAS-B.

ENG 134. Introduction to Shakespeare. (3)

Introduction to Shakespeare's works. Gives students who are new to collegiate-level literary studies an overview of the range of Shakespeare's works and the variety of approaches to those works. IIB. PA-3B. CAS-B-LIT.

ENG 163. Literature and Travel. (3)

Study of travel literature from a range of periods and genres. Includes the relation of individual and national identity, imperialism and cultural relativity, the invention of geography, and the politics of tourism. IIB, IIB. IC. PA-3B, PA-4B, PA-4C. CAS-B-LIT.

ENG 169. Disability and Literature. (3)

This course studies the construction of disability identity in literature, personal memoir, and popular culture by investigating how texts that feature disability question notions of "normalcy" and "deviancy." It emphasizes interdisciplinary understandings of disability in historical and contemporary frameworks. IC, IIB. PA-3B, PA-4B. CAS-B-LIT. Cross-listed with DST 169.

ENG 171. Humanities and Technology. (3)

Introduction to methods of thinking used in humanities disciplines (literature, history, philosophy, classics, etc.), computer technologies, and their relationship. Practical skills (web page making; research on the Internet) and analytical skills (how to tell good information from bad) combined with theories about the Information Society. IIB. PA-3B. CAS-B.

Cross-listed with IMS 171.

ENG 177. Independent Studies. (0-6)**ENG 198. Literary London Program Orientation. (1)**

Part of the Literary London summer program, this orientation course prepares students to live abroad and study on-site in London. On the Oxford campus, students are given extensive pre-departure information about the study location and course preparation. During orientation week in London, students learn to navigate the study site and are introduced to the cultural history, institutions, and sites relevant to literary study through field trips, excursions, and guided tours.

Co-requisites: two ENG courses offered in conjunction with the Literary London summer program.

ENG 213. Writing for Film and TV. (3)

Basic course in writing for radio and television, and new media, with emphasis on scriptwriting for feature film and narrative for television; treatment of documentary subjects; introduction to narrative forms in new media.

Prerequisite: MAC 146, or permission of instructor.

Cross-listed with MAC.

ENG 216. Style: Strategies for Editing and Writing. (3)

This course will focus on style for editors and writers. Students will learn how to make strategic decisions appropriate for audience, purpose, context, and genre. Throughout the semester, students will apply common editing techniques to their own and others' texts. Prerequisite: ENG 109 or 111 or equivalent.

ENG 220. Literature and Film. (3; maximum 6)

Study of the relationship between film and genres of literature, focusing on a comparison of techniques of rhetoric, fiction, and drama and those of film. Primary consideration given to film adaptations of works of fiction and drama. Extensive screenings of films. May be repeated once when topic changes. IIB. PA-3B. CAS-B-LIT.

Cross-listed with FST.

ENG 221. Shakespeare and Film. (3)

Study of several Shakespeare plays covering different genres of drama combined with filmed versions, ranging from theatrical to filmic/ auteur cinema. IIB. PA-3B. CAS-B-LIT.

Cross-listed with FST 221.

ENG 222. The Rhetoric of Information and Data Visualization. (3)

Methods, principles, and techniques for creating and critiquing verbal and visual arguments using information and quantitative data. Emphasizes a rhetorical and ethical perspective toward data representation and visualization, considering how to develop and design quantitative arguments and visual representations. Students will work with a variety of tools and techniques for presenting visual data in print and digital media. CAS-QL.

ENG 223. Rhetorical Strategies for Writers. (3)

Principles and practices of classical, modern, and visual rhetorics. Designed for students who want more intensive practice in developing arguments in academic, public, and professional contexts.

ENG 224. Professional Communication & Digital Rhetoric. (3)

Students will analyze and produce written and oral professional communications with a focus on digital rhetoric and multimediated digital content. ADVW. PA-1C.

Prerequisite: ENG 109 or ENG 111.

Cross-listed with IMS 224.

ENG 225. Advanced Composition. (3)

Practice in various types of expository and narrative writing. ADVW. PA-1C.

Prerequisite: ENG 109 or ENG 111 (or AP and other placement credit).

ENG 226. Introduction to Creative Writing: Short Fiction and Poetry. (3)

Techniques and principles of creative writing with application to fiction, creative nonfiction, poetry, and hybrid forms. ADVW. PA-1C.

Prerequisites: ENG 109 or ENG 111 (or AP and other placement credit).

ENG 231. The Short Story. (3)

Study of the short story as a literary genre with its own unique conventions. Examples from both early and present-day masters. CAS-B-LIT.

ENG 232. Women Writers. (3)

Introduction to women's writing in English. Readings may include poetry, drama, fiction and non-fiction by women writers from various historical periods and national traditions. IC. PA-4B. CAS-B-LIT.

Cross-listed with WGS 232.

ENG 235. Classical Hollywood Cinema. (3)

This course examines the production of the so-called classical period of Hollywood cinema, beginning in the 1930s with the emergence of early sound and ending in the 1960s with the demise of the studio system. We will utilize an industry-studies approach, but will also explore the principal narrative and stylistic trends associated with the classical era, as well as its key creative figures- directors, producers, cinematographers, actors, etc. Weekly Screenings Required.

Cross-listed with FST.

ENG 236. Experimental Film. (3)

This course examines influential works and movements in experimental film, emphasizing filmmakers for whom the conventional entertainment narrative is an object of radical investigation. Working outside the traditions of commercial film, experimental filmmakers take alternative approaches not only to narrative but also to visual representation, sound production, and editing, often exploiting new or unconventional technologies to achieve their effects. The course will also consider critical and theoretical perspectives, situating the unconventional techniques of experimental film in relation to broader aesthetic, cultural, historical, and political contexts.

Cross-listed with FST 236.

ENG 237. GLBTQ Literature. (3)

Study of literature by and about sexual minorities, including gay, lesbian, bisexual, transgender and queer identities, cultural contexts, and social movements. IIB, IC. PA-3B, PA-4B. CAS-B-LIT.

Cross-listed with WGS 237.

ENG 238. Narrative and Digital Technology. (3)

Applies to digital games those notions about narrative structure and character development that have evolved in literature. Students will explore digital art as literary critics, asking whether games are art and analyzing how postmodern literary/digital art participates in globalization. Students compose narratives in writing as well as 3D graphics. IIB. PA-3B. CAS-B-Other.

Cross-listed with IMS.

ENG 246. Native American Literature. (3)

Survey of published Native American fiction, poetry, memoir, drama, and non-fiction from the mid-19th century to the present. Explores cultural contexts and emphasizes an interdisciplinary approach that includes historical, sociological, and anthropological as well as literary perspectives. IC, IIB. PA-3B, PA-4B. CAS-B-LIT.

Cross-listed with AMS 246.

ENG 248. Asian American Literature. (3)

Survey of Asian American writing (including the novel, poetry, drama, nonfiction, etc.) from the early 20th century to the present. Addresses immigration experiences, growing up in America, and writing as cultural expression. Course uses an interdisciplinary approach to the study of literature, drawing on history, sociology, ethnic studies, and current trends in American literary studies. IC, IIB, IIIB. PA-3B, PA-4A. CAS-B-LIT.

Cross-listed with AAA 248 and AMS 248.

ENG 249. Asian & Asian American Cinema. (3)

Explores films in the contexts of Western colonial influences and legacies in Asia and Asian America. Students will learn how mainstream notions of nation, gender, sexuality, family values, social hierarchies and social change are constructed at the intersection of the audience, visual imagery, political, and economic contexts. We will also explore the role alternative cinema plays in challenging mainstream forms of knowledge production with the overall goal of critically evaluating how cinema creates, recreates, perpetuates and reproduces "Asian" cultures for global and local audiences. IC, IIB, IIIB. PA-3B, PA-4B, PA-4C. CAS-B-Humanities.

Cross-listed with AAA/FST 249.

ENG 251. Introduction to European Literature. (3)

Introduction to the masterpieces of European literature, its creation stories, its epic heroes and heroines, its infamous loves and equally infamous deaths. From these literary works, you will gain a sense of the variety of human experiences across time and cultures and broaden your understanding of literary purpose. IIB, IIIB. PA-3B, PA-4C. CAS-B-LIT.

ENG 254. Caribbean, Latin American and Latinx Literatures. (3)

Study of fiction, poetry, and non-fiction by writers from Latin America, the Greater Antilles (Cuba, PR, DR, Haiti, and Jamaica) as well as from the Lesser Antilles islands, and Latinx communities in the US including Chicano/a, Cuban-American, Puerto Rican, and Central American. IC, IIB, IIIB. PA-3B, PA-4B, PA-4C. CAS-B-LIT.
Cross-listed with LAS 254.

ENG 255. Love and Death in Nineteenth-Century Russian Literature. (3)

Examines works by Pushkin, Lermontov, Gogol, Turgenev, and Dostoevsky and a number of critical essays representative of a variety of viewpoints. Uses interdisciplinary approach that takes into account social, historical, political, religious, as well as literary factors. IIB, IIIB. PA-4B. CAS-B-LIT.
Cross-listed with RUS.

ENG 256. Empire and Utopia in Russian Literature. (3)

Treatment of selected works of Russian literature (realism, modernism, post-modernism) with special attention to Tolstoy, Chekhov, Bunin, Sologub, Bulgakov, Babel and Nabokov. IIB, IC. PA-3B, PA-4B, SI-02, SI-04. CAS-B-LIT.
Cross-listed with RUS 256.

ENG 262. Children's Literature. (3)

Broad study of children's books, with emphasis on acquiring skill to evaluate children's literature. Practice in the literary analysis of prose and poetry with emphasis on the impact of good literature for children. CAS-B-LIT.

ENG 263. Literature and Medicine. (3)

Medicine and literature have a long standing history. Aristotle's own poetics made use of the medical term, catharsis. Even today, the diagnosis of symptoms is akin to the careful reading of a text; and the experience of (mental and physical) illness is shaped by storytelling as patients seek to convey their lived experience and by technologies that mediate that experience. This course focuses on texts that reflects medical experiences from the perspective of individual patients, practitioners and in the case of epidemics, societies. It uses reading, writing, thinking and discussion of those texts to investigate the different perspectives and belief systems that come into play in medical contexts, addressing issues of medical authority, end (quality) of life, the role of genre and technology in mediating the experience of illness, and the ways in which structural inequities in discourses of health are perpetuated. IIB, IC. PA-3B, PA-4B. CAS-B-LIT.

ENG 264. Environmental Literature. (3)

How can literature, past and present, help us survive and thrive in a time of environmental crisis? This class will show you how reading and writing about human relations with the more-than-human world can enhance your abilities to perceive, understand, analyze, narrate, and respond to real-world environmental crises. Core texts and approaches will vary by faculty area of specialty; include texts from different disciplines, fields, genres, communities, and time periods; and consider intersections of race, class, gender, sexuality, and environment. IIB. PA-3B, SI-01. CAS-B, CAS-B-LIT.
Cross-listed with IES 264.

ENG 267. Communism and Catastrophe in Modern Russian Literature. (3)

Treatment of major trends in the development of Russian literature since 1953. Examines works by Pasternak, Solzhenitsyn, Rasputin, Trifonov, and others. IIB, IIIB. PA-3B, PA-4B, SI-04. CAS-B-LIT.
Cross-listed with RUS 257.

ENG 269. Colonial & Postcolonial Literature. (3)

Introduction to postcolonial literature and theories of colonial and postcolonial identity. IIB, IIIB. PA-3B, PA-4C. CAS-B-LIT.
Cross-listed with AAA 269.

ENG 272. English Literature to 1660. (3)

Introduction to British English Literature and culture from the beginning to 1660, with attention to multiple historical, social, religious, philosophical and political contexts. IIB. PA-3B. CAS-B-LIT.

ENG 273. English Literature 1660-1900. (3)

British literature from 1660 to 1901, with attention to issues of class, race, gender, and empire in the context of accelerating economic, social, environmental, and political change; to developments in philosophy, science, and technology; and to relations with other arts. Considers major literary movements as well as major genres, including both poetry and fiction. IIB. PA-3B. CAS-B-LIT.

ENG 274. English Literature 1901 to Present. (3)

Selected British and Anglophone fiction, nonfiction, poetry, and drama from 1900 to present with special attention to the impact on literary imagination of global conflicts and loss of Empire in the context of cultural and political change. IIB. PA-3B. CAS-B-LIT.

ENG 275. American Literature to 1900. (3)

Introduction to American Literature written from the colonial period through 1900. The course considers a multiplicity of voices as expressed in literary texts. IIB. PA-3B. CAS-B-LIT.

ENG 276. American Literature 1900 to the Present. (3)

Introduction to American Literature and its cultural contexts written from 1900 to the present. IIB. PA-3B. CAS-B-LIT.

ENG 277. Independent Studies. (0-6)**ENG 284. Professional Communication for Business. (3)**

As part of the Farmer School of Business's core curriculum, this course develops advanced rhetoric knowledge and skills needed to write and present effectively in local and global business contexts, including working in intercultural teams and digital networks. PA-1C. Prerequisites: ENG 109 or ENG 111 and BUS 101, BUS 102 BUS 104 and ESP 103.
Cross-listed with BUS.

ENG 285. Professional Communication for Data Analytics. (3)

Focuses on data analysis reporting for data analytics majors. Students will develop rhetorical knowledge and skills needed to write and present data and data findings effectively for a variety of audiences, purposes, contexts, and media. ADVW. PA-1C. CAS-W. Prerequisite: ENG 109 or ENG 111 (or AP and other placement credit).
Cross-listed with STC 285.

ENG 293. Contemporary American Fiction. (3)

Study of new trends and movements in American fiction of the last 10 to 15 years, focusing upon such issues as vision of society, experiments in narrative form and content, mode of humor, treatment of reality, and changing images of the self. CAS-B-LIT.

ENG 298. Introduction to Literary and Cultural Studies. (3)

Introductory skill-based course to be taken within one semester after declaring literature major. Covers critical and interpretive terms and basic concepts of literary genre; develops skills of close reading, interpretation, and critical analysis; provides instructions in techniques of research and citation; and introduces various critical methods and approaches. ADVW. PA-1C. CAS-B-LIT.

ENG 304. Backgrounds to Composition Theory and Research. (3)

Theoretical foundation of composition theory and research, emphasizing structure of writing, composing process, contemporary rhetoric, and linguistic based theories of composition.

ENG 310. Special Topics in Rhetoric and Persuasion. (3; maximum 6)

Intensive study of one or more specialized areas or elements of rhetoric and/or persuasion—such as ethnic/comparative, feminist, rhetoric of the public sphere, rhetoric of science, or rhetorical theories of delivery. CAS-B. Recommended prerequisite: ENG 223.

ENG 311. Reading for Creative Writing: Contemporary Literature. (3)

In-depth study of contemporary literature for creative writing majors. Works studied come from both the United States and abroad, with emphasis on works published within the last 25 years, usually within the last decade. CAS-B-LIT.

ENG 313. Technical Writing. (3)

Introduction to the principles of technical writing. Attention to defining purpose, analyzing audience, developing document structure, creating visual design, drafting and revising communications. Practice in varieties of technical communication. ADVW. PA-1C.

Prerequisite: ENG 109 or ENG 111 (or AP and other placement credit).

ENG 315. Business Writing. (3)

Study of writing techniques used in business environments and practice in applying them. ADVW. PA-1C.

ENG 316. Legal Writing and Reasoning. (3)

Students in this course will learn strategies for effective and persuasive legal writing, including the appropriate methodologies for legal reading, research and analysis. Students will gain experience writing in a number of genres, including case briefs, memoranda of law, and professional correspondence.

Prerequisite: ENG 111/112 or waiver of the 111/112 requirement (through AP credit, honors program, etc); sophomore standing or above.

ENG 320. Intermediate Creative Writing: Fiction. (3; maximum 6)

Techniques and principles of narrative writing with special application to the short story. May be taken twice, but not with same instructor. Prerequisite: ENG 226.

ENG 321. The Literary Marketplace. (3)

Provides creative writing students with an introduction to the literary marketplace. Designed for students interested in careers as editors or reviewers, or for anyone interested in how books are produced, marketed, reviewed, and remaindered. CAS-B-LIT.

ENG 323. Intermediate Creative Writing: Creative Nonfiction. (3; maximum 6)

Intermediate workshop in creative nonfiction. Reading and analysis of published creative nonfiction books and essays, as well as class discussion of student writing in this genre. May be taken twice, but not with the same instructor.

Prerequisite: ENG 226, JRN majors may take JRN 280 instead.

ENG 327. Medieval Literature. (3)

Study of English literature from Beowulf to the poetry of Dunbar, especially in translation. CAS-B-LIT.

ENG 328. Sixteenth-Century English Literature. (3)

This course addresses the literary culture of sixteenth-century England. Amidst clashes between Protestants and Catholics, literary texts engaged the political, religious, and poetic debates of the age, defining the meaning of tradition and innovation, imitation and originality. CAS-B-LIT.

ENG 330. Intermediate Creative Writing: Poetry. (3; maximum 6)

Intermediate course in theory and practice of poetry writing with seminar study of relevant contemporary materials and criticism of student work in class and conference. Assigned exercises in techniques and forms. An average of 10 to 15 poems due each semester. May be taken twice, but not with same instructor. Prerequisite: ENG 226.

ENG 331. Seventeenth-Century English Literature. (3)

A sustained inquiry into the wide variety of writings that emerged from the tumultuous times of 17th-century Britain. The course may cover plays, poetry, court masques, visions, new world explorations and utopias, short romance, early novels, and popular pamphlets produced by proliferating printing presses. It may include works by Donne and the metaphysical poets; Jonson and the Cavalier poets; radicals such as Milton, Marvell, the Levellers, the Ranters, and the Diggers; and women writers such as Lanyer, Wroth, Cavendish, Hutchinson, Trapnel, and Behn. CAS-B-LIT.

ENG 335. English Literature of the 18th Century. (3)

British prose and poetry of the 18th century. CAS-B-LIT.

ENG 336. African American Writing, 1746-1877. (3)

Focuses on eighteenth- and nineteenth-century African American writings, especially the slave's narrative, a unique form of autobiographical writing that sought to expose the horrors of slavery in America, to end this institution, and to contest ideas about the inhumanity of African Americans. Pre and post Civil War African American novels continue to address problems of race, injustice, and demands for equal rights for African Americans. Attention to the traditions of black writing established by slave narratives, which laid the foundation for African American literature and cultural and artistic production. IC. PA-4B. CAS-B-LIT.

Cross-listed with CRE 336.

ENG 337. African American Writing, 1878-1945. (3)

Despite the optimism occasioned by the fall of slavery, the years covered in this course are known as the era of Jim Crow, which was not characterized by the triumphs of a newly freed people welcomed by a repentant nation. Instead, black experience at this time is marked by the rise of the KKK, the epidemic of lynching, and the introduction of segregation into American society. This course considers the issues faced by these new American citizens—former slaves historically understood to be chattel and only three-fifths human—and how they strove, in their writing, to express and shape their identity and destiny. IC. PA4B. CAS-B-LIT.

Cross-listed with CRE 337.

ENG 338. African American Writing, 1946-Present. (3)

Considers the relationship among literature, freedom, and racial identity as a major preoccupation of black intellectuals and writers, from slave narratives to current post-modern and hip-hop narratives. Black writers give special attention to the significance of race in literature, but does racial identity give a writer a special task as well as perspective? Is a black writer one who happens to be black or does his/her blackness obligate and/or empower this writer to write from a black perspective? And, is this perspective inevitable given the writer's racial experiences in this country? IC. PA-4B. CAS-B-LIT. Cross-listed with CRE 338.

ENG 339. British Romanticism, 1789-1837. (3)

During the age of revolutions, the literary movement we know as Romanticism played a crucial role in representing and shaping the major cultural shifts of the times. With special attention to poetry, the course may consider works by Blake, Byron, Coleridge, Hemans, Keats, Shelley, Smith, and Wordsworth alongside fiction and prose by Austen, Burke, Edgeworth, Hazlitt, Paine, and Scott, with an eye to defining and interrogating the meanings of Romanticism. CAS-B-LIT.

ENG 340. Internship. (0-20)**ENG 343. Victorian Literature, 1837-1901. (3)**

During the heyday of the British Empire, Victorian writers responded to and shaped their times. With attention to both poetry and prose, the course will consider major movements in literature in the context of the changing role of women; the emergence of class conflict; the evolution of imperial power; and other major changes in culture and society. CAS-B-LIT.

ENG 345. British Modernism, 1890-1945. (3)

Study of British culture and literature at the end of the Empire; readings include Joseph Conrad, James Joyce, Virginia Woolf, and their contemporaries. CAS-B-LIT.

ENG 348. Ethnic American Literatures. (3)

Intensive introduction to theories of race, ethnicity, and identity through the study of American literature by ethnic minorities. IC. PA-4B. CAS-B-LIT. Cross-listed with AMS.

ENG 349. Early American Literature. (3)

Intensive study of issues animating colonial and early national American culture from the period of discovery to the early 19th century, as articulated in selected texts from a variety of literary forms. CAS-B-LIT.

ENG 350. Topics in Film. (3; maximum 6)

In-depth and concentrated studies in film. Focuses on specific topics in film such as national film traditions (American, Japanese, French, etc.), genres (science fiction, western, detective, etc.), and themes (film and society, women in film, political conspiracy, etc.). May be repeated once when topic changes. Cross-listed with FST.

ENG 351. Cultural Politics of Gender and Sexuality in Asian/America. (3)

Intensive interdisciplinary study of imaginative representations of the encounters between "Asia" and "America," broadly conceived, particularly the entangled relations among their diverse constituencies in the contexts of colonialism and globalization. Key topics include feminist critique of gendered violence and human rights issues; Euro-American militarism and sex tourism; the emergence of new categories of sex, gender, and kinship as lived experiences mediated by transnational consumer culture and institutional structures; masculinity and Asian diasporic nationalisms; pan-Asian movements against racism, colonialism, and neoliberalism both in Asia and the U.S.; and the emergence of new critical, artistic and aesthetic practices. IC. PA-4B. Cross-listed with AAA/WGS.

ENG 352. Antebellum American Literature. (3)

Intensive study of issues animating American culture from the early 19th century to the end of the Civil War, as articulated in selected texts from a variety of literary forms. CAS-B-LIT.

ENG 353. American Realism and Naturalism. (3)

Intensive study of issues animating American culture and literature from the Civil War to World War I, as articulated in selected texts from a variety of literary forms. Engages with American realism and naturalism. CAS-B-LIT.

ENG 354. American Modernism. (3)

Intensive study of issues animating American culture between 1914 and 1945, as articulated in selected texts from a variety of literary forms and traditions. Particular focus on American modernism. CAS-B-LIT.

ENG 355. Contemporary American Literature. (3)

Intensive study of issues animating American culture from 1945 to the present as articulated in selected texts from a variety of literary forms and traditions. CAS-B-LIT.

ENG 356. Women and Gender in Film. (3)

This course explores the construction of gender and representations of women in film in two contexts: in mainstream Hollywood cinema and in experimental and independent films. While not providing an extensive history of women in film, the course provides a sampling of iconic films—from early cinema to the present—to critically examine how women are portrayed throughout the twentieth century and in various genres, in films made by both men and women. Course readings engage theoretical and practical points of contact within cinema, including feminist film theory, postcolonial theory, psychoanalysis, queer theory, and critical race theory. IIB, IC. PA-3B, PA-4B. CAS-B-LIT. Cross-listed with FST/WGS.

ENG 360. Interdisciplinary Special Topics. (1-4; maximum 8)

Study of a selected topic examined from the perspective of two or more disciplines. CAS-B-LIT.

ENG 364. From Marco Polo to Machiavelli. (3)

Examination of Classical and Asian influences in Italian culture from the Middle Ages through the Renaissance. Works of Marco Polo, Dante, Petrarca, Boccaccio, the Italian Humanists, and Renaissance artists and writers, such as Leonardo da Vinci, Michelangelo, Ariosto, Castiglione, and Machiavelli, including women poets, such as Vittoria Colonna, Gaspara Stampa, and Veronica Franco, are read and discussed against the historical background of Mediterranean trade and culture from the 13th through the 16th century, when the Italian peninsula was a crossroads between Europe, Africa, and Asia. Taught in English. CAS-B-LIT. Cross-listed with ITL.

ENG 370. Introduction to Literary and Cultural Theory. (3; maximum 6)

Surveys significant movements in recent critical theory, such as formalism, structuralism and poststructuralism, psychoanalysis, Marxism and historicism, feminism, race and ethnic studies, gay and lesbian studies, and cultural studies. Attention also given to applying particular methods to one or to several literary texts. May be repeated once for credit when content changes. CAS-B-LIT.

ENG 372. Shakespeare's Principal Plays: Early Works. (3)

Intensive study of Shakespeare's early-career plays, primarily focused on the comedies, histories, and early tragedies, with some attention to stage performance during the golden age of early modern English theater in London. CAS-B-LIT.

ENG 373. Shakespeare's Principal Plays: Late Works. (3)

Intensive study of Shakespeare's late-career plays, primarily focused on the "problem plays," late tragedies, and romances, with some attention to stage performance during the golden age of early modern English theater in London. CAS-B-LIT.

ENG 374. English Renaissance Drama. (3)

Survey of drama from the sixteenth and seventeenth centuries; includes plays by Christopher Marlowe, Ben Jonson, Thomas Middleton, Thomas Dekker, Francis Beaumont, John Fletcher, John Marston, John Ford, and others.

ENG 377. Independent Studies. (0-6)**ENG 381. Afro-Brazilian Diaspora Through Film and Arts. (3)**

A focus on questions of gender, race, class and stereotypes in the African Lusophone countries. Taught in English. CAS-B-LIT. Prerequisite: any literature course. Cross-listed with POR/CRE/FST.

ENG 383. Brazilian Women through Literature and Film. (3)

Addresses questions about gender, race, class and stereotype of women's bodies in 20th-century Brazil. IIB, IIIB. PA-3B, PA-4C. CAS-B-LIT. Cross-listed with BWS/POR/WGS/FST.

ENG 386. Studies in Drama and Performance. (3)

Examine conventions and traditions in a variety of dramatic forms, such as tragedy, naturalism, expressionism, comedy, the musical, performance art, and the performance of everyday life. Studies also include performance practices such as realism, minstrelsy, drag, distanciation, or devised theatre, with attention to trends and evolving and contested definitions of the genres and the stakes of embodiment and theatrical staging. Course topic varies by section. IC. PA-4B. CAS-B.

ENG 387. Studies in Poetry. (3)

Examines conventions and traditions in a variety of poetry. Course topic varies by section. CAS-B-LIT.

ENG 388. Studies in Prose. (3)

Examines conventions and traditions in a variety of prose forms, such as the novel, short story, flash fiction, magic realism, creative nonfiction, the lyric essay, and the collage essay, with attention to trends and evolving and contested definitions of the genres. Course topic varies by section. CAS-B.

ENG 390. Studies In Amer Regionalism. (3; maximum 6)

Literature of the West: imaginative treatments of the American frontier and the postfrontier West, Cooper to the present; major Southern American writers from Byrd to the present. CAS-B-LIT. Cross-listed with AMS.

ENG 401. Dante's Divine Comedy. (3)

Intensive examination of Dante's major work, The Divine Comedy, read in a bilingual edition. Lectures and discussion in English. No prerequisites. CAS-B-LIT. Cross-listed with ITL.

ENG 407/ENG 507. Interactive Business Communication. (3)

Writing and communicating effectively within business contexts, with an emphasis on researching, reporting, proposing, and maintaining relationships using digitally networked interactive technologies. Cross-listed with IMS.

ENG 408/ENG 508. Second Language Acquisition. (3)

Topics covered in this course include a historical overview of second language learning and teaching, similarities and differences between childhood and adult language acquisition, the sociocultural and psycholinguistic aspects of learning a new language, and current research in second language acquisition. This course focuses on the adult acquisition of English.

ENG 411/ENG 511. Visual Rhetoric. (3)

Provides an introduction to the theory and techniques of visual rhetoric used by professional communicators. Covers elements of layout, design, and typography, giving students practice with short and longer print texts and non-print media. Cross-listed with IMS.

ENG 412/ENG 512. Print and Digital Editing. (3)

Examines principles and practices of editors. Preparing communications for publication emphasized. Students edit their own and other students' work, and that of outside clients.

ENG 413/ENG 513. Grant and Proposal Writing. (3)

Intensive study of the principles and processes involved with preparing grants and proposals.

ENG 414/ENG 514. Usability and User Experience. (3)

Advanced study of theories and practices of usability connected with the production of documentation in print and digital media.

ENG 415. Capstone in Professional Writing. (3)

Practicum in theory and practice of project management specifically designed to provide professional writing majors with community-based writing experience and teach communicator/client relationships, problem-solving, and professionalism in conduct and product. SC. Prerequisite: ENG 223.

ENG 416/ENG 516. Writing for Global Audiences. (3)

This course focuses on how to write effectively in print and digital media for global audiences. Students will research cross-cultural written communication, including networked communication, and they will develop intercultural literacy skills necessary for writing to global audiences. Through frequent writing assignments, students will learn and enact the theories and strategies for targeting print and digital communications to international and culturally diverse audiences.

Cross-listed with IMS.

ENG 417/ENG 517. Second Language Writing and Reading: Teaching & Theory. (3)

This course will offer an overview of the growing scope and complexity of scholarship in second language writing over the past half century, and how that scholarship has influenced the development of writing instruction. Reading in a second language and its interactions with writing will also be explored. Students will write about relevant literature, conduct research on teaching practices, and develop a full L2 writing curriculum throughout the semester.

ENG 420. Advanced Creative Writing: Fiction Workshop. (3; maximum 6)

Study and practice in various forms of creative and imaginative writing with emphasis upon the problems and the craft of fiction. Analysis of examples from contemporary literature accompanies class criticism and discussion.

Prerequisite: ENG 320 and permission of instructor.

ENG 422. Advanced Creative Writing: Screenwriting Workshop. (3)

Advanced workshop in feature film screenwriting. Analysis of examples of contemporary screenplays, with emphasis on the craft of writing screenplays. Class discussion and sharing of student-written screenplays.

Prerequisite: MAC 213 or ENG 320 or permission of instructor.

Cross-listed with MAC.

ENG 423. Advanced Creative Writing: Nonfiction Workshop. (3; maximum 6)

Study and practice in forms of creative nonfiction with emphasis upon advanced craft issues in the genre. Analysis of examples from contemporary literature accompanies feedback sessions and critical discussion. May be taken twice, but not with the same instructor.

Prerequisites: ENG 226 and ENG 323.

ENG 424/ENG 524. Ethics and Digital Media. (3)

Students will focus on key ethical issues related to online writing, communication, and visual design. Course will introduce key ethical principles, including principles of rhetoric, communication, and design ethics, as well as key principles of professional ethics as articulated in fields like professional writing, technical communication, and graphic design. Topics include intellectual property, access and universal design, privacy and surveillance, visual representation and manipulation, global communication and cultural difference, economic issues of justice and equity, and professional rhetorics.

Cross-listed with JRN/IMS.

ENG 426/ENG 526. Developing & Publishing Digital Books. (3)

Digital Publishing offers students opportunities to design, edit, and distribute electronic books. Students will learn theories and processes for digital publishing and work with a number of tools and platforms. They will also learn the genres, standards, and literacies required for web-based and ebook production. Students will gain real-world, client-based experience by assisting a non-profit academic press with the development of new ebooks and the digitization of earlier titles.

Cross-listed with IMS.

ENG 429/ENG 529. Environmental Communication. (3)

Examines theories, principles, and methods for communicating environmental concepts and scientific information verbally, textually and visually to a range of audiences and stakeholders. Students work with scientists, peer communities, clients, and focus groups to develop effective and appropriate environmental communications across mediums. Projects may include producing scientific posters, writing reviews of research projects on an environmental problem, preparing oral presentations, creating visual stories of scientific work, interviewing scientists for general news stories, writing environmental proposals, and facilitating focus groups.

Cross-listed with IES/JRN.

ENG 430. Advanced Creative Writing: Poetry Workshop. (3; maximum 6)

Practice in writing poetry with emphasis on development of style. Advanced course in the theory and practice of poetry writing with seminar study of relevant contemporary materials and criticism of student work in class and conference.

Prerequisite: ENG 330 and permission of instructor.

ENG 432. Feminism and the Diaspora: U.S. Women of Color. (3)

Concerns issues of language, history, geography, social-psychology, and culture for U.S. women of color (black, Asian-American, Latina, American Indian, and others). Includes works by and about women on gender, ethnicity, class, sexuality, and other differences. CAS-B-LIT. SC.

Cross-listed with CRE/WGS.

ENG 435/ENG 535. Queer Theory. (3)

Analysis of how gender and sexuality have informed our understandings of cultural texts and contexts. Emphasizes how discourses of gender and sexuality function within a variety of historical, cultural, and/or aesthetic traditions.

Cross-listed with WGS.

ENG 437. Black Feminist Theory. (3)

This course examines critical and theoretical issues in black feminism from slavery to the present. One of the central goals of the course is to interrogate race, gender, class, and sexuality in the context of black women's thoughts and experiences. The class will read, discuss and analyze a wide variety of texts including critical essays, films, selected fiction, print and visual media.

Cross-listed with CRE/WGS.

ENG 440. Major English and American Writers. (3; maximum 6)

Intensive study of individual major writers in the British and American literary traditions. May be repeated once for credit when content changes. CAS-B-LIT.

ENG 450. Studies in Genre. (3; maximum 6)

Focused study of issues related to one or more literary genres. Consult the English department course supplement for additional information. May be repeated once for credit when content changes. CAS-B-LIT.

ENG 460. Issues in Creative Writing. (3)

Integrates creative writing in all genres at the highest levels. The issue or problem organizing the course is applicable to all genres; readings illustrate, problematize and/or offer solutions to the issue under discussion. Students read and think as writers and respond to the issue or problem in both an analytic and creative manner. Specific requirements vary according to instructor and topic. SC.

Prerequisite: ENG 226, at least two of the required upper-level writing courses, and senior standing.

ENG 470. Studies In Literary Theory. (3; maximum 6)

Intensive examination of one or more schools, methods, or significant writers of literary and cultural theory, such as structuralism, poststructuralism, Marxism, and feminism. May be repeated once for credit when content changes. CAS-B-LIT.

ENG 477. Independent Studies. (0-6)**ENG 480. English Honors. (1-6)**

Students interested in earning honors in English must confer with associate chair.

ENG 481/ENG 581. Writing Center Theory and Practice. (3)

In this intensive course, students investigate contemporary and classic scholarship on the theories and practices of culturally sensitive writing center work; reflect on and write about their own and others' habits as writers, readers, and learners; observe ongoing writing center consultations; and, mid-way through the term, begin to apply their acquired writing center knowledge by holding one-to-one and small group writing center consultations with a diverse array of Miami writers. EL.

Prerequisite: permission of instructor.

ENG 490. Special Topics in Literary Study. (3; maximum 6)

Intensive study of some aspect of contemporary literary study, including such topics as American regional writing, literature of war, or writing by women of color. May be repeated once for credit when content changes. CAS-B-LIT.

ENG 495. Capstone In Literature. (3)

Intensive study, including reading and independent research. Specific course requirements vary according to instructor and topic, but all Capstones include extensive reading, writing, and discussion. Students read and think as informed readers and respond to issues or problems in an analytic and creative manner. Capstones in literature are selected annually from proposals submitted by faculty. SC.

Prerequisite: senior standing.

ENG 518. Playwriting. (3)

Applied theory, technique, and practice of playwriting.

Prerequisite: (THE 418/THE 518 only) THE 101 or permission of instructor.

Cross-listed with THE.

ENG 600. Special Topics In Literature. (2-4; maximum 4)

Study of individual works and types of literature which fall outside traditional areas of study.

ENG 601. Introduction to Language and Linguistics. (4)

Basic concepts of language and its use from both historical and contemporary perspectives, with special attention to occasions of use.

ENG 603. Literary Theories and Their Histories. (4)

Study of the fundamental perspectives in literary criticism and their application to literary texts.

ENG 605. Issues in the Profession. (2)

Colloquium designed to introduce beginning graduate students to the academic profession, and especially to contemporary debates about the status and variety of literary history.

Prerequisite: admission to the graduate program.

ENG 606. Teaching of College Composition Practicum. (0-4)

Weekly guidance in the teaching of English 111, College Composition, for first-time instructors. Topics include developing writing and group activities, facilitating class discussion of reading, holding effective student-teacher conferences, writing syllabi, and benefitting from observation of one's teaching.

ENG 607. Teaching Advanced Writing. (2)

Weekly guidance in the teaching of advanced writing courses for first-time instructors. Topics include creating syllabi and assignments, developing writing and group activities, facilitating class discussions, holding effective student-teacher conferences and peer review/writing workshops, and benefitting from observation of one's teaching.

ENG 608. Theory & Practice of Teaching Writing Across the University. (1)

This one-credit-hour seminar introduces graduate students from a variety of disciplines to theory and research about writing and teaching writing within disciplinary courses and programs. The seminar culminates in a project.

ENG 610. Topics in Literary and Cultural Studies. (4; maximum 8)

Examination of aesthetic, historical, theoretical issues in literary/cultural studies. Detailed description of topics available from the Director of Graduate Studies.

ENG 615. TESOL Methods, Materials & Assessment. (3)

Provides teachers of adult English as a Second Language with the pedagogical tools needed to be effective instructors. Topics covered include a historical overview of TESOL pedagogy, second language learning strategies, choosing materials and designing courses for all four basic language skills, classroom management, and current research in second language assessment.

ENG 616. TESOL Practicum. (3)

This course will provide students with the opportunity to observe adult TESOL courses, consult with cooperating ESL teachers, and student-teach ESL classes under the guided supervision of their cooperating teachers. This course may be completed at any of Miami University's campuses which offers adult ESL training.

ENG 620. Studies in Renaissance Literature. (4; maximum 12)

Intensive study of selected Renaissance writers such as More, Sidney, Spenser, Marlowe, Jonson, Webster, Bacon, Donne, Milton, and Shakespeare; or of a particular theme such as the courtesy tradition; or of a poetic type such as the Renaissance sonnet or the Renaissance pastoral.

ENG 622. The Teaching of Writing. (6)

For certified teachers who wish to learn improved methods of teaching writing in their K-12 classrooms.

ENG 624. Presenting Teacher Research. (2)

The course seeks to improve teachers' knowledge and skills regarding the design and delivery of professional presentations.

Prerequisite: ENG 622.

ENG 630. Studies in the Restoration and the 18th Century, 1660-1789. (4; maximum 12)

Intensive study of selected authors such as Dryden, Pope, Swift, Johnson, Fielding, Goldsmith, and Sheridan, or of a literary group, genre, or style.

ENG 631. Writing in the Genres: Residential Workshop. (4; maximum 16)

Study and practice in creative writing, with attention to formal and conceptual concerns. Genre to depend on instructor. Attendance at visiting writers' talks and readings is expected as part of the course. Emphasis on peer and mentor critiques of student work and on revision of a manuscript, with the goal of producing a portfolio of professional quality creative writing.

ENG 632. First Non-Residential Semester Low-Residency MFA in Creative Writing. (5)

Involves an exchange of four writing packets of original work with an on-line mentor. Mentors will respond with detailed critiques of the submitted packets, and students will revise in response to those critiques. In addition, students will read and write responses to 6-8 contemporary and/or canonical texts in their genre. Co-requisite: ENG 631.

ENG 633. Second Non-Residential Semester in Low-Residency MFA in Creative Writing. (5)

Involves an exchange of four writing packets of original work with an on-line mentor. Mentors will respond with detailed critiques of the submitted packets, and students will revise in response to those critiques. In addition, students will read and write responses to 6-8 contemporary and/or canonical texts in their genre. Prerequisite: ENG 632. Co-requisite: ENG 631.

ENG 634. Third Non-Residential Semester Low-Residency MFA in Creative Writing. (5)

Involves an exchange of four writing packets of original work with an on-line mentor. Mentors will respond with detailed critiques of the submitted packets, and students will revise in response to those critiques.

ENG 635. Reading for Writing: Literary Forms. (4)

Analyzing and interpreting literary texts with a focus on issues important for writers, especially craft. Focus changes each term. Criticism as well as creative compositions are produced.

ENG 636. Fourth Non-Residential Semester in Low-Residency MFA in Creative Writing. (5)

ENG 636 will be devoted to completing a book-length final project, based upon work begun during the previous three non-residential semesters. During ENG 636, students will work closely with their final project director. Once the final project has been approved by their director and a second faculty member, students will be allowed to conclude their course of study by attending a required fifth 10-day residency, ENG 637, at which time students will give a public reading from their completed final project and help lead a workshop. Prerequisite: ENG 633 and 634. Co-requisite: ENG 631.

ENG 637. Low-Residency MFA Final Residency. (0)

An intensive residency required for matriculated members of the Low-Residency MFA program in Creative Writing who have completed all other coursework and whose Final Project has been approved. Highlights include writing workshops focused on student writing, as well as craft lectures and readings by faculty members and distinguished visiting writers. In addition, students in ENG 637 will give a public reading from their Final Project. Prerequisites: ENG 631 and ENG 632.

ENG 640. Internship. (0-12; maximum 6)**ENG 641. Classroom Research I. (2)**

An introduction to classroom research methodology and application. Prerequisite: ENG 622.

ENG 643. Classroom Research II. (2)

An introduction to classroom observation methodology and action research. Prerequisite: credited participation in the Teaching of Writing Workshop and Classroom Research I is required for this course.

ENG 647. Classroom Research III. (2)

Preparation for classroom observation methodology and action research. Prerequisite: Credited participation in the Teaching of Writing Workshop, Classroom Research I and Classroom Research II are required for this course.

ENG 649. Classroom Research IV. (3)

Application of classroom observation methodology and action research. Prerequisite: credited participation in the Teaching of Writing Workshop, Classroom Research I, Classroom Research II, and Classroom Research III are required for this course.

ENG 650. Studies in 19th-Century English Literature. (4; maximum 12)

Intensive study of selected 19th century authors such as Wordsworth, Coleridge, Byron, Keats, Thackeray, Dickens, George Eliot, Conrad, Arnold, Browning, and Tennyson, or of a literary group, a genre, or theme.

ENG 653. Implementing Literacy Practices. (1)

This course is intended for K-12 classroom teachers who are interested in implementing literacy practices learned in professional development with the Ohio Writing Project. As K-12 teachers in Ohio participate in Ohio Writing Project professional development, they will transfer what they learn to their classroom. This workshop will provide resources and strategies that support the implementation of literacy practices designed to increase the quantity and quality of writing and literacy instruction. This course is only offered as part of a credit workshop.

ENG 654. OWP Reading Contemporary Authors. (3; maximum 6)

For certified K-12 teachers who wish to explore the processes that students use to gain understanding of a text and the role of contemporary authors in the classroom. With an emphasis on comprehending and responding to a variety of texts, the course seeks to develop the reading and student-centered discussion strategies a teacher can practice in a K-12 classroom. Satisfies three hours of the 15 required elective hours for the Department of English Master of Arts in Teaching English.

ENG 655. Teacher as Writer. (3)

If you are looking to re-ignite your writing habit or searching for support for your writing projects, Teacher as Writer is the workshop. In this intense hybrid writing workshop, participants will practice writing in a variety of forms, genre, and styles; focus on building their own personal writing skills; prepare a publication piece, and enjoy sharing their writing with other professionals in their field. This workshop is designed to assist K-12 teachers, regardless of status, in their continuous desire to grow as writers and to experience a community of writers in support of their progress as writers.

ENG 660. Studies in 20th and 21st Century British and Irish Literature. (4; maximum 12)

Intensive study of selected 20th and 21st century British and Irish writers and/or literary movements such as Imagism, Modernism, Vorticism, Celtic Renaissance, Post War and/or Inter War writing. Focus may be on cultural themes, genres, and/or aesthetic practices.

ENG 670. Studies in American Literature, 1800-1865. (4; maximum 12)

Intensive study of selected pre-Civil War American writers such as Dickinson, Emerson, Hawthorne, Melville, Poe, Thoreau, and Whitman.

ENG 677. Independent Studies. (0-6)**ENG 680. Studies in American Literature, 1865-1919. (4; maximum 12)**

Intensive study of selected post-Civil War major American writers such as Stephen Crane, Dreiser, Howells, James, Robinson, and Twain.

ENG 690. Studies in Modern American Literature, 1919 to Present. (4; maximum 12)

Intensive study of selected modern major American writers such as Anderson, Hart, Crane, Dos Passos, Eliot, Faulkner, Fitzgerald, Frost, Hemingway, O'Neill, Pound, Steinbeck, and Stevens.

ENG 700. Research for Master's Thesis. (1-12; maximum 12)**ENG 704. Non-Thesis Project. (0-12; maximum 12)**

This repeatable course is for non-thesis culminating experiences. Permission of the instructor is required.

ENG 710. Intra-disciplinary Seminar in English Studies. (4; maximum 8)

Advanced study of a topic, integrating approaches from the sub-disciplines of English, including composition/rhetoric, creative writing, and literary studies.

ENG 720. Issues in Digital Composition. (4; maximum 12)

Study in one or more of the histories, theories, and practices of composition from the 19th to the 21st centuries.

Prerequisite: ENG 731 or equivalent.

ENG 730. Studies in Composition Research and Pedagogy. (4; maximum 12)

Intensive study of one or more areas of composition research, theory, or pedagogy such as design, testing and evaluation, discourse theory, history of composition, invention, syntax, style, and composing process.

ENG 731. The Theory and Practice of Teaching Composition. (3)

Examination and evaluation of current methods and strategies for teaching college writing with emphasis on classroom application of composition theory and research. Major topics include composing process, invention, argumentation, the sentence and the paragraph, testing and evaluation, recent research in composition, reading and writing, and composition and literature. Summer only.

Prerequisite: graduate standing.

ENG 732. Histories and Theories of Composition. (4)

Study in one or more of the histories, theories, and practices of composition from the 19th to the 21st centuries.

ENG 733. Histories and Theories of Rhetoric. (4)

Historical review of major figures and theories of rhetoric up to the late 20th century.

ENG 735. Empirical Research Methods in Composition. (4)

Introduction to methods of qualitative and quantitative research in the study of writing.

Prerequisite: ENG 731 or equivalent.

ENG 737. Contemporary Theories of Rhetoric. (4)

Focus on major figures and theories of rhetoric in the 20th and 21st centuries.

ENG 750. Histories and Methodologies in Literary and Cultural Studies. (4; maximum 8)

Practicum centering on an area of contemporary theory/critical practice that students integrate with their interests. Required for literature doctoral students, who may take the course again when topic changes; suggested for Masters' students intending to pursue doctoral work. Detailed description of scheduled topics available from the Director for Graduate Studies.

Prerequisite: ENG 603 or equivalent.

ENG 751. Special Problems. (1-6; maximum 6)

Special research study in a topic not covered in a regular course, usually culminating in an essay of the kind found in literary journals. Application for this course must be made by the 14th week of the previous semester or by the end of the first week of new semester, and approved by departmental committee.

ENG 760. Special Topics in Rhetoric. (4; maximum 12)

Intensive study of one or more specialized areas or elements of rhetoric--such as ethnic/comparative, feminist, religious, or disability rhetorics; rhetoric of the public sphere; or ancient and modern rhetorical theories of invention.

ENG 770. Issues in Professional Writing. (4; maximum 12)

Intensive study of one or more elements of professional or technical communication, intellectual property, the production and analysis of print and digital genres, usability and other writing research methodologies, and workplace, global, and mobile communication. Emphasis on theory, research, and practice.

ENG 780. Internship in English Studies. (1-4; maximum 12)

Internship in practical applications of English Studies, such as editing, digital design, digital curation, and technical writing.

Prerequisite: permission of instructor.

ENG 850. Research for Doctoral Dissertation. (1-16)

English Studies (EGS)

EGS 177. Independent Studies. (0-6)**EGS 215. Workplace Writing. (3)**

Practice in varieties of workplace correspondence and communication with emphasis on writing clear, concise, and accurate informal and formal reports, including email, resumes, cover letters, incident reports, accident reports, sales reports, marketing plans, activity reports, progress reports, change controls, evaluation/performance reports, recommendation reports, and white papers. ADVW. PA-1C.

EGS 277. Independent Studies. (0-6)**EGS 301. Writing and the Professions. (3)**

Immersive study of multimodal writing practices in various professional disciplines. Reading, research, discussion, and writing about the benefits of a liberal arts education in a complex, global work environment. ADVW, EL. PA-1C.

EGS 305. Integrative Writing in Global Contexts. (3)

Through this advanced composition course, students develop and exercise means to integrate multiple perspectives and disciplinary discourses through writing for global audiences. Readings focused on issues in diversity and intercultural communication, assignments involving various genres and disciplinary methodologies, and projects that analyze and integrate multiple forms of writing help students draw on their liberal learning to address real-world challenges in regard to diverse others and the interconnected global community. IC, ADVW. PA-1C.

Cross-listed with BIS 305.

EGS 319. Medical Writing. (3)

Introduces students to a range of strategies used in medical writing for general and specialized audiences. The primary focus will be on audience, argument, style, and conventions, as well as different genres and contexts of medical writing. Students will evaluate the most common types of scientific writing, such as presentations, manuscripts and grant applications, both individually and in collaboration with others. Students will develop their own scientific research documents with attention to visual design and format as well as content. ADVW. PA-1C.

EGS 320. Readings in Literatures and Cultures. (3; maximum 6)

Readings and discussions may focus on various periods, movements, genres, authors, and/or national traditions. May be repeated once for credit when content changes.

EGS 340. Internship. (0-20)**EGS 377. Independent Studies. (0-6)****EGS 390. Special Topics in English Studies. (3; maximum 6)**

Intensive study of a particular aspect of English studies, which may include special topics in literature, creative writing, professional writing, or linguistics. Topic determined by instructor. May be repeated once for credit when content changes.

EGS 410. Readings in Multicultural Perspectives. (3; maximum 6)

Specific study of diverse literary traditions and voices, emphasizing a global context for the study of literary texts. May be repeated once for credit when content changes.

EGS 420. Topics in Writing. (3; maximum 6)

EGS 420 develops students' critical thinking, reading, and writing skills in a variety of writing contexts. Particular focus on issues relevant to global workplace and everyday life. Topic determined by instructor. May be repeated once for credit when content changes.

EGS 421. Exploring Genre in Diverse Contexts. (3)

Focuses on exploring how genres operate in the world around us—genres that we use and encounter in everyday life, such as digital and entertainment genres, academic genres, and community and public genres. Applying concepts from "rhetorical genre theory," students will explore, analyze, and practice composing various genres they encounter in different settings and situations.

EGS 422. Creative Thinking, Reading, and Writing. (3)

Offers an intensive understanding of creativity, creative thinking, innovation, and narrative in a variety of social contexts. Students study three major creative writing genres in depth: short fiction, poetry, and creative nonfiction. Students practice communicating in various genres, media, and modes and for various audiences, and develop skills in creative problem-solving, collaboration, textual analysis, and inquiry.

Prerequisite: ENG 111.

EGS 460. Issues in Literary and Cultural Studies. (3; maximum 6)

Inquiry into topics informed by literary and cultural theory such as identity, authorship and performativity. May be repeated once for credit when content changes.

Prerequisite: ENG 298 or permission of instructor.

EGS 477. Independent Studies. (0-6)**EGS 495. Capstone in English Studies. (3)**

Intensive reading, research, writing, and discussion in selected topics. While specific requirements vary with topic and instructor, students will analyze texts within their various contexts, conduct and use research ethically, and communicate effectively both orally and in writing. Capstones in English are selected annually from faculty proposals. SC.

Prerequisite: ENG 298 or permission of instructor and senior standing.

Entrepreneurship (ESP)

ESP 101. Entrepreneurship Foundations. (1)

This sprint course will provide a hands-on approach to understanding entrepreneurship in start-up, social, and corporate settings.

The course will analyze and investigate the current trends and opportunities in entrepreneurship. Students will meet with and learn from successful entrepreneurs about their lives and work as entrepreneurs. The course will focus on the skills and tactics necessary to succeed in various entrepreneurial settings, and discuss how students can apply these skills to their personal and professional passions and interests. By collaborating with like-minded peers and award winning faculty, students will learn what it takes to turn "possibilities" into "probabilities". Credit/no credit only.

ESP 102. Entrepreneurial Immersion: From Idea to Opportunity. (1; maximum 2)

This hands-on experience immerses students in the early stages of the entrepreneurial process. In a one weekend fast-paced environment, students develop ideas, build teams and discover insights. Over the course of the weekend, students pitch their concepts, ideas and solutions to real investors and practitioners who will provide mentorship, coaching and feedback. The course is designed to integrate creative thinking, critical thinking, problem solving and leadership skills in an environment similar to the business world. Students get a real world understanding of how to succeed in any venture.

ESP 103. Creativity, Innovation and Entrepreneurial Thinking. (2)

This course prepares students to understand and address two pressing issues in business today: how to recognize and create new business opportunities and how to think more creatively within business environments. Students will be introduced to a number of tools, concepts and approaches including human-centered design, ideation techniques, the importance of embracing ambiguity, personal responsibility and the place of risk and fail in entrepreneurship, creativity and life. The class is highly interactive and experiential. EL.

Co-requisites: BUS 101, BUS 102, and BUS 104.

ESP 152. International Entrepreneurial Creativity & Innovation Bootcamp. (1)

This Prodesse Scholars Interdisciplinary Creativity & Innovation Experience explores creativity with an international twist. Miami University Entrepreneurship Department is the home of World Creativity & Innovation Week and World Creativity & Innovation Day. Students in this class will connect with creativity experts and students from around the world. This three-day immersive weekend workshop includes lots of hands-on work to practice the mindsets, toolsets, and skillsets that will improve student's lives and careers. Students will develop ideas, build teams, discover insights, and create innovative solutions. Over the course of the weekend, students share their concepts, ideas, and solutions with international students, innovators, entrepreneurs, and practitioners who will provide mentorship, coaching, and feedback. Students get a real-world understanding of how to succeed in any venture. Students will work on teams to identify opportunities for improving one of the United Nations Sustainable Development Goals. Student's final projects will be shared with WCIW's international audience on multiple social media platforms.

ESP 177. Independent Studies. (0-6)**ESP 201. Introduction to Entrepreneurship and Business Models. (3)**

Topics include requirements and challenges of successful entrepreneurship, characteristics of successful entrepreneurs, the life cycle stages of a business, careers and opportunities for entrepreneurship. Pre-/Co-requisite: ESP 101.

ESP 251. Entrepreneurial Value Creation and Capture. (3)

In this class, students will focus on the marketing and financial issues confronting entrepreneurial venture. This course looks at the challenges entrepreneurs face in attempting to start, grow and build ventures, specifically aspects related to customer acquisition, customer retention, and capital resources. Students are exposed to tools, concepts, and approaches related to marketing and financial operations of entrepreneurial ventures with emphasis on the application of this material using a series of real-world cases and examples. Class environment is highly interactive and experiential. Prerequisite or Co-requisite: ESP 101.

ESP 252. Entrepreneurial Mindset: Creativity and Organization. (3)

In this class, students will learn concepts of leadership and creativity as it relates to the organization of entrepreneurial ventures. Students will learn the role of creative thinking and leadership models in the growth of entrepreneurial organizations. In both parts of the class, the environment is highly interactive and experiential. Prerequisite or Co-requisite: ESP 101.

ESP 277. Independent Studies. (0-6)**ESP 321. Startup Entrepreneurship. (3)**

This course is structured using an agile scrum project management approach favored by many high-tech startups in which tasks are completed in short "sprints.". In this course students will learn digital marketing and analytics strategies and techniques including landing page development, A/B testing and Google analytics. Be prepared to learn on the fly, test and iterate, and spend out-of-class time completing project sprints. Prerequisite: ESP 201 or approval from academic advisor.

ESP 331. Social Entrepreneurship. (3)

This course introduces students to the opportunities and challenges associated with building and growing enterprises that are both self-sustaining and focused on a social mission. Students will engage in an experiential learning process with others to develop a better understanding of the domain of social entrepreneurship including the development, measurement and assessment of various social enterprises.

ESP 340. Internship. (0-20)

Available to Farmer School of Business (FSB) majors and minors. Available for 0 credit hour during spring, summer and fall terms. Available for 1 credit hour during summer terms only. For one hour of credit, student must secure a sponsoring FSB faculty member within his/her major or minor to supervise the internship and accompanying required internship reflection paper. ESP 340 is not available during winter term. Students are to work through their respective academic departments to enroll in the course. Credit/no credit only. Note: FSB students may earn a maximum 2 credit hours toward graduation for BLS/BUS/ECO/ESP/FIN/ISA/MGT/MKT 340. Prerequisite: 55 earned hours and permission of department.

ESP 341. Corporate Entrepreneurship. (3)

This course focuses on the value and use of entrepreneurial thinking and behavior in large, corporate and/or public organizations. Students will examine both the benefits and challenges of acting like an entrepreneur when they may not be the owner or CEO of the organization, or be a part of a much larger, complex organization. These concepts are introduced through research, cases and conversations with successful intrapreneurs.

ESP 351. Creativity in Entrepreneurship. (3)

This course will explore the application of creative thinking in addressing business opportunities and problems, especially within an entrepreneurial context. The course takes a systematic approach to creating, evaluating, refining and selling breakthrough ideas. Students will be exposed to a number of techniques, concepts and methods useful in managing the creative process in individual and group contexts with emphasis on accountability for creative quality. Class is highly interactive and experiential. This is the first of three courses as part of the Creativity Track within the Entrepreneurship Curriculum.

ESP 377. Independent Studies. (0-6)**ESP 394. Applied Entrepreneurship: Workforce Preparation. (3)**

This course immerses students in the mindsets and practices of workplace excellence. The class focuses on three entrepreneurial concepts: critical workplace soft skills, how to use the creative/innovative mindset as an entry level employee and important technical skills. The course is designed to improve decision making, critical thinking, problem solving and leadership skills in preparation for The Altman Internship Summer Experience.

Prerequisites: ESP 101, ESP 201, ESP 251, and ESP 252.

Prerequisite or Co-requisite: ESP 321, ESP 331, ESP 341, or ESP 351.

ESP 401/ESP 501. Entrepreneurship: New Ventures. (3)

This course examines the venture creation process within a startup ecosystem. ESP 401/ESP 501 explores a variety of issues surrounding new venture creation, including how to recognize and assess an opportunity, the process and steps in starting a new venture, the financials of the new business, determining and acquiring resource needs, marketing requirements, deal structure and exit strategy, technology issues, legal and ethical issues and creating a written business plan in support of the new venture. Small teams are formed to work on a new business venture, which is presented in an oral presentation and written business model. SC.

ESP 432. Leading the Integration of Faith and Entrepreneurship (L.I.F.E.). (3)

This course explores the growing movement of integrating faith into entrepreneurial ventures, including investors, entrepreneurs, and ecosystem participants. The course will provide students an understanding of the challenges and opportunities of integrating faith and entrepreneurship, regardless of their own views on the topic. The integration of faith and entrepreneurship builds on the emerging trends in society and highlights the importance of faith as a critical but underrepresented element of diversity, equity, and inclusion.

ESP 444/ESP 544. Entrepreneurship: Venture Capital Immersion. (3)

The Venture Capital Immersion course is designed to provide you with a realistic understanding of the methods and approaches used by institutional investors to evaluate new businesses (startups) and high growth companies and to develop and negotiate investment terms. The prospect of raising outside capital is a consideration for many new business ventures at some point in order to grow and scale the company. The Venture Capital Immersion course focuses specifically on one such sources of outside capital: institutional investment from venture capital firms (angel group, venture capital, or private equity). It simulates what venture investors experience as a member of an institutional investment firm.

ESP 461. Entrepreneurial Consulting. (3)

Student teams apply a problem-solving methodology by consulting with selected entrepreneurial organizations that have requested assistance. Each selected company will have a wide range of entrepreneurial challenges crossing the fields of finance, marketing, accounting, production, human resources, information systems, strategic and tactical planning, growth or down-sizing problems, procurement issues, inventory control, quality control and forecasting. Through this consulting experience, students learn to integrate and apply their business knowledge to "real-world" settings and to test their analytical skills by solving complex entrepreneurial business problems. SC.

ESP 477. Independent Studies. (0-6)**ESP 481. Technology, Products & Ventures. (3)**

An interdisciplinary perspective on the interfaces between new product development, innovation, and technology. Examines product development capability as an essential element of successful business strategy and a key component of an "entrepreneurial mindset." Students develop a working prototype for a new product and a comprehensive new product plan.

ESP 490. Special Topics in Entrepreneurship. (1-3; maximum 6)

Issue oriented seminar for juniors or seniors focusing on a contemporary topic related to the rewards, requirements and challenges associated with entrepreneurship in different environments.

Prerequisite: permission of instructor.

ESP 651. Creativity, Innovation and the Entrepreneurial Mindset. (3)

Applied Entrepreneurial Mindset: Creativity & Innovation is designed to provide students with a practical understanding of the foundations of creativity in business. The ability to imagine something new, leading to the creation of new realities and possibilities that advance current practice in our classrooms, businesses, organizations and lives in new and innovative ways is an essential skill set needed in the 21st century. The course explores Design Thinking/Human Centered Design as the central focus of providing tools and techniques to solve problems. This course investigates creativity and innovation frameworks to identify and assess potentially valuable problem/solution opportunities/ideas, to evaluate the feasibility and attractiveness of those ideas. This course considers personal creative styles along with personal growth techniques. The goal is to help students apply creativity, innovation and the entrepreneurial mindset to meet the challenges of everyday life. Students finish the course with their own creativity framework and a personal creativity manifesto to propel their careers, lives and ventures.

ESP 652. Applied Entrepreneurial Mindset: Creativity & Innovation. (1.5)

Applied Entrepreneurial Mindset: Creativity & Innovation is designed to provide students with a practical understanding of the foundations of creativity in business. The ability to imagine something new, leading to the creation of new realities and possibilities that advance current practice in our classrooms, businesses, organizations and lives in new and innovative ways is an essential skill set needed in the 21st century. The course explores Design Thinking/Human Centered Design as the central focus of providing tools and techniques to solve problems. This course investigates creativity and innovation frameworks to identify and assess potentially valuable problem/solution opportunities/ideas, to evaluate the feasibility and attractiveness of those ideas. This course considers personal creative styles along with personal growth techniques. The goal is to help students apply creativity, innovation and the entrepreneurial mindset to meet the challenges of everyday life. Students finish the course with their own creativity framework and a personal creativity manifesto to propel their careers, lives and ventures.

ESP 670. Introduction to Entrepreneurship and Business Models. (3)

Introduction to Entrepreneurship will explore entrepreneurship, its importance to our society, and its role in bringing new ideas to the market both product-based ideas and service-based ideas.

ESP 677. Independent Studies. (0-6)

Environmental Sciences (IES)

IES 127. Environmental/Justice Films. (3)

This course is designed to introduce Social Justice and Sustainability Prodesse Scholars to a variety of environmental and social justice issues through cinema. The emphasis will be fictional feature films, not documentaries, but the feature films may be based on reality. Students will meet to watch films together and reflect on the messages they carry about environmental and social justice issues and how those messages are disseminated to the viewers. Students will explore the relationship between art and message. Cross-listed with FST 127 and SOC 127.

IES 177. Independent Studies. (0-6)

IES 186. Sustainable Farming and Food. (3)

Sustainable food systems deliver food security and nutrition to sustain human health in ways that are socially just and do not compromise ecological health. Through hands-on farming and food provision, this course teaches the connections among agricultural and food systems and the environment, the complexity of food systems, and the tremendous impact they have on human health and societal outcomes. Students will utilize the scientific method to identify environmental problems associated with farming practices, and to explore potential solutions. Students will practice applying the scientific approach while gaining actual farming experience on the Miami Sustainable Farm. EL. PA-2B. CAS-D.

IES 211. Energy and Policy. (3)

Study of the relationships between energy technology and energy policy, with considerations of how policy and economic incentives influence the production and use of fossil fuels and renewable energy sources. Emphasis is on the regional and global impacts of different energy sources to natural resources and environmental quality.

IES 231. Italian Food Cultures in Context. (3)

Examines food movements in Italy in a historical, literary and cultural perspective and compares the Italian case to the US discussing food production and consumption in light of the global environmental crisis. Includes hands-on experience with the local community. In English. IIIB, EL. PA-4C, SI-01. CAS-B. Cross-listed with ITL 231.

IES 264. Environmental Literature. (3)

How can literature, past and present, help us survive and thrive in a time of environmental crisis? This class will show you how reading and writing about human relations with the more-than-human world can enhance your abilities to perceive, understand, analyze, narrate, and respond to real-world environmental crises. Core texts and approaches will vary by faculty area of specialty; include texts from different disciplines, fields, genres, communities, and time periods; and consider intersections of race, class, gender, sexuality, and environment. IIB. PA-3B, SI-01. CAS-B, CAS-B-LIT. Cross-listed with ENG 264.

IES 274. Introduction to Environment and Sustainability. (3)

Introduction to environmental and sustainability principles from social science and natural science perspectives. Critical analysis of environment and sustainability-related problems and resolution strategies. Review of foundational concepts and case studies, which may include environmental history, biotic and natural resources, energy and climate, planning and design, organizational management and policy, and sustainable development.

IES 275. Principles of Environmental Science. (3)

Topics include causes and consequences of climate change; contamination of earth systems and pollution mitigation; use, abuse, and conservation of natural resources; agroecosystems, land use, conservation and preservation, planning and management and the value of biodiversity and wilderness. Emphasis is on the multidisciplinary nature of environmental problems and their solutions.

Prerequisites: at least one course from each of the following three categories is either pre- or co-requisite: 1) BIO 121, 131, 176, or 191 or BIO/MBI 115; and 2) CHM 111 or CHM 142 or CPB 244 or GLG 211; and 3) GLG 111, 121, or 141 or GEO 121 or 122.

IES 277. Independent Studies. (0-6)

IES 278. Introduction to Food Systems. (3)

Introduces students to food from an interdisciplinary perspective exploring the interrelationships between food, agriculture, environment, and society. Course materials focus on food from a systems-based perspective, examining the origins, implications, and practices of our current food system, and exploring new approaches to sustainable agriculture, agroecology, and resilient food systems. IVA. EL. PA-2B. CAS-D.

IES 278L. Understanding Food Systems Laboratory. (1)

Laboratory course exploring the interrelationships between soil, water, plant resources, and other biotic components of agricultural ecosystems. IVA. PA-2B. CAS-D.

Co-requisite: IES 278.

IES 340. Internship. (0-20)

IES 377. Independent Studies. (0-6)

IES 411/IES 511. Environmental Protocols. (4)

Lecture/field laboratory course will integrate the collection, analysis, management, evaluation and presentation of environmental measurements. One lab and two lectures per week. Appropriate for all environmental practitioners.

IES 412/IES 512. Tropical Ecosystems of Costa Rica. (5)

Introduces students to the structure and function of neotropical ecosystems, as well as to geological, biological, cultural, and economic forces affecting biodiversity in the tropics. This course is taught on-site in Costa Rica. There are additional costs beyond tuition. Cross-listed with: GEO/GLG 412.

IES 419/IES 519. Environment, Society & Justice. (3)

Interdisciplinary studies of the underlying social aspects of environmental problems and issues. Topics include the unequal distribution of hazardous waste sites, the environmental impacts of war, vulnerability to disaster, the social construction of the environment, population growth, environmental movements, the political economy of the environment, and ecological modernization. Cross-listed with SJS.

IES 429/IES 529. Environmental Communication. (3)

Examines theories, principles, and methods for communicating environmental concepts and scientific information verbally, textually and visually to a range of audiences and stakeholders. Students will work with scientists, peer communities, clients, and focus groups to develop effective and appropriate environmental communications across mediums. Projects may include producing scientific posters, writing reviews of research projects on an environmental problem, preparing oral presentations, creating visual story of scientific work, interviewing scientists for a general news story, writing environmental proposals, and facilitating focus groups.
Cross-listed with ENG/JRN.

IES 431/IES 531. Principles and Applications of Environmental Science. (3)

Analysis of the relationship of human beings to the environment, specifically assessment of their impact on the environment as a whole. Attempts to outline the evolution and present status of many environmental problems, presents possible solutions, and attempts to predict our future relationship with nature.
Prerequisite: IES 275.

IES 440/IES 540. Contemporary Topics in Environmental Sciences. (1-3; maximum 3)

An examination of historical and current world environmental conditions.

IES 441/IES 541. Environmental Public Health. (3)

This course is a study of the effects of human-made and natural physical, biological, and chemical agents on human health. The course explores the interaction of population health, demographics, and environmental determinants of disease. The course covers the basic principles of epidemiology, exposure, risk characterization, disease pathogenesis, and diagnostic testing, as well as the public works and regulatory controls used to limit exposure.
Cross-listed with KNH 441/KNH 541.

IES 450/IES 550. Environmental Law. (3)

Introduction to the origins of environmental law; discussion of regulatory agencies; regulation of water pollution, hazardous substances, solid waste, land use, and air pollution.
Prerequisite: upper-level undergraduate or graduate status.

IES 474. Sustainability in Practice. (3)

Application of sustainability principles to social and environmental problem solving, in an inter-disciplinary and project-based setting. Collaborative design of innovative strategies for addressing and resolving environmental concerns. Reflection on practical challenges of implementing sustainability principles in practice.
Prerequisite: IES 274 or permission of instructor.

IES 477. Independent Studies. (0-6)**IES 494/IES 594. Sustainability Perspectives in Resources and Business. (3)**

Provides students with interdisciplinary perspectives of sustainability in business and resource management through consideration of the economic, social, and environmental value of organizations. The course covers principles, case studies, and best practices used by organizations in several areas of sustainability, such as energy efficiency and alternatives, waste management and recycling, ecosystem services, product redesign and life cycle management, resource management, and sustainability planning and reporting.
Cross-listed with BUS 494.

IES 598. IES Orientation Field Trips. (1)

The environmental orientation field trips are an important part of the IES program. They provide an opportunity for the incoming graduate students to see and experience things of environmental relevance that would be difficult without the field trips which extend over a three day period.
Prerequisite: Admission to IES.

IES 605. Introduction to the Professional Service Project. (2)

Major environmental project of concern to a local government, nonprofit organization or other entity in southwest Ohio is assigned to a group of students working as a team. Students begin the problem-solving process and lay out their study design for spring semester.
Prerequisite: IES 611.

IES 610. Professional Service Project. (4)

Major environmental project of concern to a local government or nonprofit organization in southwest Ohio is assigned to a group of students working as a team. The team is expected to develop solutions to the problem during winter and spring terms.
Prerequisite: IES 605 and IES 611.

IES 611. Environmental Problem Solving and Analysis. (2)

Interdisciplinary methodologies employed in solving environmental problems, with emphasis on problem definition and scoping, stakeholder involvement, developing and analyzing alternatives, and implementation of solutions.
Prerequisite: admission to IES or permission of instructor.

IES 620. Topic Seminar. (1)

Seminar on environmental topics of current importance such as environmental impact and risk assessment.
Prerequisite: admission to IES or permission of instructor.

IES 640. Internship. (0-12; maximum 6)**IES 642. Amazon: Avian & Tropical Ecology. (5)**

In the Amazonian Neotropical regions of Peru, reality has attained mythic proportions: more than 400 species of mammal, 1,300 bird species, 3,000 fish, 40,000 plants, and 2.5 million insect species. And still counting. Why is this area of South America the most diverse on the planet? How have the varied human groups that inhabit this region adapted to their unique environments? And perhaps the most relevant question for life on Earth, what is the future of the Amazon? Students travel to the Peruvian Amazon rainforest and work with educators, researchers, and local communities to better understand the evolution and maintenance of biodiversity in this region, and to experience firsthand the effects of human interventions in the Amazon, from deforestation and urbanization to restoration efforts by local groups. Prior to and following the field experience in the Amazon, students complete coursework via Dragonfly's Web-Based Learning Community as they apply experiences to their home institutions.
Cross-listed with BIO.

IES 643. Australia: Great Barrier Reef. (5)

One of the seven wonders of the natural world, the Great Barrier Reef lies in the clear blue waters off the northeast coast of Australia. This complex reef system is not only the world's greatest expanse of coral, it is the Earth's largest living structure, a massive, beautiful, and ancient biological phenomenon of bewildering diversity and immense ecological significance. This graduate course is offered jointly with Reef HQ Aquarium, Australia's National Education Centre for the Great Barrier Reef. We sleep near the corals in the aquarium itself, venturing forth on several excursions for direct research on the Great Barrier Reef, and hiking in some of Australia's unique terrestrial habitats. Discussion topics include marine science issues, citizen engagement in marine science and environmental stewardship. Prior to and following the field experience in Australia, students complete coursework via Dragonfly's Web-Based Learning Community as they apply experiences to their home institutions. Cross-listed with BIO.

IES 644. Baja: Field Methods. (5)

Students discover the rich waters and terrestrial ecosystems of Baja's UNESCO World Heritage site and biosphere reserve on the Sea of Cortez. Bahia de los Angeles is a unique ecoregion with remarkable marine and terrestrial environments. Students also explore Rancho San Gregorio, a family-owned ranch located in a small canyon where its isolation and climate make it a hotspot for desert investigations. Students gain proficiency in applying field methods to ecological questions and conservation practice. A premise of this course is that field methods are not only essential for ecological research, they can serve as the basis for participatory education, public engagement in science, and community-based environmental stewardship. Many groups, from teachers leading schoolyard ecology to parataxonomists involved in ethnobotanical research, share a need for reliable information obtained through robust field methods to build understanding and to promote informed action. Prior to and following the field experience in Baja, students complete coursework via Dragonfly's Web-Based Learning Community as they apply experiences to their home institutions. Cross-listed with BIO.

IES 645. Belize: Approaches to Environmental Stewardship. (5)

Students join our partner, the Belize Zoo, and explore diverse terrestrial, coastal, and coral reef communities of Belize, while learning about conservation programs on such species as harpy eagles, jaguars, manatees, and howler monkeys. Possible investigations include monitoring manatee population dynamics, human influence on coral reefs, aquatic mangrove species sampling, and species behavior studies at the Belize Zoo. Discover the power of inquiry to generate knowledge and inspire conservation. All students will have the chance to conduct an investigation of the local ecosystem, asking their own questions, collecting data, and presenting conclusions. Prior to and following the field experience in Belize, students complete coursework via Dragonfly's Web-Based Learning Community as they apply experiences to their home institutions. Cross-listed with BIO.

IES 646. Borneo: Primate Conservation. (5)

Borneo's primate community is exceptionally rich, including proboscis monkeys, which occur only in Borneo, leaf monkey, macaque, gibbons, tarsier and slow loris. Of greatest conservation concern is the orangutan, which occurs naturally on only two islands in the world, Borneo and Sumatra, and is under increasingly severe pressure, primarily from habitat loss. The orangutan, the only great ape in Asia, may completely vanish from the wild within two decades. Partnered with the Woodland Park Zoo, we will join researchers from the NGO Hutan and the Danau Girang Field Centre, and villagers of the Kinabatangan region who are responsible for model community-based efforts to preserve orangutans, Bornean pygmy elephants, and other species. In addition to exploring primatological field methods, students will work with local groups and develop new ways to engage communities worldwide in saving orangutans and other wildlife. Prior to and following the field experience in Borneo, students complete coursework via Dragonfly's Web-Based Learning Community as they apply experiences to their home institutions. Cross-listed with BIO.

IES 647. Guyana: Local Wisdom & Conservation. (5)

Guyana's rain forests are part of the Guiana Shield considered one of the last four Frontier Forests in the world. Guyana is famous for its relative abundance of iconic Amazonian species such as jaguars, arapaima (a "living fossil" and one of the largest freshwater fishes in the world), harpy eagles, giant anteaters, giant river otter, and the giant water lily. Guyana is also culturally and ethnically diverse. We will spend most of our time with the Makushi, an indigenous group that has lived in these forests and savannas for thousands of years. The Makushi and their lands face a striking transition as the forces of development provide new opportunities and challenges, the greatest perhaps being the rapid extinction of traditional knowledge. Conscious of the value of indigenous and non-indigenous knowledge, Guyana's Makushi people are becoming masters of straddling both worlds. Prior to and following the field experience in Guyana, students complete coursework via Dragonfly's Web-Based Learning Community as they apply experiences to their home institutions. Cross-listed with BIO.

IES 648. Hawai'i: Saving Species. (5)

The extraordinary island ecosystems of Hawai'i evolved in isolation over millions of years, and the islands have long been home to species that occur nowhere else on the planet. However, since the arrival of humans, native species have been under tremendous threat, and by many measures Hawai'i is becoming one of the United States' most profound conservation failures. Habitat destruction, environmental degradation, introduced species, and other forces have made Hawai'i a global center for extinction. Students in this course will join with San Diego Zoo Global (SDZG), Project Dragonfly, and Hawaiian partners to explore what it takes to save species in the wild. We will focus especially on the inspirational work of SDZG's Institute for Conservation Research, which uses science, education, and community programs to rescue species from the brink of extinction. We expect Earth Expedition's Hawai'i program to immerse graduate students and local partners in developing and testing site-specific methods of community engagement to sustain ecological and social health. Prior to and following the field experience in Hawai'i, students complete coursework via Dragonfly's Web-Based Learning Community as they apply experiences to their home institutions. Cross-listed with BIO.

IES 651. Mongolia: Steppe Ecology & Civic Media. (5)

Students travel to Mongolia, the "Land of Blue Sky." The birthplace of the Mongol Empire, the largest contiguous empire in human history, Mongolia is now a vibrant democracy and home to an open wilderness that has few parallels in the modern world. We will explore the great steppes, and especially engage in the conservation story of two key steppe species: Pallas' cats and Przewalski's horse. Pallas' cats are important steppe predators whose conservation provides insights into the challenges facing the survival of small wild cats worldwide. Przewalski's horse, also called takhi, are considered to be the only true wild horse left in the world. We will join research on an ambitious reintroduction project based in Mongolia that has returned this remarkable species to its former homeland after being driven to extinction in the wild. Prior to and following the field experience in Mongolia, students will complete coursework via Dragonfly's Web-Based Learning Community as they apply experiences to their home institutions.

Cross-listed with BIO.

IES 652. Thailand: Buddhism & Conservation. (5)

Students travel to Thailand to investigate this country's astonishing Old World rain forests and diverse cultural environments. This course will address key topics in ecology while exploring emerging models of conservation and education. Possible research projects include Buddhism and the environment, indigenous ecological knowledge, spiritual connections to nature, and community forests. Discover the power of inquiry to generate knowledge and inspire conservation. All students conduct an investigation of the local ecosystem, asking their own questions, collecting data, and presenting conclusions. Prior to and following the field experience in Thailand, students complete coursework via Dragonfly's Web-Based Learning Community as they apply experiences to their home institutions.

Cross-listed with BIO.

IES 653. India: Species, Deities & Communities. (5)

Students journey to India through the rich ecological, cultural, and spiritual landscapes of the Western Ghats, exploring sacred groves and forest temples where the fate of wildlife, people, and deities meet. The Western Ghats region is well known to conservationists as a biodiversity hotspot, home to diverse local ecosystems with an abundance of plant and animal species found nowhere else. The existence of sacred groves in the Western Ghats predates recorded history. For social scientists, sacred groves are valued as centers for community life. For the spiritually inclined, sacred groves transcend earthly bounds, allowing people to commune with gods and other powerful beings that offer protection, enlightenment, absolution, or guidance. In this course, we seek to better understand the multifaceted relationship between people and nature, and we address specific questions about a sustainable future. Prior to and following the field experience in India, students complete coursework via Dragonfly's Web-Based Learning Community as they apply experiences to their home institutions.

Cross-listed with BIO.

IES 665. IES Internship or Practicum Development. (1)

Students explore career options and develop a plan for satisfying the professional experience requirements for the IES Master's of Environmental Science. Students will develop and write an internship or practicum proposal. Students pursuing an internship will also search for opportunities, develop application materials and apply for opportunities.

Prerequisite: Admission to the IES MEn program.

IES 670. Environmental Practicum. (1-12; maximum 12)

Provides advanced graduate student with opportunity to apply acquired knowledge to the solution of an environmental problem. Prerequisite: satisfactory completion of comprehensive examination.

IES 677. Independent Studies. (0-6)**IES 680. Environmental Internship. (1-12; maximum 12)**

Provides advanced graduate student with opportunity to apply acquired knowledge while working for approximately six months with an appropriate sponsoring organization actively involved in interdisciplinary environmental activities.

Prerequisite: satisfactory completion of comprehensive examination.

IES 681. Galápagos: Islands of Change. (5)

Biologically, geologically, and culturally, the Galápagos are one of the best places on Earth to study the forces of change. Here, in 1835, Charles Darwin noted how giant tortoises, finches, and other taxa evolved different forms across the archipelago. Species on the islands have transformed in response to other species and the physical environment, through periods of isolation and connection, as new islands were created and old islands submerged over time. The most powerful changes now are of human origin. People are an increasing source of habitat destruction, overexploitation, and introduced species. But they are also a source of hope, with government agencies, researchers, NGOs, educators, and other informed citizens designing promising new approaches. Students will explore multifaceted forces of change in the Galápagos and contribute directly to sustainable solutions to current issues. Before and after the field experience, students complete coursework in Dragonfly's web learning community.

Cross-listed with BIO.

IES 682. Paraguay: Eco-Leadership. (5)

The presence of conservation organizations in Paraguay is limited, and a critical need exists to better understand and build on the traditionally close relationship between local people and the land on which they depend. Cultivating the next generation of leaders is essential to a sustainable future for Paraguay's unique ecosystems and cultures, which are under increasing threat from population growth, agriculture, cattle ranching, hunting, and construction. Students in this course will co-develop an Eco-Leadership program for Paraguay, working in partnership with Para La Tierra (PLT), a nonprofit conservation organization devoted to scientific research, conservation, and community engagement. Students will learn with Paraguayan youth and others the diverse skills required for effective eco-leadership. Before and after the field experience, students complete coursework in Dragonfly's web learning community.

Cross-listed with BIO.

IES 683. Brazil: Saving Golden Lion Tamarins. (5)

Golden lion tamarins live in only one small region of Brazil. By 1969, habitat destruction and forest fragmentation reduced the wild population to just 200 individuals. Since then, zoos worldwide have carefully managed the captive population, ecologists have studied habitat and population requirements, and educators have worked with local communities to increase knowledge of tamarins and their forest. Since 1969, the wild population has increased nearly tenfold, making this a landmark case of species recovery. This course focuses on multi-faceted wildlife conservation, including biological issues relevant to species reintroductions and translocations, management of wild and zoo-based populations, community-based habitat restoration, and participatory conservation education. We will explore the next generation of learning programs and public engagement campaigns through zoos and schools in Brazil, the U.S., and other countries. Before and after the field experience, students complete coursework in Dragonfly's web learning community. Cross-listed with BIO.

IES 685. Internship/Practicum Final Report Writing. (1)

This course guides IES master's students through the process of writing their final reports for their internship experiences or practica.En. program.
Prerequisites: Part of the IES M.

IES 690. Special Problems in Environmental Science. (1-4; maximum 6)

Independent or team research on a current environmental problem.

IES 691. Costa Rica: Neotropical Ecology. (5)

Students join a summer field course in Costa Rica to explore Neotropical systems, including lowland rain forest and cloud forest; engage in inquiry and action projects on vital issues in education and conservation. Prior to and following the field experience in Costa Rica, students complete coursework via Dragonfly's Web-Based Learning Community as they apply experiences to their home institutions. Cross-listed with BIO.

IES 692. Namibia: Great Cat Conservation. (5)

Students join a summer field course in Namibia, Africa, to connect with the Cheetah Conservation Fund, the global center of cheetah conservation worldwide; engage in inquiry and action projects on vital issues in education and conservation. Prior to and following the field experience in Namibia, students complete coursework via Dragonfly's Web-Based Learning Community as they apply experiences to their home institutions. Cross-listed with BIO.

IES 700. Research for Master's Thesis. (1-12; maximum 12)

Prerequisite: satisfactory completion of comprehensive examination.

Family Science and Social Work (FSW)

FSW 177. Independent Studies. (0-6)**FSW 201. Introduction to Social Work and Family Life Education. (3)**

The purpose of this course is to provide students with an understanding of the current standing of the professions of social work and family science. Individuals and families will be discussed using multiple social work and family science theories that acknowledge larger social contexts. The course is framed through a social justice and human betterment perspective. Students will explore the core content areas of social work and the CFLE, the professionalization of social workers and family science, and current policies related to social welfare programs. Students will learn about employment in various sectors of society such as mental health settings, schools, hospitals, criminal justice, child welfare, etc. As an introductory course, the aim is to encourage critical thinking and an increased awareness of the historical and current impact of social policies on individuals, families, groups, organizations, communities, and global contexts.

FSW 206. Social Welfare Policies & Programs. (4)

The purpose of this course is to critically analyze historical and current interactions of social welfare policies, programs, and services. The course addresses the nature and impact of policy decisions on the social welfare of individuals, families, groups, organizations, and communities. Special attention will be given to disenfranchised, oppressed, and impoverished populations. Students acquire beginning skills in policy practice and advocacy. IC, IIC. PA-2A, PA-4B.

FSW 207. Serving and Supporting Children, Youth, and Families I. (4)

Introductory analysis of relationships among the conditions, characteristics, and capacities of children, youth, and families (especially those labeled "at risk") and the institutional services and supports intended to improve their well-being. Emphasis placed upon question-finding in different contexts, especially the ways in which the knowledge we claim and the solutions we offer are dependent upon our analytical frames and language. Offered on regional campuses only.

Cross-listed with KNH 207.

FSW 221. Sexualities. (3)

Introduction to the study of human sexual behavior with particular attention paid to the issues of gender development; premarital, marital, and post-marital sexual patterns; birth control; sexual dysfunction; cross-cultural sexual patterns; and alternative sexual lifestyles.

Cross-listed with SOC/WGS.

FSW 225. Family School and Community Connections. (3)

This course focuses on the theory and practice of joining families, communities, and schools to support student learning, development and success in education. Strategies to improve communication and collaboration are emphasized with a focus on family types, cultures, economic conditions, school systems, community services, political forces, advocacy groups, and other factors that impact children and their families. IC. PA-4B.

Cross-listed with TCE 225.

FSW 242. Family Decision-Making and Resource Management. (3)

Explores individual and family/household decision-making behaviors throughout the lifespan related to the acquisition and allocation of resources in socially responsible ways. Examines the relationships between human needs, values, attitudes, and family/household characteristics and dynamics in individual and family decision-making. Emphasis is placed on families/households, as producing and consuming units, and their efforts to achieve their goals in global and environmental contexts. Attention is given to the roles of family life educators and other helping professionals in guiding individuals and families/households toward optimal well-being and quality of life as it relates to families' management of resources.

FSW 245. Children and Families: Ages Conception - 12. (3)

Students in this course will examine the developmental contexts and theoretical perspectives of working with children and families. They will conduct in-depth analyses of the complex relationships between school, community and family resources in an educational setting. IIC. PA-2A.

FSW 261. Diverse Family Systems Across the Life Cycle. (3)

Introduction to and survey of the diversity of family systems. Emphasizes the North American experience while drawing upon global understandings. Covers the nature of family systems and how these may vary by social class, ethnicity, urban-rural residence, and other aspects of sociocultural context. Stresses how family systems change across their life span, as well as how individuals experience different family systems in their life spans. IIC. PA-2A.

FSW 277. Independent Studies. (0-6)**FSW 283. Introduction to Child Care Administration. (3)**

This course is intended for persons intending to work with young children and their families in a variety of child care settings and will focus on the development of knowledge and skills in understanding various aspects of child care administration and management. Offered on regional campuses only.

FSW 293. Field Placement: Infant/Toddler Setting. (3)

Course designed for students who are assuming teaching responsibilities for an extended period of time under guided supervision in an infant/toddler program. Offered on regional campuses only.

Prerequisites: FSW 382; C- in TCE 273 & TCE 274, EDP 201, & FSW 245. Prerequisite or Co-requisite: TCE 246 and TCE 272.

FSW 294. Field Placement - Preschool Setting. (3)

Course designed for students who are assuming teaching responsibilities for an extended period of time under guided supervision in a preschool program. Offered on regional campuses only.

Prerequisites: C- or better in TCE 273 & 274, EDP 201, & FSW 245.

Prerequisite or Co-requisite: TCE 246 and TCE 272E.

FSW 295. Research and Evaluation Methods. (3)

This course covers the role of research in the social world and the interpretation and critical analysis of research reports and applications. The course provides the foundation to equip students to be consumers of published research and to engage in building knowledge to enhance practice and service delivery through the use of scientific methods, as well as to identify the strengths and weaknesses of those methods. This is done to support the education of social workers and other social scientists for use with and on behalf of at-risk populations. Special emphasis will be placed on the protection of human subjects, methods for involvement of at-risk and underserved populations in the research process, critical thinking, data analysis, and technological advances which support information gathering, processing, analysis and dissemination.

FSW 304. Professionalism and Ethics for Practice. (3)

This introductory practice course provides a foundation for students to develop and critically analyze the values, ethical codes, licensure regulations, and practice principles associated with social work and family life education professions. While formulating their professional identity as a social worker and family life educator, students will also have an opportunity to explore their personal values and beliefs systems, practice marketing themselves as future professionals, and cultivate interviewing and engagement skills. Opportunities to practice written and verbal professional communication strategies using various technological platforms are integrated throughout the course. ADVW. PA-1C.

Prerequisites or Co-requisites: FSW 201, FSW 206 and declared social work major.

FSW 306. Trauma Responsive Assessment and Intervention. (3)

This course prepares students for generalist practice with individuals and families by incorporating a trauma-responsive lens to understand the impacts adverse experiences have on neurobiological and psychosocial development on individuals and family systems. This course provides students opportunities to enhance their knowledge and skills to engage, assess, intervene and evaluate client progress in direct practice settings.

Prerequisites: FSW 201, FSW 206, and declared social work major.

Prerequisite or Co-requisite: FSW 304.

FSW 312. Human Behavior in the Social Environment. (3)

Examines diverse human behavior through an integration of various theoretical perspectives using a social systems approach. A social systems approach provides a framework to view individuals in the context of the family, groups, organizations, communities, and institutions. Integrates knowledge and develops a foundation necessary for social work practice and social work field experience.

FSW 318. Child Life Theory and Practice. (3)

Application of knowledge of child and adolescent development to educate, prepare, and support children and their families in healthcare settings and the changes in family dynamics related to illness they experience. This course is taught by a Certified Child Life Specialist and meets one of the requirements of the Child Life Council to become a Certified Child Life Specialist.

FSW 333. Writing For Helping Professions. (3)

The course focuses on developing ideas, pursuing knowledge, and conveying one's thoughts through oral and written media in helping professions such as psychology, social work, and family science and in mastering skills needed in a variety of practices (e.g., clinical work, research, program evaluation, grant writing, case notes, treatment plans, assessments, and administration). The course emphasizes that strong writing skills with the ability to adapt writing to different tasks and audiences is critical for professional competency and career advancement. ADVW. PA-1C.

FSW 340. Internship. (0-20)**FSW 345. Empowerment Skills in Family Development. (3)**

This introductory practice course provides students with opportunities to learn and develop foundational skills aimed at empowering families in their quest for healthy self-reliance. Using the national curriculum of the Family Development Credential™, students will apply research-driven practices in engagement and communication skills with diverse populations while exploring the importance of self-care in helping professions. Upon successful completion of FSW 345 and FSW 346, students are eligible to apply for formal credentialing through the University of Connecticut for an additional fee.

FSW 346. Advanced Practice Skills in Family Development. (3)

Following the national curriculum of the Family Development Credential™, students will have opportunities to learn and practice advanced skills designed to empower families throughout the lifespan. Using a strength-based focus, students will learn how to apply ethical practices in setting goals with families, communication and engagement skills, and collaborating with other professionals in order to support families as they reach their ambitions for healthy-self-reliance. Students must successfully complete FSW 345: Empowerment Skills in Family Development prior to enrolling in this course. Upon successful completion of FSW 345 and FSW 346, students are eligible to apply for formal credentialing through the University of Connecticut for an additional fee. Prerequisite: FSW 345.

FSW 361. Couple Relationships: Diversity and Change. (3)

Investigation of intimate couple relationships in their many diverse forms. Focuses on social and psychological factors influencing development and maintenance of such couple relationships as dating, cohabitation, and marriage. General principles are discussed as well as factors that are more specific to certain age groups, relationship types, or sociocultural settings. IC. PA-4B. Prerequisite: three hours of social science. Cross-listed with WGS 361.

FSW 362. Family Poverty. (3)

Examines definitions, theories, causes and consequences of family poverty in the U.S. Identifies the extent and degree of U.S. poverty and demographic characteristics of those who are poor or likely to become poor. Consideration given to programs that reduce poverty and/or its negative effects, including those practiced in the past, those now practiced, and those that offer promise for improving the economic and social status of those who are poor. Costs and benefits of welfare and welfare reform and strategies for preventing poverty among future generations also discussed and evaluated. IC. PA-4B. Cross-listed with CRE 362 and SOC 362.

FSW 363. Sociology of Families. (3)

Analysis of the impact of social change on family systems and patterns, structures, dynamics, and social policy, with emphasis on differences by social strata and culture. Cross-listed with SOC 363.

FSW 365. Family Life Sexuality Education Across Cultures. (3)

Addresses cultural issues related to sexuality education, sexual behavior, and sexual identity. Comprehensive overview of the biological and social aspects of human sexuality, specifically directed at training for family life educators. Differences in cultural background are examined and presented as powerful educational tools to be applied toward the improvement of communication about sexuality. Presents a variety of teaching strategies for different age groups, which will meet licensure requirements for family life educators.

FSW 375. Perspectives on Child Maltreatment and Child Advocacy. (3)

This course covers the history of child maltreatment and child advocacy in the United States and around the world, the current theoretical perspectives for understanding child maltreatment, the definitions of child maltreatment, an introduction to the professional responses to child maltreatment, an introduction to advocacy for children and contemporary issues in the fields of child maltreatment and child advocacy.

FSW 377. Independent Studies. (0-6)**FSW 382. Infant and Toddler Caregiving and Supervision. (3)**

For those who plan and provide care for infants and toddlers in families and in various types of child care settings. Concepts in care provided with activities to help students develop caregiving knowledge and skills. Offered on regional campuses only.

FSW 385. Global Child Advocacy Issues. (3)

The course is designed to increase student understanding of the lives of children growing up in various countries around the globe. The purpose of this course is to prepare students to recognize health, maltreatment, cultural, religious, political, and social advocacy issues in the child's country that affect the welfare and well-being of the child. The overall goal of this course is to increase understanding of the role of the advocate and be able to demonstrate advocacy skills for a chosen population.

FSW 406/FSW 506. Group Theory and Practice. (3)

This course focuses on the application of a generalist, social systems framework for social work groups and community practice. A wide range of content, modalities, theories, and treatment approaches for effective group work and community practice are presented. Emphasis is placed on deepening social work practitioner group practice skills with various at-risk and vulnerable populations as well as content for understanding inclusive practice with organizations and communities. Students learn group and community inclusive practice content that identifies client issues, their problems, and their needs for collaborative service delivery. Course content also includes identifying, assessing, analyzing, documenting, and implementing empirically based group and community interventions; applying empirically-based group and community knowledge and technological advances, and providing leadership for supportive services that promote social and economic justice on behalf of client systems in relation to their broader environments.

Prerequisite: Grade of "C" or better in FSW 201 and FSW 206; social work major or social work graduate student status.

Prerequisite or Co-requisite: FSW 304.

FSW 411. Senior Field Experience I. (4)

Provides social work majors with the opportunity to integrate and apply liberal education foundation and generalist social work knowledge and skills gained in the classroom by practicing with various sized systems, including individuals, families, groups, agencies, communities, and institutions. EL.
Prerequisite: Completion of FSW 304, FSW 306, and FSW 406/FSW 506, and social work major status.
Co-requisite: FSW 412.

FSW 412. Senior Seminar in Social Work I. (2)

Provides opportunity to continue the integration social work courses with field experiences. Focuses on experiences and knowledge regarding macro-level systems, however, students are expected to integrate and apply generalist social work knowledge and skills with multi-level, diverse systems.
Prerequisites: FSW 306, FSW 406/FSW 506.
Co-requisite: FSW 411.

FSW 413. Senior Seminar in Social Work II. (2)

Provides opportunity to continue the integration of social work courses with field experiences. Focuses on experiences and knowledge regarding macro-level systems, however, students are expected to integrate and apply generalist social work knowledge and skills with multi-level, diverse systems.
Prerequisites: FSW 306, FSW 406/FSW 506.
Co-requisites: FSW 414.

FSW 414. Senior Field Experience II. (4)

Provides social work majors with the opportunity to integrate and apply liberal education foundation and generalist social work knowledge and skills gained in the classroom by practicing with various sized systems, including individuals, families, groups, agencies, communities, and institutions. EL.
Prerequisite: FSW 304, FSW 306, and FSW 406/FSW 506, and social work major status.
Co-requisite: FSW 413.

FSW 415/FSW 515. Culturally-Informed Practice. (3)

In this course, we explore how individuals and families experience, organize, and negotiate their membership in the full range of social categories. The intersectionality of power, race, class, gender and other identities will be examined as it relates to individuals, families, and social groups. Students will learn about the impact of personal biases and values when working with diverse constituencies.

FSW 418/FSW 518. Program Development and Evaluation. (3)

The purpose of this course is for students to learn how to conduct a needs assessment and develop a program based on the results of that assessment of families and/or communities. This class also teaches how to evaluate whether the program has met its measurable objectives, and how to prepare a grant proposal to fund the program. ADVW. PA-1C.
Prerequisites: FSW 295; Social work major or social work graduate student or permission of instructor.

FSW 435/FSW 535. Death Studies. (3)

Examines social processes involved in the meaning, management, and experience of death and dying. Analyzes death as it relates to social structure, patterns of social interactions, and human experience.
Prerequisite: SOC 151 or SOC 153; SOC/SJS 165; or GTY 154; or FSW 261.
Cross-listed with SOC.

FSW 442/FSW 542. Family Resource Management: Education and Advocacy. (3)

In this course students will engage in critical analysis while exploring individual- and family-level goal setting and decision-making with regard to the identification, development, acquisition, and allocation of resources (e.g., time, energy, friends, neighbors, natural environment, money, material assets, and space). The processes by which families manage their resources are complex and often influenced by many factors including relationships with current and past family members; the political, economic, and social environment; interactions with available resources in their community; and patterns of interaction within and between family members and others outside the family. This course will also discuss advocacy strategies for promoting environmental and economic justice.
Prerequisite: FSW 261 or FSW 225 or TCE 225 or FSW 242.

FSW 445/FSW 545. Therapeutic Play for Child Life Specialists. (3)

This course introduces theories of play and outlines the relationship between theories of human development and theories of play. Students pursuing certification as child life specialists will examine elements of play, benefits of play, and various therapeutic play modalities for the clinical setting as a force for healing and enhancing the well-being of children and families. Opportunities to develop and practice therapeutic play skills will be provided.
Prerequisite: FSW 245.

FSW 450/FSW 550. Special Problems. (1-4; maximum 8)

Various topics offered across semesters, professors, or sections.
Prerequisite: upperclass or graduate standing in family science and social work.

FSW 451/FSW 551. Interpersonal Violence. (3)

This course examines and evaluates how interpersonal violence impacts individuals, families, groups, organizations, and communities. Using ecological/feminist framework, emphasis is placed on the examination of violence within varied contexts. Topics and class discussions will focus heavily on concepts related to prevention and intervention. Student will use critical thinking, engage with other learners, and complete personal reflections. SC.
Cross-listed with SOC 451 and WGS 451/WGS 551/551.

FSW 455/FSW 555. Child Abuse & Neglect: Assessment & Child Safety. (3)

This course teaches students about child protective services, with a focus on assessment of child safety and well-being. Students learn about processes and requirements for mandated reporting of suspected child abuse and neglect, definition of terminology, family-centered approaches to fact gathering and engagement, culturally diverse child rearing practices, professional ethics and values related to working with families and children, and development of safety plans. This is the first course in the Child Welfare series, serving as a foundation in preparing students for a career in child protective services as social work professionals, but is open to students in related majors (e.g., education, nursing, criminal justice) who are interested in learning more about these concepts.
Prerequisite: Senior status or graduate student status, or permission of instructor, minimum GPA of 2.

FSW 462/FSW 562. Family Policy and Law. (3)

Examines family policies related to U.S. families' well-being using an ecological framework. Considers the impact of family policies/laws at state and federal levels including: policy development, implementation, and evaluation; and roles of professionals in building/influencing family policy. SC.
Prerequisite: FSW 295 or SOC 262.

FSW 465/FSW 565. Child Abuse & Neglect: Permanency and Well-being. (3)

This course teaches students about child protective services, with a focus on assessment of child safety, permanency, and well-being. This course will focus on the investigation of child maltreatment allegations, service planning, and the development of case plans. This is the second course in the Child Welfare series, serving as a foundation in preparing students for a career in child protective services as social work professionals, but is open to students in related majors (e.g., education, nursing, criminal justice) who are interested in learning more about these concepts.

Prerequisites: Senior status or graduate student status, or permission of instructor, minimum GPA of 2.

FSW 466/FSW 566. Interpersonal Perspectives on Adulthood and Aging. (3)

Examination of the central importance of close relationships in adulthood. Topics include long-term intimate relationships, sexuality/sexual behavior, dating, singlehood, divorce, widowhood, parent-adult child relationships, siblings' grandparenthood, friendships, retirement/financial concerns, caregiving, and policy issues impacting close relationships in adulthood.

FSW 475/FSW 575. Family Theories. (3)

Analysis of selected theories of the family. Emphasis placed on conceptual knowledge, understanding of the importance of family theories and in-depth analysis of several theoretical frameworks, such as family process, conflict, and symbolic interaction.

Prerequisite: six hours of family sciences courses and upperclass or graduate standing, or by permission of instructor.

FSW 477. Independent Studies. (0-6)**FSW 481/FSW 581. Adolescent Development in Diverse Families: Ages 13-25. (3)**

Students will engage in an interdisciplinary examination of the fields of adolescent development and emerging adulthood from contextual and cross-cultural perspectives. The racial, ethnic, and cultural diversity of adolescents is considered while studying persons 13-25 years of age within family and social systems. Topics include identity development, peer relations, sexuality, gender norms, physical and emotional development, community resources and engagement, intimate relationships, parent-adolescent relationships, and other family and social influences during adolescence and emerging adulthood.

FSW 490/FSW 590. Professional Issues in Family Science. (3)

Seminar focusing on preparing family studies majors, minor, and graduate students for life (work or continued education) in the field. Topics and skill development that are covered include: family studies as a profession (e.g., what do I do with my degree?); applying for a job (e.g., resumes, cover letters, interviewing skills, job searching); professional ethics; applying for graduate school (e.g., choosing graduate programs; statements of professional goals, etc); developing a professional portfolio; and an introduction to the grant writing process.

FSW 491/FSW 591. Seminar in Family and Child Studies. (1-4; maximum 4)

Various topics offered across semesters, professors, or sections. Prerequisite: upperclass or graduate standing in family science and social work.

FSW 494/FSW 594. Internship with Families and Children. (3-6; maximum 6)

Students participate in a professional work environment, prepare written reports and journals, and complete a project. Students build upon previous knowledge and experience by working within, and critically appraising, a professional setting related to families and/or children. Focus is on professional development and the critical appraisal of career options. Students wishing to become Certified Family Life Educators must complete 125 clock hours and focus their internship experiences on the practice of family life education or prevention. Coursework is completed online. EL.

FSW 564. Child Abuse & Neglect: Permanency and Well-being. (3)

This course teaches students about child protective services, with a focus on assessment of child safety, permanency, and well-being. This course will focus on the investigation of child maltreatment allegations, service planning, and the development of case plans. This is the second course in the Child Welfare series, serving as a foundation in preparing students for a career in child protective services as social work professionals, but is open to students in related majors (e.g., education, nursing, criminal justice) who are interested in learning more about these concepts.

Prerequisites: Senior status or graduate student status, or permission of instructor, minimum GPA of 2.

FSW 600. Independent Reading. (1-4; maximum 4)

Planned reading in any field in family studies with guidance of a department faculty member.

Prerequisite: advanced standing, nine semester hours in family studies and social work, and approval of the plan by department chair.

FSW 602. Diverse Families in Context. (3)

This course will provide students an opportunity to examine how changing social and economic policies and laws have had an impact on diverse families, primarily in the U.S. Students will assess how macro-level forces, including family privilege in policymaking, have played out in these families' everyday lives and have advantaged some family forms over others. As explicit and implicit family policy topics (e.g., marriage, immigration, health care) are explored, the role that personal and cultural values play in the policymaking process will be addressed. Further, learning how to influence family policymaking and to effect systems-level change will be a primary focus of the course. The instructor's area of expertise will determine which types of families (e.g., LGBTQ families, Black families, families experiencing illness) will be centered during any given semester.

FSW 611. Social Welfare Policy I. (3)

Social Welfare Policy I provides an overview of social welfare and social work as a profession. An overview of U.S. Social welfare services are provided in the context of social work values and ethics. This course includes a critical analysis of historical and current interactions of social welfare policies, programs, and services with diverse recipient populations.

Prerequisite: admission to the MASW Program.

FSW 613. Social Work Ethics: Social Work Ethics, Professionalism and Self Care. (3)

This course introduces graduate social work majors to the ethical practice of social work from a generalist perspective, including professional conduct and self care awareness and skills. Students will increase their understanding of the history and evolution of values and ethics in the social work profession, and develop skills in applying relevant ethical concepts and theories to social work practice. Students will also increase their ability to recognize ethical issues and to apply ethical decision-making frameworks and protocols through enhanced use of critical thinking skills. Lastly, students will learn self care awareness and skills needed to decrease incidents of vicarious trauma in social work settings.

Prerequisite: admitted to MASW Program.

FSW 616. Graduate Social Work Research I. (3)

Students will learn basic skills of quantitative and qualitative social research methodology and techniques of gathering, analyzing and interpreting data. Students will evaluate research reports for relevance to practice with at-risk and underserved populations. Students will develop an initial research or evaluation design for social work practice.

FSW 617. Human Behavior in the Social Environment I. (3)

The course employs a social systems approach as the primary foundation for viewing families, groups, organizations, communities and social institutions. The course will utilize theories about human behavior to develop the foundation needed to learn effective social work practice.

Prerequisite: admission to the MSW Program.

FSW 619. Evaluating Clients & Programs. (4)

In planning research and evaluation, attention must be focused on specifying the purpose of the research, identifying the variables, developing the instruments, human subjects protection, and research implementation. The aim of the course is to provide the student with a basic competence in the scientific method of investigation. In addition to understanding how to discover knowledge, students will become critical consumers of single subject design, program evaluation and integrators of social work knowledge from different areas of social work curriculum. Further, students will learn basic skills of quantitative social research methodology and statistical analysis.

Prerequisite: admission to MSW program, or by instructor permission.

FSW 621. Social Work Practice I. (3)

Social work practice I is designed to help students develop an understanding of the knowledge base and values of social work practice; acquire basic skills through the use of role-playing and simulated interviewing process. Specific attention is given to micro levels systems, emphasizing the interactions of micro systems with mezzo and macro level systems.

Prerequisite: admission to the MSW program.

FSW 622. Social Work Practice II. (3)

This course will focus on the continued application of theories, concepts and principles in direct social work practice with groups, organizations, and communities. Focus on deepening skills with each of these populations and knowledge about social work practice is presented. A particular focus is on empowerment, social and economic justice, groups, and communities.

Prerequisite: FSW 621, admission to the MSW program.

FSW 640. Internship. (0-12; maximum 12)**FSW 641. Advanced Social Work Practice. (3)**

This course provides the knowledge, skills, and values needed for advanced generalist social workers to engage, assess, intervene, and evaluate direct practice with individuals and families. This course will discuss clinical interventions with individuals and families across the lifespan.

Prerequisite: admission into the MSW Program.

FSW 642. Advanced Policy Analysis for Social Work. (3)

This course focuses on U.S. social welfare policies and programs. Particular attention is paid to social welfare policy analysis, the nature of social welfare system trends, and their impact on individuals and families across the lifespan. Previous undergraduate course work in social welfare policy is strongly suggested.

Prerequisites: FSW 621, FSW 622, MSW program admission or permission of instructor.

FSW 645. Concentration Focus Area Older Adults: Practice. (3)

This course is designed to provide students with an understanding of advanced generalist practice with older adults. A life course perspective that incorporates cultural, economic, historical and structural contexts that provides the framework for examining aging-related issues, particularly in regards to the impact on the quality of life of older adults. Topics to be explored include cross-cultural issues, health and mental health, social theories of aging, and resilience in older persons of color, among others.

FSW 646. Older Adults: Macro Practice. (3)

This course provides the knowledge, skills, and values needed for advanced generalist social workers to engage, assess, intervene, and evaluate policy practice with older adults. This course will include policies and programs that specifically target positive outcomes for older adults.

FSW 664. Social Work Field Education I. (3)

The seminar is specifically designed to integrate the Field Education I experience with coursework, and is offered to students admitted to the MSW Traditional Program.

FSW 668. Treatment of Substance Use Disorders. (3)

This course reviews the diagnostic criteria and various treatment options for individuals and families afflicted with Substance Use Disorders. Embedding principles associated with addiction neuroscience, addiction theories, and trauma-informed care, this course provides students with the knowledge and skills needed to provide clinical interventions associated with addiction and co-occurring mental health diagnoses. Evidence-based approaches are introduced throughout the course to support students' learning and development when recommending treatment options that incorporate the impacts and relationships between substance abuse and the socio-environmental factors of vulnerability within diverse populations.

FSW 677. Independent Studies. (0-6)**FSW 688. Clinical Interventions in Social Work. (3)**

This course is designed to give advanced generalist social workers an opportunity to examine, compare and evaluate a variety of evidenced-based clinical approaches and interventions used in social work practice. Students will gain knowledge and understanding of the main tenets of each therapeutic approaches and/or intervention and will be encouraged to use critical thinking and analytical skills to compare and differentiate these various approaches. The course will focus on evidenced-based clinical interventions used for depressive, anxious, trauma, personality, and other related disorders.

FSW 700. Masters Thesis. (1-14)

Prerequisite: approval of faculty member.

FSW 716. Graduate Social Work Research II. (3)

This second research course concerns the data analysis component of social science research and program evaluation. The course covers the procedures for the rigorous, valid, reliable, and credible collection and analysis of quantitative and qualitative data to arrive at decisions that improve interventions and contribute to knowledge. Students will continue to develop the research design for their culminating research project.

FSW 717. Social Work Capstone. (3)

Students design and implement a culminating project using qualitative and/or quantitative research methods. Students will collect data and conduct data analyses, and then make recommendations based on those findings to inform agency practice and/or policy decisions.

Prerequisite: FSW 716 or FSW 619, and admission to the MSW program.

FSW 723. Social Work Assessment and the DSM. (0-3)

Advanced social work practice builds on the foundation of social work practice I and social work practice II. Consistent with the field of social work, and the Family Studies and Social Work department, course content seeks to facilitate knowledge and competency in working with diverse populations. Content includes practice with individuals, children, families, communities and larger systems. Advanced social work practice will utilize an ecological systems framework and strengths perspective as contexts for the development of basic competencies. These skills are applied during the following stages of social work intervention: Engagement, Assessment, Intervention and Evaluation. Content will include the accurate application of DSM and other clinical assessment tools, an understanding of social deviance, and the application of clinical treatment models, such as cognitive, behavioral, strengths based, psychodynamic, psychoeducational and group approaches.

FSW 724. Social Work Agency Administration. (3)

This course teaches advanced generalist social work direct practice skills with communities and organizations. Content will include topics related to agency administration (e.g., budgets, supervision), community organization, advocacy, and legislative policy change. Content will also include skills to write grants to support funding of social service organizations. Prerequisites or Corequisites: FSW 716 or FSW 619.

FSW 765. Social Work Field Education II. (3)

The seminar is specifically designed to integrate the Field Education II experiences with coursework, and is required of all students in the graduate program in Social Work.

FSW 766. Social Work Field Education III. (3)

The seminar is specifically designed to integrate the Field Education III experiences with coursework, and is required of all students in the MSW program.

Prerequisite: admission to the MSW Program.

Fashion (FAS)

FAS 101. Introduction to the Fashion Industry. (3)

Presentation of various aspects of the fashion and textile industry, jobs in the industry, fashion industry research, possible field trip to apparel manufacturing facility.

FAS 150. Fashion Sprint Special Topics. (1.5-6; maximum 6)

Various special introductory topics in Fashion will be offered with no prerequisites.

FAS 201. Apparel Construction Techniques. (3)

The basic principles of garment construction: cutting, sewing, fitting, pressing and finishing garments. This is a making course, with emphasis on professional design studio practices.

FAS 211. Draping for Fashion Design. (3)

Basic principles of three-dimensional designing and patternmaking. Prerequisites: FAS 201 or (ART 145 and ART 146), or permission of instructor.

FAS 212. Flat Pattern Drafting for Fashion Design. (3)

Basic principles of patternmaking, including: drafting a set of basic patterns, developing various styles, constructing and testing muslin samples, finalizing production-ready patterns, grading patterns into various sizes.

Prerequisites: FAS 201 or (ART 145 and ART 146), or permission of instructor.

FAS 221. Textiles for the Fashion Industry. (3)

Identifying and analyzing apparel fabrics, yarns, and fibers, both man-made and natural, including construction, finishes, and other properties. Developing an understanding of the factors that influence the tactile qualities and performance of fabrics during garment design, manufacture, and wear.

FAS 241. The Elements and Principles of Fashion Design, including Color Theory. (3)

Presentation of the vocabulary of the elements of design, such as line, shape, color, etc, and the principles of design, such as unity, harmony, balance, proportion and rhythm. Practice of drawing designs using these elements and principles effectively.

FAS 281. Contemporary Fashion History of 20th-21st Century. (3)

Beginning with the Industrial Revolution and continuing to 2010, this course provides an in-depth study of prominent fashion designs, designers, and the global influences that represent each era, as well as the psychological, social, and economic events that have shaped contemporary fashion. This course addresses the concept of historic continuity in fashion by examining the repetition of dress styles from ancient cultures to the appropriation of dress elements from non-Western sources. The course analyzes the influence of Asian, Middle Eastern, African, and South American culture on contemporary Western dress and includes the examination of garments from the Miami Historic Costume Collection and the Miami Art Museum. IIA, IIB. PA-3A.

FAS 332. Fashion Illustration. (3)

Fashion Illustration introduces the sketching techniques used to create the fashion figure and to illustrate fashion design silhouettes and fabric treatments.

FAS 340. Internship. (0-20)**FAS 341. Junior Fashion Studio. (3)**

The Junior Fashion Studio will build upon the knowledge and skills acquired from FAS 201 Apparel Construction, FAS 211 Fashion Draping, and FAS 212 Flat Pattern Drafting. Students will design and create an original fashion design collection.

Prerequisites: FAS 201, FAS 211, and FAS 212 or permission of instructor.

FAS 360. Fashion and Digital Tools. (3)

Fashion and Digital Tools will include instruction and practice in technical fashion drawing, both by hand and digitally.

FAS 377. Independent Studies. (0-6)**FAS 441. Senior Fashion Studio. (3)**

The Senior Fashion Studio will build upon the knowledge and skills acquired from FAS 201 Apparel Construction, FAS 211 Fashion Draping, FAS 212 Flat Pattern Drafting, and FAS 341 Junior Fashion Studio. Students will design and create an advanced original fashion design collection suitable for fashion show presentation.

Prerequisites: FAS 201, FAS 211, FAS 212 and FAS 341 or permission of instructor.

FAS 442. Fashion Portfolio. (2)

Development of a professional portfolio package, including documentation of student's original creative work in hard copy and digital format, and creation of a logo, resume, and cover letter. FAS 441 can be taken concurrently.

Prerequisites: FAS 101, FAS 201, FAS 211, FAS 212, FAS 241 (or equivalent substitution), FAS 332, FAS 341, FAS 360, or by permission of instructor.

FAS 450. Advanced Special Topics in Fashion. (3; maximum 6)

Topical offerings for juniors and seniors focusing on emerging and/or established topics in fashion, such as fashion retail environments, fashion retail internationalization, or fashion business models.

FAS 451. Fashion Retail Planning and Buying. (3)

Retail buyer's role in merchandise management: decision making, planning, allocating, controlling, negotiating, buying, and pricing. Analysis and synthesis of merchandising management practices and problems in fashion and retail contexts.

FAS 463. Fashion Trend Forecasting. (3)

Fashion trend forecast development and use across all segments of the fashion industry; apply theories and forecasting methods to develop fashion forecast.

FAS 477. Independent Studies. (0-6)

Film Studies (FST)

FST 127. Environmental/Justice Films. (3)

This course is designed to introduce Social Justice and Sustainability Prodesse Scholars to a variety of environmental and social justice issues through cinema. The emphasis will be fictional feature films, not documentaries, but the feature films may be based on reality. Students will meet to watch films together and reflect on the messages they carry about environmental and social justice issues and how those messages are disseminated to the viewers. Students will explore the relationship between art and message.

Cross-listed with IES 127 and SOC 127.

FST 135. Film as Ethnography. (1)

Explores anthropological approaches to the study of human diversity and variation through the lens of ethnographic and documentary films. Exposes students to basic concepts in anthropology including cultural and linguistic relativity, globalization, and representational practices. IIB. PA-4C. CAS-C.

Cross-listed with ATH.

FST 177. Independent Studies. (0-6)**FST 201. Film History and Analysis. (3)**

Introduction to basic principles of cinematic form and to major movements and issues in the history of cinema. Primary emphasis given to principal methods of critical thinking in film studies, from close analysis of formal and stylistic elements in a single film to more global ways of understanding and interpreting films within their aesthetic, social, historical, and political contexts. Includes screenings of representative films, lectures, discussions, group activities, papers, and exams. IIB. PA-3B. CAS-B.

FST 204. Brazilian Culture Through Music and Film. (3)

Through music and film this course raises questions about national identity, history, social, religious, and ethnic diversity in Brazil. IIA, IIB, IIB. PA-3A, PA-3B, PA-4C. CAS-B.

Cross-listed with LAS/MUS/POR 204.

FST 206. Diversity and Culture in American Film. (3)

Analysis of the representation of diversity and culture as portrayed in American motion pictures. IC, IIB. PA-3B, PA-4B. CAS-B.

Cross-listed with IDS.

FST 220. Literature and Film. (3; maximum 6)

Study of the relationship between film and genres of literature, focusing on a comparison of techniques of rhetoric, fiction, and drama, and those of film. Primary consideration given to film adaptations of works of fiction and drama. Extensive screenings of film. May be repeated once when topic changes. IIB. PA-3B. CAS-B-LIT. Cross-listed with ENG.

FST 221. Shakespeare and Film. (3)

Study of several Shakespeare plays covering different genres of drama combined with filmed versions, ranging from theatrical to filmic/ auteur cinema. IIB. PA-3B. CAS-B-LIT.

Cross-listed with ENG 221.

FST 222. Italian American Culture. (3)

The course explores the history of Italian immigration in America, focusing on the development of Italian American communities across the land and the contributions that Italian Americans have made to American society and culture. Students examine and discuss the dynamics of immigration, assimilation, ethnicity, and diversity. Taught in English. IC. PA-4B.

Cross-listed with AMS 222 and ITL 222.

FST 235. Classical Hollywood Cinema. (3)

This course examines the production of the so-called classical period of Hollywood cinema, beginning in the 1930s with the emergence of early sound and ending in the 1960s with the demise of the studio system. We will utilize an industry-studies approach, but will also explore the principal narrative and stylistic trends associated with the classical era, as well as its key creative figures- directors, producers, cinematographers, actors, etc. Weekly Screenings Required.

Cross-listed with ENG.

FST 236. Experimental Film. (3)

This course examines influential works and movements in experimental film, emphasizing filmmakers for whom the conventional entertainment narrative is an object of radical investigation. Working outside the traditions of commercial film, experimental filmmakers take alternative approaches not only to narrative but also to visual representation, sound production, and editing, often exploiting new or unconventional technologies to achieve their effects. The course will also consider critical and theoretical perspectives, situating the unconventional techniques of experimental film in relation to broader aesthetic, cultural, historical, and political contexts.

Cross-listed with ENG 236.

FST 249. Asian & Asian American Cinema. (3)

Explores films in the contexts of Western colonial influences and legacies in Asia and Asian America. Students will learn how mainstream notions of nation, gender, sexuality, family values, social hierarchies and social change are constructed at the intersection of the audience, visual imagery, political, and economic contexts. We will also explore the role alternative cinema plays in challenging mainstream forms of knowledge production with the overall goal of critically evaluating how cinema creates, recreates, perpetuates and reproduces "Asian" cultures for global and local audiences. IC, IIB, IIIB. PA-3B, PA-4B, PA-4C. CAS-B-Humanities.

Cross-listed with AAA/ENG 249.

FST 250. History and Popular Culture. (3; maximum 6)

Topical studies of historical imagery as presented in the popular communications media: best-selling fiction, documentaries, school texts, popular histories, and especially film. May not take course more than once with same instructor. When topic is film, cross-listed with HST 250. Offered infrequently.

FST 252. History at the Movies. (3)

Explores the ways that history is represented in film and video (as opposed to print). By comparing film to texts, analyzing narrative structure, and studying the representations of the past on screen, students learn how history is depicted in this medium. Introduces history of film by viewing and discussing works of several early directors who represented history. Films and directors selected for inclusion will vary from year to year.

Prerequisite: FST 201 recommended (not required).

Cross-listed with HST.

FST 261. German Film in Global Context. (3)

Traces the dynamic development of German speaking cinema from 1895 to the present within a global context that defines filmmaking beyond national borderlines. The global context is determined by the international spread and commonality of: 1) technological innovations (camera, lighting, and sound systems, editing techniques); 2) commercial practices (of production, collaboration, distribution, exhibition), 3) political influences (the interplay of film, war, and ideology), and 4) aesthetic trends (the international popularity of certain genres, formal devices, and specific cultural preferences). The course is taught in English and all the films have English subtitles. IIB, IIIB. PA-3B, PA-4C. CAS-B-LIT.

Cross-listed with GER.

FST 262. Italian Cinema. (3)

Discussion and analysis of major movies and trends in Italian cinema. Topics may vary but attention is given to social and ideological implications of Italian cinema and the way movies produce a critique of cultural mores. Taught in English. No prerequisites. CAS-B-LIT.

Cross-listed with ITL.

FST 263. Soviet and Post-Soviet Russian Cinema. (3)

Critical survey of directors, genres, and movements in Soviet cinema. Screening of films from Eisenstein to current directors. Lectures, discussion, and readings in English. CAS-B-LIT.

Cross-listed with RUS.

FST 264. Chinese Cinema and Culture. (3)

Study of selected films. Introduces Chinese cinema and, through films, Chinese culture. Works are from mainland China, Taiwan, and Hong Kong, and subject matter is both historical and modern. Knowledge of Chinese is not required.

Cross-listed with CHI.

FST 266. Survey of Japanese Cinema. (3)

This course examines representative Japanese films from the immediate post-war era to the new wave of Japanese anime (animated film). Offered in English.

Cross-listed with JPN.

FST 277. Independent Studies. (0-6)**FST 282. Sexualities and Film. (3)**

An exploration of film representations of diverse sexualities (e.g., gay, lesbian, bisexual, and transgendered) from the silent era to the present. IC. PA-4B.

FST 301. Film Theory. (3)

Introduction to the basic concepts of classical and contemporary film theory, such as realism, formalism, structuralism, post-structuralism, psychoanalysis, cognitive theories, among others. Mandatory weekly screenings.

Prerequisite: FST 201.

FST 330. Film Auteurs. (3; maximum 9)

In-depth study of the films of a particular director or pair of directors, within the framework of auteurism. Weekly screenings required.

FST 340. Internship. (0-20)**FST 345. Global Media, Ethnography, and Film. (3)**

Explores anthropological and ethnographic frameworks to the study of global media flows across boundaries, borders, and time. Examines the ways in which mediated performances, texts, and images are instrumental in building and negotiating communities, cultures, and identities. IIIB. PA-4C.

Cross-listed with ATH.

FST 350. Topics in Film. (3; maximum 6)

In-depth and concentrated studies in film. Focuses on specific topics in film such as national film traditions (American, Japanese, French, etc.), genres (science fiction, western, detective, etc.), and themes (film and society, women in film, political conspiracy, etc.). May be repeated once when topic changes.

Cross-listed with ENG.

FST 356. Women and Gender in Film. (3)

This course explores the construction of gender and representations of women in film in two contexts: in mainstream Hollywood cinema and in experimental and independent films. While not providing an extensive history of women in film, the course provides a sampling of iconic films—from early cinema to the present—to critically examine how women are portrayed throughout the twentieth century and in various genres, in films made by both men and women.

Course readings engage theoretical and practical points of contact within cinema, including feminist film theory, postcolonial theory, psychoanalysis, queer theory, and critical race theory. IIB, IC. PA-3B, PA-4B. CAS-B-LIT.

Cross-listed with ENG/WGS.

FST 360. Film Genres. (3; maximum 9)

In-depth study of the conventions, artists, and styles associated with a specific film genre and the historical circumstances in which the genre appeared. Possible topics include the Western, film noir, the musical, etc.

FST 362. Mafia and Cinema. (3)

This course explores how modern films depict the complex phenomenon of the mafia. Taught in English. IC. PA-4B. CAS-B. Cross-listed with ITL 362.

FST 366. French Cinema In Translation. (3)

Critical survey of major directors, genres, and movements in French cinema. Particular attention devoted to development of film theory and criticism in France and their relation to film production. Screening of films by Renoir, Bresson, Bunuel, Godard, Truffaut, Varda, Resnais, Tavernier, and others. Taught in English; reading in English translation. CAS-B-LIT. Cross-listed with FRE.

FST 377. Independent Studies. (0-6)**FST 381. Afro-Brazilian Diaspora Through Film and Arts. (3)**

A focus on questions of gender, race, class and stereotypes in the African Lusophone countries. Taught in English. CAS-B-LIT. Prerequisite: any literature course. Cross-listed with ENG/CRE/POR.

FST 383. Brazilian Women through Literature and Film. (3)

Addresses questions about gender, race, class and stereotype of women's bodies in 20th-century Brazil. IIB, IIIB. PA-3B, PA-4C. CAS-B-LIT. Cross-listed with ENG/POR/WGS.

FST 400. Topics in Film. (3)

In-depth and concentrated studies in film. Focuses on specific topics in film such as national film traditions (American, Japanese, French, etc.), genres (science fiction, western, detective, etc.), and themes (film and society, women in film, political conspiracy, etc.). May be repeated once when topic changes. Prerequisites: Senior standing or instructor permission.

FST 401. Seminar in Film Study. (3)

Students critique series of seminal analyses of films as preparation for development of their own research projects. SC. Prerequisite: FST 201 and nine credit hours of course work in courses cross-listed for the film studies minor.

FST 407. Moving Image Art. (3)

Since the dawn of moving image media, artists and filmmakers have found means of artistic expression outside of both commercial entertainment and narrative cinema. This class examines this exciting history and experiences artworks that push our expectations and limits as spectators and challenge the dominant forms of film and television. Special attention is paid to creating a genealogy of experimental approaches to moving image media and connecting to art historical developments in painting, sculpture, conceptual art, and installation art as well as major social and political movements. Class includes regular screenings in addition to class discussion and lecture. Cross-listed with ART 407/ART 507.

FST 477. Independent Studies. (0-6)

Finance (FIN)

FIN 177. Independent Studies. (0-6)**FIN 211. Financial Capital. (3)**

For non-business majors, the course develops the framework that firms use to make monetary and financing decisions. The course begins with an exploration of time value of money and moves to other topics such as: how the tax system operates, the mechanics of the stock market, the differences between stocks and bonds (equity vs. debt) and what makes a firm choose one over the other to raise money, how a firm determines the cost of the capital raised, and how a firm chooses which projects to accept, considering the firm does not have unlimited funds.

FIN 277. Independent Studies. (0-6)**FIN 301. Introduction to Business Finance. (3)**

Financial management of business enterprises with emphasis upon financial analysis, working capital management, short and long term financing, capital budgeting, cost of capital, and dividend policy. Prerequisite: ACC 221. Prerequisite or Co-requisite: STA 125, ISA 125, ISA 225, STA 261, or STA 301.

FIN 303. Financial Principles and Introduction to Modeling with Excel. (3)

This course provides a hands-on experience in obtaining financial data; using Excel to manipulate data for financial applications such as problem solving and financial modeling. Emphasis will be on building financial models and using data to evaluate common financial problems encountered. Prerequisites: ACC 221 and CSE 148. Co-requisite: FIN 301.

FIN 320. Applied Equity Analysis. (3)

An experiential course to give students an opportunity to learn and practice equity analysis skills in a real-world setting. After completing this course students will be able to conduct equity analysis using appropriate methodology. In addition, students will be able to develop and give an effective presentation on the merits of a particular position to industry executives. Finally, students will be able to articulate whether or not they want to work for a financial services firm, such as an investment bank. Prerequisite: FIN 301.

FIN 331. Real Estate Principles. (3)

Principles course dealing with features of real estate, legal descriptions, brokerage industry and licensing, ownership interests, property tax, and closing transaction. Emphasis on applying finance principles to real estate with a focus on real estate financing and investing. Prerequisite: FIN 301 with a grade of "C" or better.

FIN 340. Internship. (0-20)

Available to Farmer School of Business (FSB) majors and minors. Available for 0 credit hour during spring, summer and fall terms. Available for 1 credit hour during summer terms only. For one hour of credit, student must secure a sponsoring FSB faculty member within his/her major or minor to supervise the internship and accompanying required internship reflection paper. FIN 340 is not available during winter term. Students are to work through their respective academic departments to enroll in the course. Credit/no credit only. Note: FSB students may earn a maximum 2 credit hours toward graduation for BLS/BUS/ECO/ESP/FIN/ISA/MGT/MKT 340. Prerequisite: 55 earned hours and permission of department.

FIN 377. Independent Studies. (0-6)**FIN 381. Intermediate Financial Management. (3)**

Theoretical development of financial decision making, working capital management, capital budgeting, capital structure, and dividend policy of the corporation. Finance majors are encouraged to take FIN 381 and FIN 401/FIN 501 during the same semester.

Prerequisites: FIN 301 and FIN 303 with a grade of "C" or better and one of ISA 225, STA 261, STA 301 or STA 368.

FIN 401/FIN 501. Principles of Investments and Security Markets. (3)

Emphasis on investment methodology, investment risks, and security selection. Introduction to security analysis, security valuation, and portfolio management; for the individual investor. Finance majors are strongly encouraged to take FIN 381 and FIN 401/FIN 501 during the same semester.

Prerequisite: FIN 301 and FIN 303 with a grade "C" or better and one of ISA 225, STA 261, STA 301 or STA 368.

FIN 402. Fixed-Income Portfolio Management. (3)

Consideration of securities portfolio management objectives and techniques; investment risks, and diversification strategy. Detailed consideration of bond portfolio management, mathematics of bond yields, and interest rate environment. Individual and group participation required.

Prerequisite: FIN 401/FIN 501.

FIN 403. Portfolio Management. (3)

Theory and practice of modern portfolio management. Special consideration to asset pricing theories, nature and application of derivative securities, and investment strategies.

Prerequisite: FIN 401/FIN 501.

FIN 404. Forward, Futures and Derivatives. (3)

This course covers the fundamentals of option from pricing and hedging to their use in the management of financial risk. The course begins with a thorough theoretical development of futures, forwards, options and swaps, and ends with an analysis of structured products that have embedded derivative contracts. Discussion of issues of counter-party risk and the responsible use of derivatives is an integral part of the course.

Prerequisite: FIN 401/FIN 501.

FIN 408/FIN 508. Commercial Bank Management. (3)

Operations of financial institutions. Identification and analysis of problems of financial institutions within our changing environment. Consideration of competition and growth, profitability, capital, and regulation. Emphasis on commercial banking.

Prerequisite or Co-requisite: ECO 301 or permission of instructor.

FIN 417. International Business Finance. (3)

An introduction to the macro and market environments in which multinational firms operate and the additional risks they confront in a multi-currency world. Emphasis is on the decision-making process with an international perspective.

Prerequisite: FIN 301 or equivalent with a grade "C" or better.

FIN 431. Real Estate Investments and Finance. (3)

An examination of the valuation and investment complexities in commercial real estate. Topics include market analysis, cash flow estimation from properties, effects of leverage and taxes on valuation, and investment in real estate related securities such as REITs and mortgage backed securities.

Prerequisite: FIN 331.

FIN 461/FIN 561. Financial Analysis of Mergers, Buyouts, and Restructuring. (3)

An examination of the valuation complexities in corporate restructuring and corporate change of control on a global basis. Topics include free cash flow estimation and forecasting, estimation of capital costs using alternative methods, adjustments for complex financial structures, debt capacity, entry and exit options, alternative mediums of exchange, purchase contingencies, acquisitions in developed and emerging economies, leveraged buyouts and asset restructuring.

Prerequisite: FIN 381.

FIN 475. Corporate Finance: Cases and Application. (3)

Advanced corporate finance course covering short and long term financial management. Topics include working capital management, capital budgeting, capital issuance and structure, managing growth and expansion, leasing, and mergers and acquisitions. Cases and applied financial modeling are used throughout the course.

Prerequisite: FIN 381.

FIN 477. Independent Studies. (0-6)**FIN 481. Student Managed Investment Fund. (3)**

An experiential learning opportunity that takes concepts learned earlier in the curriculum and applies them to an actual corporate setting and provides experience in managing a real-dollar portfolio based on appropriate trading and investment criteria.

Prerequisite: FIN 401/FIN 501.

FIN 482. Student Managed Investment Fund II. (3)

Students actively manage an investment portfolio that is part of the Miami University endowment. Students will be responsible for administrative duties, compliance, portfolio performance and evaluation, leading equity analysis of teams, and providing an economic outlook that informs portfolio decisions. SC.

Prerequisite: FIN 403 or FIN 481.

FIN 485. Integrative Concepts in Finance. (3)

This Capstone provides students opportunity to apply their broad base of knowledge from their Foundation courses and the Farmer Business School core in an integrative manner to the field of finance. Provides students ability to see financial decisions in the broader context of society, law, government, and the global environment at large. Students come from different academic backgrounds and form teams to analyze case problems and readings from these different perspectives. These teams are required to present and defend their recommendation keeping in mind the variegated interests of the firm's stakeholders: customers, stockholders, creditors, employees, suppliers, etc. This course may not be used as a finance major elective. SC.

Prerequisite: FIN 301 and senior standing and School of Business core or permission of instructor.

FIN 625. Managerial Finance. (3)

Introduces M.B.A. student to essentials of the finance functions of the organization. Emphasis on analysis of financial statements and understanding of the time value of money. Only available to full-time M.B.A. students.

FIN 635. Investment Management. (3)

Study of the theoretical and practical tool essential to the execution of a professional money manager's job.

Prerequisite: FIN 625.

FIN 665. Applied Mergers and Acquisitions. (3)

Mergers and Acquisitions are typically large and risky investment decisions that confront many financial managers. This course provides an in-depth examination of the complexities encountered in corporate restructuring, with a primary focus on corporate change of control. Topics covered include the M&A process, participants, due diligence, deal structuring, financing, and integration. Additional restructuring events covered include spinoffs, carveouts, business alliances, and bankruptcy.

Prerequisite: FIN 625.

FIN 675. Applied Advanced Corporate Finance. (3)

This course covers the theoretical and practical tools essential to the execution of a Corporate Financial Officers' (CFO) job.

Prerequisite: FIN 625.

French (FRE)

Note: Students who intend to continue studying the same foreign language as in high school are required to take the placement exam for that language before enrolling. See Placement Guides in the Academic Planning chapter. Once placed, a student may not skip a course in the sequence leading to FRE 202.

FRE 101. Elementary French. (4)

Emphasis on multiple skill acquisition, speaking, and writing, and how cultural difference affects experience of the world.

Prerequisite: Placement exam score.

FRE 102. Elementary French. (4)

Emphasis on multiple skill acquisition, speaking, and writing, and how cultural difference affects experience of the world.

Prerequisite: FRE 101 or placement exam score.

FRE 107L. Practical French. (4)

Develops basic language skills to function in a French language environment. Aimed at MUDEC students who do not intend to continue French or who have already completed their university language requirement. Students who intend to continue French must take placement test to determine level of next class.

FRE 131. Masterpieces of French Culture in Translation. (3)

Accessible introduction to French culture through the study of selected examples of significant works in literature and the arts (understood in a broad sense). Works are examined in their social, historical, and ideological contexts and cover the period from the Middle Ages to the mid-20th century. All readings in English translation. IIB, IIIB. PA-3B, PA-4C. CAS-B-LIT.

FRE 177. Independent Studies. (0-6)**FRE 201. Intermediate French. (3)**

Integrates intermediate-level language-skill development and study of cultural difference. Provides student to student interaction and addresses a broad range of cultural issues.

Prerequisite: FRE 102 or placement exam score.

FRE 202. Critical Analysis of French Culture. (3)

Second-semester, intermediate French course addresses literary and cultural issues through the study of short stories, poetry, film, journalism, and advertising. Works represent several French-speaking countries. Because texts, discussion, and compositions are in French, students continue to develop speaking, listening, reading, and writing skills. IIB, IIIB. PA-3B, PA-4C. CAS-A.

Prerequisite: FRE 201 or placement exam score.

FRE 277. Independent Studies. (0-6)**FRE 301. Culture & Interpretation. (3)**

Gateway to upper-level offerings in French. Organized around a theme developed by each professor (for example: modernity, desire, revolution, or voyages), this class initiates students into the work of original analysis and creative interpretation. The course will include works from a variety of media, voices, and historical moments, from films to comics, speeches to sonnets, Paris to Algiers, Versailles to the street. Students will explore the relationships between literature and culture while gaining exposure to a range of approaches to, and theories of, reading. Students will hone their ability to present their ideas in writing. IC. PA-4B, SI-04. CAS-B-LIT.

Prerequisite: FRE 202, or placement through Miami's French language placement exam.

FRE 302. Pre-Revolutionary Literature and Life. (3)

What is the relation between literature and life? How does life shape literature, and how does literature shape life? From the rowdy streets of Medieval Paris to the court of Versailles, from troubador love songs to the first modern novels, this introduction to French culture from the Middle Ages to the Revolution, explores literature as a live, engaged activity that provides a place to order, conceive, reimagine, and explore human and social experience. Course topics will change regularly, and can include issues such as ethics, space, bodies, medical discourses, legal discourses, trauma and witness, or insoluble problems. Alternatively, they may be organized around questions such as what is a subject? How are subjects related to collectivities? Systematic development of writing and speaking skills. CAS-B-LIT.

Prerequisite: FRE 301.

FRE 303. Modern and Contemporary Literature and Life. (3)

From the Revolution of 1789 to the current day, France has weathered an astonishing array of governments (five republics, two empires, monarchies, Vichy); expanded colonial projects and decolonized; and hotly debated issues such as public education, the role of women and minorities in society, and the tensions between universalism and individual human rights. This introduction to French and Francophone culture from the Revolution to the current moment explores literature as a live, engaged activity that provides a place to order, conceive, reimagine, and explore human and social experience. Course topics will change regularly, and can include issues such as colonialism, ethics, space, bodies, medical discourses, legal discourses, trauma and witness or insoluble problems. Alternatively, they may be organized around questions such as what is a subject? How are subjects related to collectivities? Systematic development of writing and speaking skills. ADVW. PA-1C. CAS-B-LIT.

Prerequisite: FRE 301.

FRE 310. Texts in Context. (3)

Examines ways creative texts (significant literary, historical, graphic, or architectural systems) are linked to various cultural contexts. Explores the ways in which cultural productions are interconnected to specific historical contexts in which they are created. Focuses on interrelations between cultural productions and their historical, sociological, scientific, or philosophical ramifications. Explains how French cultural discourse has regulated meaning of French texts and how these texts have changed institutions of cultural discourse. Systematic development of writing and speaking skills. ADVW. PA-1C.

Prerequisite: FRE 301.

FRE 340. Internship. (0-20)**FRE 341. Conversation and Current Events in France. (3)**

Focuses on the development of speaking, writing, and presentation skills based on current social and political events in France. Viewing and discussions of SCOLA (International News Programming by Satellite) programming are an integral part of the course.

FRE 350. Topics in French Literature in Translation. (3)

Discussion of selected works that suggest particular thematic problems. For non-specialist with little or no background in French literary history. CAS-B-LIT.

FRE 361. French Pronunciation. (3)

Theoretical and practical study of French pronunciation. Corrective exercises, laboratory work.

FRE 366. French Cinema in Translation. (3)

Critical survey of major directors, genres, and movements in French cinema. Particular attention devoted to development of film theory and criticism in France and their relation to film production. Screening of films by Renoir, Bresson, Bunuel, Godard, Truffaut, Varda, Resnais, Tavernier, and others. Taught in English; reading in English translation. CAS-B-LIT.

Cross-listed with FST.

FRE 377. Independent Studies. (0-6)**FRE 404/FRE 504. The French Renaissance. (3)**

Study of major writers of prose and poetry in the French Renaissance, including Rabelais, Montaigne, Labe, Ronsard, and DuBellay. CAS-B-LIT.

FRE 411/FRE 511. Modern and Contemporary French Society. (3)

Issues in France from the twentieth century to the present. Topics will vary, and may include themes such as antiracism and the rise of the far right; climate change and ecological activism; colonialism and migration; critical thought; and social class. Guided independent research is included. Taught in French.

Prerequisite: FRE 301 or permission of the instructor.

FRE 414/FRE 514. Art and Architecture in Dijon and Burgundy, France. (1-6; maximum 6)

Study the rich history and current state of art and architecture of Dijon and the Burgundy region within their contexts while on site in France. May include, for example, the study of cinema, comics, dance, music, painting, photography and sculpture. Includes field trips. May be repeated for credit. Topics vary.

Prerequisite: FRE 202 or equivalent with permission of the instructor.

FRE 420/FRE 520. Topics in French & Francophone Comic Art. (1-3; maximum 6)

Exploration of the history of French-language comics and related media, and analysis of form. Topics vary. Taught in French.

FRE 425. Senior Seminar. (3)

This capstone course is an intensive interdisciplinary seminar on a selected topic that explores the connections between the literatures and cultural systems linked to the Greek and Roman world, and to the French and Italian traditions. Taught in English, this course invites majors in French, Italian, and Classical Studies to strengthen their powers of critical thinking and synthesis through research, writing, and discussion. Required of all French, Italian, and Classical Studies majors in their senior year and open to qualified non-majors with permission of instructor. The capstone is taught on a rotating basis by faculty in French, Italian, and Classical Studies. SC. CAS-B, CAS-W. Prerequisite: senior standing in the major; for other majors, permission of instructor.

Cross-listed with CLS 425 and ITL 425.

FRE 430/FRE 530. Topics in Early Modern French Literature. (1-3; maximum 6)

Thematic explorations of early modern French literature of all genres. Focus on critical and research methods and writing. CAS-B-LIT.

Prerequisite: FRE 301.

FRE 440/FRE 540. Gender, Sexuality, & Creativity. (3)

Exploration of issues of gender, sexuality, and identity in works by writers, filmmakers, and/or artists from the French-speaking world. Critical approaches may vary and could include major trends and perspectives in gender, race, and sexuality theories; cross-cultural and intersectional feminisms; and trans and queer theory.

FRE 442/FRE 542. Literary Innovation, 16th-18th C. (3)

Coincident with the evolving market and technology of printed books came an explosion of literary invention. Specific topics depend on the choice of the professor and may include early modern developments in poetry, the invention of French classical drama, prose from Montaigne's *Essais* to the experimental short forms of the 17th century, or novels and philosophical contes of the Enlightenment. CAS-B-LIT.

FRE 443/FRE 543. French Medieval Literature. (3)

Introduction to the literature and society of Medieval France. Study of literary texts and works of art, and hands-on experience with medieval manuscripts and materials used to make them. Conducted in French. CAS-B.

FRE 451/FRE 551. Rebellions, Revolutions, and Avant-gardes. (3)

Analyzes the concept of revolution by examining one or more moments of upheaval and renewal, including political events such as the revolutions of 1789 and the nineteenth century, aesthetic avant-gardes such as romanticism or surrealism, scientific movements such as seventeenth-century optics or the rise of medicine, or technological discoveries such as the invention of the printing press and its implications for society. Taught in French. CAS-B-LIT.

FRE 452/FRE 552. The 19th Century. (3)

Nineteenth-century France was wracked by multiple revolutions and changes of government, but it also transformed many of the bases of social life and led to a flowering in many of the arts. The century began with the vast Napoleonic expansion across Europe and ended with searching introspections about the notions of decadence and decay. In literature, it gave rise to what are arguably the greatest achievements in French lyric poetry and the novel. It created modern medicine both as a practice and a social force. It invented large-scale speculative capitalism and the modern city. This course will focus on exemplary aspects of nineteenth-century cultural production in France and may include literary, aesthetic, political, scientific, and philosophical trends. CAS-B-LIT.

FRE 453/FRE 553. Poetry. (3)

Exploration of French poetry and poetics. The course examines techniques and formal aspects of poetry, prosody and rhetoric, by focusing on certain authors and historical movements. It also analyzes the notion of the poetic as a way of envisioning and making sense of the world. CAS-B-LIT.

FRE 454/FRE 554. Modernity: Crisis and Creation. (3)

Examines the relationship between major conceptual revolutions of the 19th and 20th centuries and corresponding crises of representation in the arts. These two centuries were shaped by upheavals in the sciences and social sciences, and they bore witness to multiple revolutions, two world wars, the end of colonialism, industrial and technological change, the invention of psychoanalysis, and the elaboration of Marxist critique. This course will explore one or several interdisciplinary connections of the modern period such as: literature and science; literature, art, and medicine; film and philosophy; literature and law. Taught in French. CAS-B-LIT. Prerequisite: FRE 301 or permission of the instructor.

FRE 462/FRE 562. 20th- and 21st-Century Literature, Art, and Thought. (3)

Exploration of 20th and 21st-century innovations in literary forms and styles, and of new currents of thought in the French-speaking world. The focus of the course will vary and may include avant-gardes, new developments in literary and aesthetic expression, connections between literature and other arts, and the broader significance of literary language. Taught in French. CAS-B-LIT. Prerequisite: FRE 301 or permission of the instructor.

FRE 477. Independent Studies. (0-6)**FRE 480. Independent Reading for Departmental Honors. (1-6)****FRE 600. Seminar in French Literature. (1-4)**

Intensive study of selected authors and critical perspectives. Offerings vary.

FRE 614. Introduction to French Literary Theory. (3)

Required of all French graduate students. An introduction to major movements and figures in French literary theory of the twentieth- and twenty-first centuries and to the practices of literary criticism.

FRE 677. Independent Studies. (0-6)**FRE 680. Independent Studies. (1-6; maximum 15)**

Independent work in French literature or language.

FRE 700. Research for Master's Thesis. (1-12; maximum 12)

Geography (GEO)

GEO 101. Global Forces, Local Diversity. (3)

Application of human geography concepts to patterns and processes of economic, political, and cultural changes at global, regional and local scales. IIC, IIIB. PA-2A, PA-4C. CAS-C.

GEO 111. World Regional Geography: Patterns and Issues. (3)

Introduction to world geography emphasizing regional approach and comparisons; combines analysis and synthesis of characteristics distinctive to each principal culture realm; focuses upon selected topical issues involving ethnic, political, economic, social, and environmental aspects. IIC, IIIB. PA-2A, PA-4C. CAS-C.

GEO 121. Earth's Physical Environment. (4)

Study of the earth's physical environment, using systems approach to understand energy and material cycles, global circulation, and temporal dynamics. Focus on influence of physical processes on spatial patterns and on interrelationships of the atmosphere, soils, vegetation, and landforms. Credit not granted to students who have earned credit in GEO 122. IVB, LAB. PA-2B. CAS-D/LAB. 3 Lec. 1 Lab.

GEO 122. Geographic Perspectives on the Environment. (3)

An introduction to physical geography that enables class participants to understand and interpret the environmental conditions of any geographic locality on earth. Special emphasis is placed on understanding relationships between geographic patterns and processes in the atmosphere (weather and climate), biosphere (vegetation and soils), and lithosphere (landforms). With knowledge of global physical environments, it is possible to predict the suitability an area may have for human habitation, and also the influences certain human activities may have on the physical environment. Credit not granted to students who have earned credit in GEO 121. IVB. PA-2B. CAS-D.

GEO 159. Creating Global Peace. (3)

Focuses on the study of peace, as represented across disciplinary boundaries and at local-to-global scales of analyses. Combines guest lectures, scholarly readings and other media, reflective writing and discussion, and a service-learning commitment that together explore different ways of thinking about peace, and 'peace' practices at global to local scales. IIC, IIIB. PA-2A, PA-4C. CAS-C. Cross-listed with SJS.

GEO 177. Independent Studies. (0-6)**GEO 201. Geography of Urban Diversity. (3)**

Introduction to the processes and patterns that shape life in the American City. Students interpret urban landscapes—historical and contemporary—in relation to their environmental, economic, and cultural contexts. Students develop a geographic perspective on the social and spatial development of diverse American communities, a necessary foundation for addressing current issues in urban development and planning. IC, IIC. PA-2A, PA-4A. CAS-C.

GEO 205. Population and Migration. (3)

Examines the spatial distribution and dynamics of human fertility, mortality, and migration, primarily in the contemporary period, as well as the interaction of these trends with environmental, economic, and political issues. Special attention is given to interpreting and evaluating quantitative measures of population geography. CAS-QL.

GEO 208. The Rise of Industrialism in East Asia. (3)

Introduction to historic parameters, geographic variables, state policies, and sociocultural contexts of industrialism in East Asia (China, Japan, Korea, Taiwan, Hong Kong, and Singapore). IIC, IIIB. PA-2A, PA-4C. CAS-C.

Cross-listed with ITS/SOC.

GEO 211. Global Sustainable Futures. (3)

Integrates human and environmental geographic concepts and perspectives to understand global challenges and opportunities of sustainable development. This course also develops skills in research and writing for different audiences. ADVW. PA-1C. CAS-C.

GEO 221. Field Methods for Environmental Scientists. (3)

Survey and application of modern field techniques used by environmental scientists to monitor the structure and function of the Earth's atmosphere, biosphere, hydrosphere, and lithosphere, including basic and advanced techniques used across a range of environmental careers. A significant portion of this course is taught outdoors with hands on exercises to solve real world problems. CAS-D Lab.

GEO 242. Mapping a Changing World. (3)

Technology and language of maps, including aerial and satellite imagery, and impact of these technologies on society. Tools for making maps that faithfully and effectively represent geographic data. CAS-QL.

GEO 271. Human Dimensions of Natural Resource Conservation. (3)

Ecological, socioeconomic, and policy perspectives on the use and management of natural resources.

GEO 276. Geography of the Global Economy. (3)

Focuses on the changing geography of the global economy, including production, distribution and consumption of goods and services. Covers the eras of mercantile capitalism, colonialism, industrial capitalism and today's globalization.

GEO 277. Independent Studies. (0-6)**GEO 288. Geographic Field Study Abroad. (3-6; maximum 12)**

Field study abroad, focusing on various geographic issues in various locations. Content varies vary with location and subject matter, but includes active engagement with the environmental, cultural and/or historical context within which contemporary geographic issues are understood.

GEO 301. Geography of Sub-Saharan Africa. (4)

Analysis of physical and cultural features of that area south of the Sahara Desert.

Cross-listed with CRE 301.

GEO 302. Geography and Gender. (3)

This class adopts a geographic approach to the study of gender relations. The role of space and place in shaping the diversity of gender relations throughout the world will be considered. Through case studies the importance of gender relations in understanding a variety of issues will be stressed. Overall, we will explore how geography shapes gender relations and how gender produces a variety of geographies. IC. PA-4B. CAS-C.

Cross-listed with WGS.

GEO 308. Geography of East Asia. (3)

Analysis of cultural and physical landscapes of China, Japan, and Korea.

GEO 309. Native American Women. (3)

A survey of writings and film by and about Native American women. The objective of the course is to provide students with a broad overview of Native American perspectives on a variety of topics including indigenous viewpoints on research methods, environmental activism, politics and policy, and critical analysis. IC. PA-4B. CAS-C. Cross-listed with WGS.

GEO 333. Global Perspectives on Natural Disasters. (3)

Exploration of the underlying causes, potential impacts, and mitigation measures of natural hazards including wildfire, severe weather events, and geologic hazards. Particular attention is paid to impacts on humans.

GEO 340. Internship. (0-20)**GEO 352. Geographies of Urban Change. (3)**

Examines the cultural, social and political dimensions of urban planning and development practices in the United States. Drawing on an array of source materials and using multiple methods of representing past places, students apply analytical tools to document the nature, extent, and significance of urban change and to communicate their understanding of the complex forces shaping urban America. PA-2A.

Prerequisites: GEO 201 or AMS 205 or GEO 101 or GIC 101 or permission of the instructor.

Cross-listed with AMS.

GEO 377. Independent Studies. (0-6)**GEO 378. Political Geography. (3)**

Analysis of geographic factors significant in understanding international relations and internal politico-territorial organizations; detailed studies of specific problem areas.

GEO 406/GEO 506. Indigenous Peoples and Their Sacred Lands. (3)

An in depth look at topics related to policy and land management practices that impact indigenous peoples nationally, as well as internationally. The major focus of the various case studies is on designated sacred lands of Native American tribes within the United States. The course provides students with interdisciplinary training about indigenous cultures and human rights.

Cross-listed with WGS.

GEO 408/GEO 508. Geography of the Silk Road (The Heart of Asia). (3)

Examines the geography of the Inner Asia region including Uzbekistan, Kazakhstan, Kyrgyzstan, Turkmenistan, Tajikistan, Afghanistan, Pakistan, Mongolia, and Inner Asian China (Xinjiang).

GEO 410/GEO 510. Advanced Regional Geography. (1-4; maximum 12)

Specific area to be announced each time course is offered.

GEO 412. Tropical Ecosystems of Costa Rica. (5)

Introduces students to the structure and function of neotropical ecosystems, as well as to geological, biological, cultural, and economic forces affecting biodiversity in the tropics. This course is taught on-site in Costa Rica. There are additional costs beyond tuition.

Cross-listed with IES 412/IES 512.

GEO 425/GEO 525. Hydrogeography. (3)

Investigation of the hydrologic cycle focusing on the surficial component parts of precipitation, infiltration, soil moisture, evaporation, transpiration, and surface runoff, and variation of these from place to place over the earth's surface.

GEO 426/GEO 526. Watershed Management. (3)

Impacts of urban and agricultural land use on water resources; common watershed-scale tools for water quality and quantity management.

GEO 428. Soil Geography. (4)

Study of soil morphology, formation, classification, and geographical distribution of soils. Field work and laboratory work required.

GEO 431/GEO 531. Global Plant Diversity. (3)

Research-focused seminar on floristic, ecological, and cultural influences on global patterns of plant diversity, especially in tropical regions. Comparative topics include the role of disturbances and global environmental change.

Cross-listed with BIO.

GEO 432. Ecoregions of North America. (3)

Ecological study of vegetation that applies an understanding of climate, soils, and physiography across the continent toward interpreting major vegetation types and local patterns of diversity. Discussions and field work focus on current research and conservation issues. Required field trip.

Prerequisite: BIO/MBI 115, BIO 191, or higher; GEO 121 or higher; or permission of instructor.

GEO 436/GEO 536. Women, Gender, and the Environment. (3)

Seminar discussing literature on the role of women in their relationships with natural resources as advocates, practitioners, and scholars. Ideas on ecofeminism will be introduced from more-developed "north" and developing "south" perspectives, and then directed toward the study of gender and development, and participatory tools in gender analysis.

Cross-listed with WGS 436/WGS 536.

GEO 441/GEO 541. Geographic Information Systems. (3)

Introduces students to the structure, concepts, capabilities, and functionality of Geographic Information Systems (GIS) and geospatial science inquiry. The course focuses on the management and processing of spatial data, emphasizing data models and structures, geographic data input, data manipulation and storage, spatial analysis and modeling techniques. Students will learn to frame and solve a sequence of problems with GIS across a wide range of topics including environmental planning, biogeography, conservation biology, sustainable development, natural resource conservation, environmental justice, political geography, and urban geography and planning.

GEO 442/GEO 542. Advanced Geographic Information Systems. (3)

Advanced-level application of GIS technology to geographic problem-solving. Follows on from topics introduced in GEO 441/GEO 541 to provide (a) in-depth understanding of the technical and substantive issues associated with the use of GIS and (b) advanced-level training in the functionality of major GIS products.

Prerequisite: GEO 441/GEO 541 or permission of instructor.

GEO 443/GEO 543. Python Programming for Geospatial Applications. (3)

Introduces the basic concepts of computer programming languages, using the Python language as an example. Emphasis on use of Python scripts specifically within the ArcGIS and QGIS software packages.

Taught on-line; available to students on any Miami campus.

Prerequisite: GEO 441/GEO 541.

GEO 444/GEO 544. GIScience Techniques in Landscape Ecology. (3)

Using geographic tools such as geographic information systems (GIS), remote sensing, global positioning system (GPS) receivers, and computer-based analysis, students will study a range of current topics in landscape ecology.

GEO 445/GEO 545. Geographic Information Systems for Criminal Justice. (3)

Collect, organize, analyze and display spatial data used in criminal justice and emergency management. Part of the course will be a GIS Crime Analysis Product. Taught on Regional Campuses.

Cross-listed with CJS.

GEO 448/GEO 548. Techniques and Applications of Remote Sensing. (3)

Description of nonphotographic remote sensing such as radar, thermal infrared, and multispectral scanning. Experience with machine-based interpretation of multispectral imagery.

GEO 451/GEO 551. Urban and Regional Planning. (3)

Introduction to the purposes and possibilities of urban and regional planning. Topics include historical development and theoretical rationale of planning, analytical techniques, and policy and design strategies for addressing urban problems. Surveys contemporary urban issues and areas of planning specialization. Prepares students with fundamental concepts and skills for careers in urban planning and development. ADVW. PA-1C. CAS-C.

Prerequisite: GEO 201.

GEO 454/GEO 554. Urban Geography. (3)

Geographic principles related to the distribution, function, structure, and regional settings of urban centers.

Prerequisite: some other urban course in social sciences or permission of instructor.

GEO 455. Race, Urban Change, and Conflict in America. (3)

Since the 1960s, changes at both global and local levels have affected the American city. Traditional study of the city has not focused on race and the effect of such changes on race. Conflicts with racial undertones occur on a daily basis in most American cities. More often these are conflicts over production, distribution, and consumption of public and private goods and are manifest in the housing market, job market, and access to education and social services amongst others. This seminar focuses on race in urban America within the context of conflict and change. SC. CAS-C.

GEO 459/GEO 559. Advanced Urban and Regional Planning. (3)

Application of planning tools and techniques to significant urban and regional land use problems. Evaluation of major planning tools for redevelopment of central cities and declining regions in the U.S. Innovative techniques for solving American urban spatial problems at local to national levels.

Prerequisite: GEO 451/GEO 551 or permission of instructor.

GEO 460/GEO 560. Advanced Systematic Geography. (1-4; maximum 12)

Specific topical field announced each time course is offered.

GEO 462/GEO 562. Citizenship and the City. (3)

A seminar that explores issues relating to citizenship and the city. This includes both a conceptual and historical introduction to the topic, as well as more in-depth analysis of different aspects relating to politics and public and private space, cultural diversity and exclusion, and urban design.

GEO 467/GEO 567. Land Use, Law and the State: Geographic Perspectives. (3)

Explores the legal basis for urban and regional planning in the United States through analysis of relevant case law, statutes, and secondary texts. The course offers both practical knowledge of land use law and deeper understanding of its wider geographic context and significance.

GEO 475/GEO 575. Global Periphery's Urbanization. (3)

Countries of the Third World have experienced an unprecedented rate of urban growth and expansion since the middle of this century. As Third World countries continue to industrialize, urbanization and related problems will increasingly become important and will continue to be on the agendas of national governments, international agencies, planners, and academics well into the next century. Explores Third World (Africa, Asia, and Latin America) urbanization literature from an interdisciplinary perspective.

GEO 476/GEO 576. Global Poverty. (3)

Increasing attention has been placed on poverty around the globe by academics, practitioners and activists. With increasing globalization, global poverty has become entrenched. This course examines what poverty is, how it is measured, what causes poverty and how poverty can be alleviated in the global periphery and semi-periphery.

GEO 477. Independent Studies. (0-6)**GEO 480. Departmental Honors. (1-6; maximum 6)**

Departmental honors may be taken in one or more semesters of a student's senior year.

GEO 491. Geography and Sustainable Development Research Seminar. (4)

Students in this advanced research seminar explore an in-depth topic related to geography and/or sustainable development building research, writing, and oral presentation skills. Each student must select and work with at least one faculty advisor, not necessarily from the geography department, with appropriate expertise. Required for geography and sustainable development majors. SC. Prerequisite: Senior standing.

GEO 493. Urban Field Experience. (3)

Development of modern urban design and planning principles, emphasizing the central role of Chicago as a laboratory for the processes. Study of Chicago as an illustrative case study for understanding contemporary issues in urban design and planning. Importance of direct field observation methods in the study of urban design and planning patterns. Requires two long-weekend field trips to Chicago and field work in Chicago. SC.

GEO 601. Seminar in Research Techniques. (3)

Survey of basic tools of graduate research in geography, including bibliographic resources, published data sources, and introduction to computer methods in geography.

GEO 602. History of Geographic Thought. (4)

Selected readings in Geography. Emphasis is on contemporary geographic thought.

GEO 604. Research Project Development. (3)

Research hypotheses in geography; organizing and defining a research project; proposal development.

GEO 610. Research in Geography. (1-4; maximum 12)

Advanced work on selected topics undertaken by individual students. May be taken for no more than four semesters.

GEO 640. Internship. (0-12; maximum 6)**GEO 677. Independent Studies. (0-6)****GEO 700. Research for Master's Thesis. (1-12; maximum 12)****GEO 704. Non-Thesis Project. (0-12; maximum 12)****GEO 710. Special Problems in Geography. (1-4; maximum 12)**

Geology (GLG)

GLG 111. The Dynamic Earth. (3)

Earth as a geophysical-geochemical unit and its internal and external processes. Formation of minerals and their relationships in rocks. Earth stresses and rock deformation, mountain building, and earthquakes. Geomorphic (landscape) evolution by mass wasting and wave, stream, wind, ground water, glacial, and volcanic activity. IVB. PA-2B. CAS-D. CAS-QL.

GLG 115L. Understanding the Earth. (1)

Laboratory course exploring Earth from multiple perspectives. Earth in the solar system; Earth in time; the solid Earth; Earth's surface in flux; Earth's atmosphere and hydrosphere. IVB. PA-2B. CAS-D/LAB. Prerequisite or Co-requisite: any 100-level, 3 credit hour GLG course (students enrolled in these courses are not required to take the lab).

GLG 121. Environmental Geology. (3)

A survey of introductory geology with a sub theme of human interaction with the geologic environment. Topics include flooding, earthquakes, volcanoes, water quality and availability, energy, use and abuse of natural resources and land-use planning. IVB. PA-2B. CAS-D. CAS-QL.

GLG 141. Geology Of U.S. National Parks. (3)

The National Parks protect historical, natural, and geologic structures. Investigations in public conservation methods are explored to understand geologic features, systems, and heritage. This course looks closely at basic geologic concepts with a sub theme of the geologic evolution of North America as exemplified by the geologic features and development of U.S. national parks and other public lands. IVB. PA-2B. CAS-D. CAS-QL.

GLG 147. Introductory Seminar - Geology & Environmental Earth Science. (1)

Introduction to Geology & Environmental Earth Science, focusing on department orientation, research opportunities, professional development and career guidance. Conducted in seminar/lecture format.

GLG 177. Independent Studies. (0-6)**GLG 204. Survival on an Evolving Planet. (4)**

Paleontology is the scientific study of past life, and is therefore an interface between geology and biology. It includes such topics as the origin of life, mass extinctions, exceptional fossil preservation, and response of past ecosystems to climate change, to name a few. This course provides an overview of the history of life and an introduction to the primary research areas in paleontology. Prerequisite: any 100-Level BIO or GLG course.

GLG 211. Chemistry of Earth Systems. (4)

Material presented serves as the basis for dynamic links with upper-division courses within the department. The chemical evolution of the Earth is presented spanning all pressure and temperature conditions. Major geological processes are discussed with respect to the chemical principles controlling the distribution of elements and mass, e.g., earth formation and differentiation, mantle evolution, crustal genesis, formation of the atmosphere and oceans, chemical weathering, and cycling of elements in surficial environments. Analytical and computational aspects of solid earth and environmental geochemistry are introduced. CAS-D.

Prerequisites: GLG 111 or 121 or 141; and GLG 115L.

GLG 244. Oceanography. (3)

Examination of the major features of the ocean and the processes active there. Oceanic currents, waves and tides, biologic productivity and zonation, nutrient cycles, chemical parameters, bathymetry, and sediments explored.

Prerequisite: one natural science course from MP, or CAS-D.

GLG 261. Geohazards and the Solid Earth. (3)

Examines solid earth physical principles including theory and application. Applications will focus on the nature of geologic hazards and the Earth's interior, which will then be related to overriding scientific theories like plate tectonics and the observations they are based on.

Prerequisite: any 100-level 3 credit hour GLG course, or GEO 121, or PHY 111, or PHY 161, or PHY 191.

GLG 277. Independent Studies. (0-6)**GLG 301. Sedimentology and Stratigraphy. (4)**

Description and evaluation of sedimentary processes, sedimentary environments of deposition and the rocks that form in these environments are integrated with field trips and laboratory analyses of rocks in hand sample and thin section. Stratigraphic principles, sequence stratigraphy, and basin analysis are linked to global climate change and tectonics throughout geologic time. ADVW. PA-1C. Prerequisite: any 100-level, 3 credit hour GLG course and GLG 115L or permission of instructor.

GLG 307. Water and Society. (3)

Provides a basic scientific understanding of what water is, where it resides and how it moves throughout the entire hydrologic cycle both on a global and watershed scale. Topics emphasize the importance and fragility of water resources and the world-wide threats to those resources. Major issues examined include flooding, water scarcity, irrigation, settlement of arid land, international water conflict and contamination of drinking water supplies. Topics are examined not only through a natural science perspective, but also through perspectives of history, policy, law and societal attitudes. PA-2B, SI-01. Prerequisite: any 100-level, 3 credit hour GLG course, or GEO 121.

GLG 311. Geoenvironmental Field Methods. (3)

Develops environmental geoscience field skills useful for fundamental and applied investigations. Students learn to test field hypotheses and construct professional reports and will develop a portfolio of project work.

Prerequisites: GLG 111 or 121 or 141 and 115L.

GLG 322. Structural Geology. (4)

Origins and characteristics of primary and secondary structures of Earth's crust. CAS-D/LAB.

3 Lec. 1 Lab.

Prerequisite: any 100-level, 3 credit hour GLG course; GLG 356 and GLG 301 (recommended prerequisites: MTH 151, 153, or 157).

GLG 335. Ice Age Earth. (3)

Introduces the study of climate change as recorded in the geologic record. Discusses natural and anthropogenic causes for climate change.

Prerequisite: GLG 111, 121, 141 or GEO 121.

GLG 340. Internship. (0-20)**GLG 342. Geoarchaeology. (3)**

An introduction to geoarchaeology as a multidisciplinary field incorporating human-environment interactions, earth resources, and sustainability. The course focuses on natural processes that shape the archaeological record, and stratigraphic, geochemical, isotopic, and geophysical approaches to reconstructing landscapes of the past as a context for archaeological deposits. Lectures and discussions address site, intra-site and landscape scales in light of how processes of erosion, deposition, weathering, and biological and human activity shape the archaeological record. CAS-D.

Prerequisite: GLG 111 or GLG 121 or GLG 141 or ATH 212, or permission of instructor.

GLG 354. Geomorphology. (4)

Evolution of landscapes and landforms on Earth and other planets and the processes responsible for their formation. Analysis of landforms to assess the relative role of climate, tectonics, and humans in their formation.

Prerequisites: GLG 111, GLG 121 or GEO 121.

GLG 356. Mineralogy. (4)

Composition, physical properties, symmetry, crystal structure, and geologic occurrence of rock-forming minerals. CAS-D. 3 Lec. 1 Lab.

Prerequisites: GLG 111 or 121 or 141; and GLG 115L.

Prerequisites or Co-requisites: GLG 211; or CHM 141 and CHM 144.

GLG 356L. Mineralogy Lab. (0)

Composition, physical properties, symmetry, crystal structure, and geologic occurrence of rock-forming minerals. CAS-D.

Prerequisites: GLG 111 or 121 or 141; and GLG 115L.

Prerequisites or Co-requisites: GLG 211; or CHM 141 and CHM 144.

GLG 357. Igneous/Metamorphic Petrology. (4)

Theoretical, quantitative, and petrographic investigation of igneous and metamorphic rock physical and chemical characteristics and formational processes.

Prerequisite: any 100-level, 3 credit hour GLG course and GLG 356 (GLG 211 is recommended).

GLG 377. Independent Studies. (0-6)**GLG 402/GLG 502. Geomicrobiology. (3)**

Focuses on mutual interactions between microbial and geological processes. Topics include: role of microorganisms on mineral weathering rates, microbial mediated ore deposit formation, microbe enhanced oil recovery, life in extreme environments, search for bio-signatures in geological records and meteorites and implications for life on Mars, microbial ecology in ocean floor hydrothermal vents.

Prerequisite: GLG 244 or permission of instructor.

GLG 408/GLG 508. Introduction to Hydrogeology. (4)

Introduction to the physical properties governing groundwater-flow in various geologic media and settings. Methods are explored for determining groundwater-flow directions and velocities and aquifer characteristics and potential. Introduction to groundwater-flow modeling and principles of mass transport and groundwater contamination.

3 Lec. 1 Lab.

Prerequisite: any 100-level, 3 credit hour GLG course, or permission of instructor.

GLG 411A/GLG 511A. Field Geology. (6)

Taught annually during June through July at Miami University Geology Field Station, Dubois, Wyoming. Students identify, classify, and interpret geologic features and synthesize and communicate geologic interpretations. Students work outdoors six to eight hours a day and individually create geologic maps using pace and compass, topographic map base, air photo, and satellite image bases with the assistance of GPS satellite navigation receivers and software. Geologic mapping and rock interpretation techniques are the subject of evening lectures. Summer only. SC.

Prerequisite: GLG 201, 301, 322, and 357 or equivalents or permission of instructor.

GLG 412. Tropical Ecosystems of Costa Rica. (5)

Introduces students to the structure and function of neotropical ecosystems, as well as to geological, biological, cultural, and economic forces affecting biodiversity in the tropics. This course is taught on-site in Costa Rica. There are additional costs beyond tuition. Cross-listed with GEO/IES 412/IES 512.

GLG 417/GLG 517. Forensic Isotope Geochemistry. (3)

Application of stable and radiogenic isotope systems to contemporary forensic problems including environmental contamination, climate change and wildlife forensics, archaeological forensics, animal migration patterns, soil provenancing, human provenancing, food authenticity and traceability, and criminal investigations including drug use and trafficking, weapons tracing, and counterfeit detection. Analytical methods, data quality, and isotopic mapping and modeling will be discussed as a basis for quantitative and qualitative forensic diagnostics.

Prerequisites: GLG 356, GLG 211 or GLG/CHM 275; or permission of instructor.

GLG 419/GLG 519. Geology of Streams. (3)

This field course examines the nature of streams, how humans have impacted stream systems in the US, and efforts underway to restore streams to their natural conditions. Students will canoe down waterways and camp along the river at night. Students will learn to collect and evaluate primary field data for the purpose of stream classification, quality habitat assessments, and evaluating human impacts and modifications to streams. This data may entail aspects of fluvial geomorphology, surficial geology, and water chemistry analysis. Students will analyze data in the field, and complete a final research project after completion of the field component of the course. This course is only offered as part of a credit workshop. EL.

Prerequisites: GLG 111, GLG 121, GLG 141, or approval of Instructor.

GLG 427/GLG 527. Isotope Geochemistry. (3)

Natural variations, measurement techniques, and geologic applications of radiogenic and stable isotopes.

Prerequisites: GLG 211 and GLG 357.

GLG 428/GLG 528. Hydrogeological Modeling: Groundwater Flow and Contaminant Transport and Fate. (4)

Explores techniques used in constructing and solving mathematical models of groundwater flow and contaminant transport. It reviews and covers the basic theory associated with these processes including the physical processes that govern the flow of groundwater in various geologic media and settings and the chemical, biological and physical processes involved in contaminant transport and fate in groundwater systems. The course explores how to incorporate our understanding of these various processes into numerical models that help us explore and come to a better understanding of natural systems and make predictions. The course also develops familiarity some widely-used packaged models while learning about grid and boundary design, model parameter-value selection, calibration and exploration of uncertainty.

GLG 432/GLG 532. X-ray Powder Diffraction and Clay Analysis. (3)

Covers one of the most utilized analytical methods in geology and materials characterization, powder X-ray diffraction. It is a hands-on active learning course involving theory and application of diffraction to phase identification, structural analysis and quantitative analysis of clays, soils, sediments, etc. It also covers the mineralogy and crystal chemistry of the clay minerals.

Prerequisites: GLG 356 and CHM 141 or permission of instructor.

GLG 435/GLG 535. Soils and Paleosols. (3)

Introduces methods of soil morphology, taxonomy, and genesis of modern and fossil soils. Describes how to use fossil soils to infer past environmental conditions.

Prerequisite: GLG 301 or permission of instructor.

GLG 436/GLG 536. Paleoclimatology. (3)

Reviews stable isotopic techniques to reconstruct climate change over geologic time scales from various types of records, including ocean sediment cores, ice cores, lakes, soils, and speleothems. Recommended prerequisite: GLG 335.

GLG 437/GLG 537. Paleontology in Conservation. (3)

This course explores the needs of conservation scientists, what paleontological data contribute, and new methods for synthesizing modern and paleontological data to develop effective strategies for conservation, remediation, restoration, and policy.

Prerequisite: BIO 206, or BIO 209, GLG 204, or permission of the instructor.

Cross-listed with BIO 437.

GLG 450/GLG 550. Sedimentary Basin Analysis. (3)

Evaluation of the physical mechanisms of sedimentary basin formation including isostasy; flexure, thinning and thermal contraction of the lithosphere; subsidence analysis; sequence stratigraphy; paleocurrents and sediment provenance; and tectonics of sedimentary basins.

Prerequisite: GLG 301.

GLG 461/GLG 561. Geophysics. (3)

Active learning course on solid earth geophysics, covering theory and application. Techniques include seismology, GPS, gravity, magnetics, and mineral physics. Application will focus on large-scale tectonics and the Earth's interior, but will also include some exploration geophysics.

Prerequisite: MTH 151, 153 or MTH 157; PHY 161 or PHY 191.

GLG 467/GLG 567. Seismology. (3)

Active learning course on seismology covering theory and application. Topics will include elastic wave propagation, reflection/refraction seismology, waveform modeling, tomography plate kinematics, and time series analysis. Applications will focus on earthquakes and large-scale tectonics.

Prerequisites: MTH 151 or MTH 153; PHY 161 or PHY 162 or PHY 191 PHY 192; or consent of instructor.

Cross-listed with PHY.

GLG 477. Independent Studies. (0-6)**GLG 492/GLG 592. Global Tectonics. (4)**

Fundamentals of the theory of plate tectonics and its applications to regional geology. Physical processes and kinematics of plate motions, geology and geophysics of modern and ancient plate boundaries, and plate tectonic evolution of major orogenic belts examined.

Prerequisite: GLG 322, 357, or permission of instructor.

GLG 496/GLG 596. Isotopes in Environmental Processes. (3)

Focuses on applications of isotopes to environmental processes. Topics include introduction to environmental isotopes and basics of isotope fractionation, isotopes used as tracers in the hydrological cycle to identify and quantify reaction pathways for both clean and contaminated landscapes, dating of modern and paleo-groundwaters. The emphasis is given to the role of isotopes to trace sources, reactions and pathways of various contaminants in the environment.

Prerequisites: GLG 211 or permission of instructor.

GLG 497. Trends and Topics in the Geosciences. (3)

A common capstone experience where students apply their diverse backgrounds to assessing, evaluating, and interpreting cutting edge geoscience data and research in three theme areas: Earth, environment, and society; Earth's climate and life through time; Earth's physical and chemical systems. Students will further develop skills in written and oral communication, with particular emphasis on writing in multiple geoscience genres. SC.

Prerequisites: GLG 204 or 211; GLG 301 or 357 or 408.

GLG 498. Senior Thesis In Geology. (3-6)**GLG 630. Mineral Surface Geochemistry. (3)**

A study of the structure, composition, and reactivity of crystalline surfaces in aqueous environments.

Prerequisites: GLG 201, CHM 141 and permission of instructor.

GLG 640. Internship. (0-12; maximum 6)**GLG 647. Geology Graduate Student Onboarding. (1)**

Courses designed for new graduate students can build student self-efficacy, and promote equity and inclusion by helping all students develop the skills needed to succeed in graduate school. The curriculum in graduate school can be thought of as an iceberg. Much of graduate education is focused on tangible and formal skill development surrounding research and teaching. However, that is just the tip of the iceberg. This course focuses on the informal "hidden curriculum" in graduate school that can complement formal student learning to help individuals lead successful graduate careers.

Prerequisite: admission to a graduate program in the Department of Geology and Environmental Earth Science.

GLG 662. Subduction Zones. (3)

Multidisciplinary examination of the subduction zone system focusing on current research of physical processes.

Prerequisite: GLG 461/GLG 561 or permission of instructor.

GLG 670. Geochemical Modeling. (1-3; maximum 6)

Development and application of geochemical modeling tools to aid in interpretation of petrologic, major element, trace element, and isotopic data in geologic and environmental materials, for applications in a wide range of geoscience disciplines including areas such as igneous petrology, mineralogy, aqueous geochemistry, climate change and environmental forensics. Students will explore the fundamentals behind existing modeling programs and develop new modeling programs geared to specific student research interests.

Prerequisite: permission of instructor.

GLG 677. Independent Studies. (0-6)**GLG 700. Research for Master's Thesis. (1-12; maximum 12)****GLG 710. Geology Seminar. (1-3)**

Open to students who have completed a year of graduate study.

GLG 720. Advanced Mineralogy. (1-3; maximum 3)

Single crystal X-ray crystallographic studies; study of crystal structure and comparative crystal chemistry of various mineral groups.

Prerequisite: GLG 643, or equivalent work in another graduate program.

GLG 730. Advanced Igneous Petrology. (1-3; maximum 3)

Experimental igneous petrology, and complex magma systems.

Prerequisite: Permission of instructor.

GLG 760. Advanced Carbonate Sedimentology. (1-3; maximum 12)

Selected topics of sedimentology and geochemistry of carbonate sediments and rocks.

Prerequisite: permission of instructor.

GLG 770. Advanced Topics in Isotope Geochemistry. (1-3; maximum 12)

Current topics in isotope geochemistry. Recent analytical advances and results of current research.

Prerequisite: GLG 527.

GLG 790. Research in Geology. (1-4; maximum 12)**GLG 850. Research for Doctoral Dissertation. (1-16; maximum 60)**

German (GER)

GER 101. Beginning German. (4)

Basic grammar and development of reading, speaking, writing, and listening skills. For students with no prior study of German.

GER 102. Beginning German. (4)

Basic grammar and development of reading, speaking, writing, and listening skills.

Prerequisite: GER 101 or placement test.

GER 103L. Practical German Language. (3)

The goal of GER 103L is to expose students to and to develop basic language skills in German in order to enable them to conduct simple exchanges in a German language environment. This course is aimed at MUDEC students who do not intend to continue German in their university studies while having to fulfill the language requirement of MUDEC.

GER 111. Review of Basic German. (3)

Covers same material as GER 101 and GER 102; for students with prior study of German. Upon completion of GER 111, students enroll in GER 201. Credit earned in GER 101 and/or 102 is considered duplication of credit.

GER 151. The German-American Experience. (3)

Explores the role that America's largest ethnic group has played in the history and culture of the United States. Topics include German settlements in Colonial America, the Eighteen-Forty-Eighters, and German-Americans in Hollywood. IC, IIB. PA-3B, PA-4B. CAS-B.

GER 177. Independent Studies. (0-6)**GER 201. Second Year German. (3)**

Comprehensive grammar review. Course material includes written and/or broadcast texts. Discussions and compositions in German. Prerequisite: GER 102 or 111; or placement test.

GER 202. Second Year German. (3)

Emphasizes comprehension of written and spoken German. Course material includes written and/or broadcast texts. Discussions and compositions in German. CAS-A. Prerequisite: GER 201 or placement test.

GER 219. Introduction to Linguistics. (3)

Scope of linguistics: fundamental concepts and methods of linguistic science (phonetics, phonology, morphology, syntax, semantics, and pragmatics) in its descriptive and historical aspects. V. PA-1A. CAS-E. Cross-listed with ATH/ENG.

GER 231. Enchanted Worlds: Folk and Literary Fairy Tales. (3)

Introduction to the principles of folklore studies. Close reading of selected tales in the Grimms' collection and international variants, and a survey of literary fairy tales from 19th century to the present. Readings and discussion in English. IC, IIB. PA-3B, PA-4B, SI-02, SI-04. CAS-B-LIT.

GER 232. The Holocaust in German Literature, History, and Film. (3)

Critical reading, reflection, and discussion of Holocaust representations. Introduction to historical and political context and survey of debates surrounding memory culture. Examination of fiction, autobiographical writing, historical texts, and film with a focus on German-language sources. Taught in English. IIB, IIIB. PA-3B, PA-4C. CAS-B-LIT.

GER 252. The German-Jewish Experience. (3)

Discusses readings of and about major Jewish figures in the German-speaking world. Frames historical background. Discover constants and changes over time. Assesses terms for analyzing culture. In English. IIB, IIIB. PA-4B. CAS-B-LIT.

GER 261. German Film in Global Context. (3)

Traces the dynamic development of German speaking cinema from 1895 to the present within a global context that defines filmmaking beyond national borderlines. The global context is determined by the international spread and commonality of: 1) technological innovations (camera, lighting, and sound systems, editing techniques); 2) commercial practices (of production, collaboration, distribution, exhibition), 3) political influences (the interplay of film, war, and ideology), and 4) aesthetic trends (the international popularity of certain genres, formal devices, and specific cultural preferences). The course is taught in English and all the films have English subtitles. IIB, IIIB. PA-3B, PA-4C. CAS-B-LIT. Cross-listed with FST.

GER 272. Cinemas and Cultures of Central and Eastern Europe. (3)

Analyses the developments and trends in the cinemas and cultures in Central and Eastern Europe from 1945 to the present; reflects on the definition of filmmaking beyond national concepts. Global context is determined by the theoretical exploration of: 1) the geopolitical region of Germany as well as Central and Eastern Europe in dialog with Western Europe and the world; 2) cultural practices related to identity formation and aesthetic perception; 3) film production and reception among domestic and international audiences; and 4) the interplay of film cultures in the Cold War. Taught in English and all films have English subtitles. IIB. PA-3B. CAS-B.

GER 277. Independent Studies. (0-6)**GER 281. Americans in Berlin: An Interdisciplinary Study-Abroad Workshop. (6)**

This interdisciplinary workshop will expose students to the confluence of several global issues in one location: Berlin, Germany. Berlin has been a magnetic destination for Americans artists, entertainers, authors, politicians, and entrepreneurs from 1920s to the present moment. Particularly contested and influential has been the encounter between Germans and Americans in Berlin during the Cold War (1945-1989), as the city became the center of the conflict between two political systems. Students will explore the various cultural, political, and economic dimensions of this long-lasting relationship, and will visit sites dedicated to the research and preservation of cultural memory in both parts of this formerly divided city. We will also study the role of the United States in Germany's and Berlin's unification, in the transition of the West German capital from Bonn to Berlin, and in the transformations that took place in the post-unification period. Cross-listed with AMS 281.

GER 301. German Language Through the Media. (3)

German language and cultural studies using media such as films, television, newspaper and magazine articles, and Internet sources. Taught in German. Completion of GER 202 or equivalent (with permission of instructor.)

GER 311. Passionate Friendships in German Literature from the Middle Ages to the Present. (3)

Examines how intimate relationships between individuals, the bonds of love and friendship, intersect with and are shaped by social expectation, cultural taboos, and historical events. The theme is developed chronologically, from the Middle Ages to the present, emphasizing specific issues of conflict between individual desires and social norms. Texts include prose, poetry, plays, essays, interviews, and films. Primary readings, written assignments, and discussions are in German. CAS-B-LIT.

GER 312. Coming of Age in German Life and Thought. (3)

Explores short and long texts as well as excerpts from works by some of the leading authors of German literature. The intertwined themes of personal, social, political, and national maturation will guide this exploration. Lectures and discussions are in German. CAS-B-LIT.

GER 321. Cultural Topics in German-Speaking Europe Since 1870. (3)

Explores several major cultural foci within the German, Austrian, and/or Swiss experience. Readings, discussions, guided research projects predominantly in German. IIB. PA-3B. CAS-B-LIT.

GER 322. Comparative Study of Everyday Culture: German-Speaking Europe and the U.S.A.. (3)

Explores patterns of everyday life in German-speaking European culture and compares them with similar cultural patterns in contemporary U.S. life. Lectures, readings, and discussions in German. IC, IIB, IIC, IIIB. PA-3B, PA-4C. CAS-B-LIT.

GER 377. Independent Studies. (0-6)**GER 410/GER 510. Topics in German Language, Literature, and Culture. (3; maximum 9)**

This course focuses on a topic or problem established by instructor. Students investigate the topic through engagement with original documents, literary works, films, and works of art. In German. CAS-B-LIT.

GER 471. Linguistic Perspectives on Contemporary German. (3)

The interaction of social factors and language in the development of the standard language of German, Austria and Switzerland throughout history until the present. SC.

GER 477. Independent Studies. (0-6)**GER 480. Department Honors. (1-6; maximum 6)**

Department honors may be taken for a minimum of three semester hours and a maximum total of six semester hours in senior year. Permission of instructor and department required.

GER 677. Independent Studies. (0-6)

Gerontology (GTY)

GTY 110. Opening Minds through Art (OMA) Volunteer Experience. (1; maximum 3)

OMA is an intergenerational visual art program for people with dementia. It is grounded in the belief that people with dementia are capable of expressing themselves creatively. Its approach is to capitalize on what people with dementia can still do. OMA currently offers its program at multiple sites that serve people with dementia in long-term care facilities, adult day centers and those living at home. OMA has four primary goals: 1) to promote the social engagement, autonomy, and dignity of people with dementia by providing creative self-expression opportunities; 2) to provide staff and volunteers with opportunities to build close relationships with people with dementia; 3) to show the public the creative self-expression capacities of people with dementia through exhibitions of their artwork; and 4) to contribute to the scholarly literature on dementia care and the arts. In this Service-Learning course you will volunteer weekly in the OMA program. IC. PA-4B.

GTY 154. Aging in American Society. (3)

This course provides an overview of the processes of aging, with an emphasis on real world questions such as why the shift to an aging society matters, how we study aging, why people age in different ways, the diverse work and living conditions of people age 65 and older, and how formal and informal programs influence age-based challenges and opportunities. The course is applicable to one's professional life, as everyone experiences aging and aging will affect every aspect of work and life (e.g., products, workers, services, family and social relationships). IIC. PA-2A, PA-4A, SI-02, SI-05. CAS-C.

GTY 177. Independent Studies. (0-6)**GTY 244. Pre-Internship in Gerontology. (2)**

In this course students develop their gerontological voice and prepare for their capstone internship. Topics include networking and careers in the aging network, development of short- and long-term professional goals, preparing a resume and cover letter, marketing one's self as a gerontologist, and professional and practice ethics. Prerequisite: GTY 154.

GTY 254. Global Aging. (3)

This course serves as an introduction to the phenomenon of global aging. Topics include demographic trends in population aging, cultural views on aging, cross-national similarities and differences in health and disease, long-term care, social relationships, pensions and retirement. The course also considers how country- and individual-level wealth, race/ethnicity, gender, attitudes and other intersectionalities affect the experience of growing old. In this course you will learn and practice civic-mindedness and social engagement through group projects and self reflection. You will systematically research complex issues by collecting and analyzing evidence and forming sound conclusions and judgments. You will explore and utilize technological resources, evaluate the credibility of sources and demonstrate creative thinking, expression and communication skills. The group projects give you the opportunity to develop effective team work skills, adaptability, creativity, entrepreneurship, leadership and technology literacy. IC. PA-4B, SI-01, SI-05. CAS-C.

GTY 277. Independent Studies. (0-6)**GTY 310. Opening Minds through Art (OMA) Leadership Experience. (2; maximum 6)**

OMA is an intergenerational visual art program for people with dementia. It is grounded in the belief that people with dementia are capable of expressing themselves creatively. Its approach is to capitalize on what people with dementia can still do. OMA currently offers its program at multiple sites that serve people with dementia in long-term care facilities, adult day centers and those living at home. OMA has four primary goals: 1) to promote the social engagement, autonomy, and dignity of people with dementia by providing creative self-expression opportunities; 2) to provide staff and volunteers with opportunities to build close relationships with people with dementia; 3) to show the public the creative self-expression capacities of people with dementia through exhibitions of their artwork; and 4) to contribute to the scholarly literature on dementia care and the arts. In this Service-Learning course you will have a leadership role in OMA. EL, IC. PA-4B.

Prerequisite: GTY 110.

GTY 318. Social Forces and Aging. (3)

Examines the social forces that shape the diverse experiences of aging for individuals and the social structures in which they live. Particular emphasis is given to sociological issues such as age stratification, the life course, demographic change and its effects, and societal aging as a force in social change. IC. SI-02, SI-05. CAS-C. Cross-listed with SOC 318.

GTY 340. Internship. (0-20)**GTY 354. Issues & Controversies in Aging. (3)**

In this course, students learn and apply concepts from gerontology to current controversies and issues in aging. The course is applicable to one's professional life as students learn to research and critically and respectfully argue in support or opposition to contemporary issues affecting aging societies. ADVW. PA-1C, SI-02, SI-03. CAS-W.

GTY 357. Medical Sociology. (3)

Sociological study of illness, patients, medical professionals, and problems inherent in the delivery of health care services.

Prerequisite: SOC 151, SOC 153 or GTY 154.

Cross-listed with SOC 357.

GTY 362. Data & Decision Making in Aging. (3)

Students will apply the principles of research methods to topics that are directly relevant to agencies/organizations that plan for/provide services for older adults. Throughout the semester, agency liaisons will provide perspective on questions of importance to their organizations, and reinforce how research findings are used in the organization. A specific example based on existing data related to aging services will be used throughout the semester to illustrate all steps in the applied research process, from conceptualization to reporting findings. Students will work in teams to create an applied research question, analyze existing data to answer the question, and present their findings. CAS-C.

GTY 365. Social Policy and Programs in Gerontology. (3)

Provides practical information about working in programs serving older people. Topics include social policy and old age, health policy and programs, federal economic reform, grantsmanship, program planning and coordination, and professions in the field of aging.

Prerequisite: GTY 154.

GTY 377. Independent Studies. (0-6)**GTY 428. Public Health in Action. (3)**

Students will draw upon the knowledge and skills they have developed as part of their entire liberal education to work both independently and as a member of a cross-disciplinary team to critically examine and propose solutions to relevant public health issues impacting today's society. Students will partner with an organization to explore public health issues and develop a final product that can be used by the organization to improve the health of its members. Professionalism, cultural competence and ethics in public health practice are addressed. EL, SC.

Prerequisites: Senior standing and public health major.

Cross-listed with KNH 428 and MBI 428.

GTY 440. Gerontology Capstone Internship. (1-16; maximum 16)

Through field placement and a weekly seminar, students discuss their field site organization and professional challenges. EL, SC.

Prerequisites: GTY 154, three additional credit hours in gerontology, or permission of instructor.

GTY 456/GTY 556. Aging & Health. (3)

As individuals grow older, they experience a variety of physical and social changes that influence their health and well-being. In this course, topics such as age-related changes in health and illness, psychosocial and behavioral factors that contribute to those changes, and health promotion and disease management among older adults are explored.

Prerequisite: GTY 154.

GTY 465. Policies & Programs in an Aging Society. (3)

This course examines the policy debates faced by the United States as it becomes an aging society. Organized around such topics as income maintenance and health care, the seminar will describe and debate policy issues that arise as the older population in the U.S. continues to increase.

Prerequisites: GTY 365 or KNH 321 or permission of instructor.

GTY 474/GTY 574. Using Large Datasets in the Social Sciences. (3)

This course will address issues unique to conducting statistical analyses on large datasets. Students will learn about common challenges inherent to most large datasets, including locating data of interest, learning how to work with a new large dataset, efficient data processing and management, applying complex sample elements, and working in a research team. How to become familiar with and communicate research findings in a new topic area will also be discussed. Students will work in teams to develop a research question of interest, identify a large dataset with relevant variables, analyze data, and communicate their findings.

Prerequisite: STA 363 or ISA 291 or POL 306 or SOC 262 or GTY 362.

Cross-listed with POL 474/POL 574/574.

GTY 477. Independent Studies. (0-6)**GTY 479/GTY 579. Research on Inequality in Aging & Health. (4)**

This course examines health inequalities, unequal access, and usage of health care as they relate to aging. Topics include health conditions, social environments, caregiving, and access to and utilization of health services and resources. The emphasis is on intersections of various inequality systems (e.g., race/ethnicity, socioeconomic class, gender) and how age interacts with them to produce and reinforce health inequalities.

GTY 491/GTY 591. Social Network Analysis. (3)

The course on social network analysis focuses on applications to social phenomena. This includes topics such as the types of networks, network centrality, network clustering, associativity, community detection, random graph models, models of diffusion, and network visualization. The course allows students to investigate social networks, explain and examine their important characteristics, and relate these features back to social theories. CAS-C.

Prerequisite: POL 306 or STA 363 or ISA 291.

Cross-listed with POL 491/POL 591/591.

GTY 601. New Frontiers in Aging. (3)

This online course provides social entrepreneurs who are interested in the mature market with an overview of the processes of aging. The course offers students the opportunity to think critically about aging from a life course perspective and explore the impact of growing old on the lives of individuals and society. Students consider several key themes over the course of 10 weeks: Why does aging matter? How do we study aging? Why do people age in different ways? What are the diverse work and living conditions of older adults? How do formal and informal programs influence the aging experience?.

GTY 602. Perspectives in Gerontology. (3)

Overview of theories and major issues in social gerontology including the development of the field.

GTY 608. The Logic of Inquiry. (4)

Presents detailed information about, and experience with, aspects of research design in social gerontology including conceptualization, measurement, sampling, analysis, and reporting. Examines inductive and deductive approaches to research questions and the use of national electronic data sets.

Prerequisite: admission into the MGS or MPSG program or permission of the instructor.

GTY 609. Qualitative Research Methods. (3)

Provides an introduction to the paradigmatic assumptions of qualitative research methods and strategies of data collection, analysis, and writing. Focuses on research questions and issues in gerontology.

GTY 611. Linking Research and Practice. (3)

Application of principles of research methods to agency-based evaluation of programs. Focuses on the uses and design of program evaluation research, including program initiation, process evaluation, and outcome assessment. Includes a component on grant-writing and budgeting for evaluation activities.

Prerequisites: GTY 602, GTY 608.

GTY 612. Innovations and Trends in the Aging Marketplace. (3)

This online course is designed to identify important trends in aging that will generate start-up ideas for social entrepreneurship ventures. Topical areas serve as the catalysts for ideas aimed at social entrepreneurs who want to launch an entrepreneurial venture related to aging. The areas of focus for the course include: Entrepreneurial Ideas in Aging; Science & Technology Innovation; Living Arrangements & Family; Work, Retirement & Encore Careers; Leisure, Learning & Civic Engagement; Health & Healthcare Systems; Long Term Services & Supports; Retail Markets & Aging Consumers.

Prerequisite: GTY 601.

GTY 615. Readings in Gerontology. (1-5; maximum 6)

Directed readings on selected topics in gerontology, for pass/fail grade.

GTY 620. Supervised Research or Reading on Selected Topics in Gerontology. (1-5; maximum 6)

Research on selected topics or problems in gerontology.

GTY 640. Internship. (0-20)**GTY 641. Organizations and the Aging Enterprise. (3)**

Prepares graduate students for the practicum. Topics include types of aging-related organizations; organizational theory and behavior; organizational analysis; and professionalism (e.g., goal setting, ethical issues).

GTY 667. Policy and Politics of Aging. (3)

Focuses on major policy areas including income security, health care, long-term care, housing, and social services.

GTY 677. Independent Studies. (0-6)**GTY 700. Critical Inquiry In Gerontology. (1-6)**

Guided independent research required as a culminating, integrative experience for MGS/MPGS students. Students will design and execute a project that involves either original data collection, secondary data analysis, or critical analysis of policies and programs in the field.

GTY 702. Knowledge Construction & Advanced Theory. (3)

Examines the epistemological and ideological underpinnings of knowledge construction and explores the reciprocal relationship between theories and dominant research questions with particular emphasis on theory construction in gerontology. Builds on and reexamines issues and topics discussed in GTY 602 and GTY 608.

GTY 705. Oral and Written Communication for Gerontologists. (3; maximum 6)

Advanced communication of gerontological knowledge, with an emphasis on communicating to professional audiences and the publication process. By the end of the course, doctoral students will produce a manuscript or grant application that is submitted for review; MGS students will produce their culminating paper. Both groups of students will present an oral presentation based on their work.

GTY 708. Quantitative Methods and Statistics. (4)

Explores basic designs of survey and experimental research in aging. Discusses issues of measurement, sampling, causality, the concept of the sampling distribution as the basis for inferential statistics, and introductory and intermediate statistical techniques for continuous and categorical data.

Prerequisite: GTY 608 or permission of the instructor.

GTY 709. Advanced Qualitative Research & Methods. (4)

Builds on GTY 609 by focusing on the major genres in qualitative research, including participant observation, organizational case studies, phenomenological and narrative interpretation, participatory action research, and qualitative evaluation/policy research. Stresses practical mastery of strategies and skills in particular genres, according to students' dissertation interests.

GTY 718. Statistical Modeling in Gerontology. (3)

Focuses on statistical modeling techniques for continuous and categorical outcomes in aging research. Examines multivariate techniques based on the generalized linear model with opportunities for application using large scale gerontological datasets with special focus on longitudinal data analysis.

Prerequisite: GTY 708 or permission of instructor.

GTY 745. Sociology of Aging. (3)

Examines the sociological perspective, its contributions to social gerontology, and its application to issues facing an aging society. Reviews the role of major sociological theories and frameworks (such as structural functionalism, exchange, and conflict theories) in the development of social gerontology.

GTY 747. Demography & Epidemiology of Aging. (3)

Explores fertility, mortality, and global aging; distribution of health and illness within a population; age-based migration and its impact on locations of origin and destination; variations in health and mortality by gender, race, ethnicity, and social class; impact of health and mortality patterns for individuals, society and public policy.

GTY 750. Special Topics in Advanced Quantitative Methodology in Aging Research. (1-4; maximum 20)

Examines advanced quantitative methodology techniques in aging research. Specific special topical sections focus on particular quantitative methodologies including those techniques needed for working with longitudinal data and those that address issues of age, period, and cohort effects. Some sections have data analysis laboratory requirements.

Prerequisite: GTY 718 or permission of instructor.

GTY 751. Categorical Modeling in Aging. (3)

Applied statistical analysis techniques appropriate for categorical dependent variables (outcomes). Analysis techniques include logistic, ordinal, and multinomial regression, and techniques for analyzing count data (such as Poisson regression). Applications will be drawn from gerontological research.

Prerequisites: GTY 718 or equivalent, or permission of instructor.

GTY 790. Pre-Candidacy Doctoral Research in Gerontology. (1-12; maximum 12)**GTY 850. Doctoral Dissertation Research. (1-16; maximum 60)**

Prerequisite: successful completion of comprehensive examination.

Global Health Studies (GHS)

GHS 101. Introduction to Global Health. (3)

Introduces students to the complexity and ethical dilemmas of global health as a practical field that seeks to work with organizations and local communities to solve health problems. Students will learn to assess knowledge from multiple disciplines to thoroughly describe global health problems. This course is the required gateway to the Global Health Minor. IIIB. PA-4C.

GHS 177. Independent Studies. (0-6)

GHS 277. Independent Studies. (0-6)

GHS 301. Seminar in Global Health. (1; maximum 3)

Explores a variety of current issues and research in global health through in depth discussions and readings. Specific content will vary each semester according to current global health events and the specific perspectives of the professor. For Global Health Minors, this seminar must be repeated at least three times, and over multiple semesters students will be exposed to multiple disciplinary approaches to analyzing global health concerns. Required for the Global Health Minor.

Prerequisite: GHS 101.

GHS 377. Independent Studies. (0-6)

GHS 401. Global Health Experience. (2)

In conjunction with an approved off-campus experience and a GH faculty advisor, this independent study course enables students to gain a richer understanding of the complexities of global health issues in context, and specifically it offers students an opportunity to explore a global health question or concern that emerges as a result of their off-campus experience. Students are expected to present a literature review that addresses their global health question or concern, as well as a summary of the ways in which the experience has enriched their understanding of global health at a professional forum. This is a requirement of the Global Health minor and must be pre-approved by a GH advisor.

Prerequisite: GHS 101 and completion of the GH methods requirement.

GHS 477. Independent Studies. (0-6)

GHS 491. Global Health Leadership. (1)

Work in global health requires recognizing and integrating the skills and strengths of differently positioned people while collaboratively building a common vision. This practicum will encourage GHS minors to reflect on qualities of leadership and develop skills in negotiating team problem solving, facilitating the creativity and contribution of each team member, and coordinating contacts or networks of consultants to produce a viable grant proposal.

Prerequisites: GHS 101 and GHS 301.

Co-requisite: ATH 448.

Global & Intercultural Studies (GIC)

GIC 101. Global and Intercultural Studies. (3)

An interdisciplinary approach to global and intercultural dynamics and issues. Examines historical and contemporary transnational perspectives to understand processes of globalization in an age of global social responsibility. IIC, IIIB. PA-2A, PA-4C. CAS-B, CAS-C.

GIC 228. Cuba In Transition. (6)

Takes place in Cuba during winter term and identifies and expands students' understanding of contemporary Cuba. Both online assignments and field work in Cuba will draw on several themes ranging from pre and post- revolutionary Cuban history, domestic and international politics, Cuba's socialist economic model, an alternative approach to education, sustainable agriculture, Cuban art, religious practices, and U.S.-Cuba shared cultural experiences, including baseball and appreciation of Ernest Hemingway's literature and life in Cuba. Additionally, students will learn how categories of analysis such as race, class, and gender have evolved in Cuba over time. Taught during winter term only. IIIB, IC. PA-4B, PA-4C.

GIC 286. Data, Ethics, and Society. (3)

A historical, cultural, and philosophical introduction to key ethical and political problems in a world increasingly saturated with data. Examines rapidly changing and disquieting issues such as privacy and surveillance, intellectual property, and identity. Addresses the ethical issues that may arise from data collection, production, management, and use in scientific study, policy development, social justice debates, and economic applications. Students will develop critical skills to reflect upon, evaluate, and navigate issues they may encounter in a variety of environments impacted by data. CAS-B.

Prerequisites: STA/ISA 125 or STA 261 or STA 301.

Cross-listed with HST 286/PHL 286.

GIC 301. Approaches to Global and Intercultural Studies: Globalization and Belonging. (3)

This course provides an interdisciplinary examination of how "we" and "they" are shaped in the context of heightened globalization. Specifically, how are citizenship, nationhood, ethnicity and race being imagined in an increasingly inter-connected world, and with what implications for democracy, social justice, and human rights. The U.S. provides foundational examples, but comparisons will be drawn from cases in Latin America, Europe, and Southern Africa. IC, IIC. PA-2A, PA-4B. CAS-B or CAS-C.

GIC 340. Internship. (0-20)

GIC 360. Topics in Global and Intercultural Studies. (3; maximum 6)

Examines specific topics through frameworks of global and intercultural studies.

Prerequisites: 32 credit hours or more.

GIC 421. Critical Race and Post-Colonial Studies. (3)

Utilizes critical sociology (intersectionality, critical race, and post-colonial theory) to investigate how race and social structures interact over time both within the U.S. and globally. Specifically the course examines the theories, research and policy associated with intersectional identities of race, class, gender, place and context. Finally, it investigates the role of intersectionality in (re)producing systems of inequality, privilege, and how they can be transformed. Prerequisites: CRE 151, GIC 101, SJS 165 or SOC 151.

Cross-listed with SOC 421/SOC 521.

GIC 477. Independent Studies. (0-6)

Graduate School Community (GSC)

GSC 601. College Teaching Enhancement Program. (1; maximum 2)

Orients graduate students and postdoctoral fellows to basic, practical issues related to college teaching, scholarship and service, and how these faculty roles are affected by institutional context. To be taken with membership in either the CTE Graduate Student Teaching Enhancement Program or the CTE PostDoc Teaching Enhancement Program.

GSC 602. College Teaching. (1)

Orients graduate students to theory and research in college pedagogy as well as teaching skills. Open to students in the Certificate in College Teaching program.

Prerequisite: admission to Certificate Program in College Teaching.

GSC 603. Academic Cultures. (1)

The purpose of the course is to orient graduate students to basic, practical issues related to college teaching, scholarship and service, and how these faculty roles are affected by institutional context. Open to students in the Certificate in College Teaching program.

GSC 640. Internship. (0-12; maximum 6)

GSC 677. Independent Studies. (0-6)

GSC 700. Thesis Completion for Graduate Students. (0-9; maximum 18)

This course is for students who are within two semesters of completing their thesis. It is only available with permission of the graduate school.

Prerequisites: Successful completion of course work; permission of the graduate school.

GSC 850. Dissertation Completion for Graduate Students. (0-9; maximum 18)

This course is for students who are within two semesters of completing their dissertation. It is only available with permission of the graduate school.

Prerequisites: Successful completion of comprehensive exams; permission of the graduate school.

Greek Language and Literature (GRK)

GRK 101. Beginning Greek. (4)

Essentials of ancient Greek including basic principles of grammar, acquisition of basic vocabulary, and practice in reading and writing.

GRK 102. Beginning Greek. (4)

Continuation of GRK 101 culminating in readings selected from Homer, Plato, Xenophon, or Greek New Testament.

Prerequisite: completion of GRK 101 or equivalent.

GRK 177. Independent Studies. (0-6)

GRK 201. Homer. (3)

Introduction to the language, historical background, and artistic riches of Homer. Selected readings from Iliad or Odyssey. CAS-B-LIT.

Prerequisite: GRK 101, 102.

GRK 202. Plato. (3)

Introduction to Greek prose based on reading selections from Plato. Emphasis on reading comprehension and critical assessment of text. CAS-A or CAS-B-LIT (not both).

Prerequisite: GRK 201.

GRK 277. Independent Studies. (0-6)

GRK 310. Special Topics in Greek Literature. (3; maximum 12)

Study of selected authors or special topics in Greek literature (may be repeated when content changes). CAS-B-LIT.

Prerequisite: GRK 202.

GRK 377. Independent Studies. (0-6)

GRK 410. Special Topics in Greek Literature. (3; maximum 12)

Study of selected authors or special topics in Greek literature (may be repeated when content changes). CAS-B-LIT.

Prerequisite: GRK 202.

GRK 410A. Greek Tragedy. (3)

410A Greek Tragedy. Exploration of the evolution and transformation of tragic drama in 5th century through reading and analysis of one play by each major tragedian: Aeschylus, Sophocles, and Thucydides.

GRK 477. Independent Studies. (0-6)

GRK 480. Independent Reading for Department Honors. (1-6)

Reading centered upon a major topic of Greek literature and thought, normally culminating in an independent essay.

Prerequisite: advanced level ability usually requiring completion of course offerings or equivalents, GRK 101 through at least one semester at 400 level.

History (HST)

Note:

1. All history courses may be applied to CAS-B.
2. The second unit of a two-semester course may be taken before the first unit; credit is given for any semester unit of HST 111, HST 112.

HST 111. Survey of American History to 1877. (3)

Survey of American cultural, social, political, and economic history to 1877. IIB. PA-3B. CAS-B.

HST 112. Survey of American History: From 1877 to the Present. (3)

Survey of the social, economic, cultural, and political history of the United States since 1877. IIB. PA-3B. CAS-B.

HST 147. Introductory Seminar in History. (1)

Introduces first-year history majors to the department, the university, and each other. Students will meet history department faculty, and learn about course offerings and undergraduate research opportunities. Students will also learn about the many resources available to them on campus and will work with representatives from the Howe Center for Writing Excellence, the Center for Career Exploration and Success, and Study Abroad and Away.

HST 177. Independent Studies. (0-6)**HST 189. History of Miami University. (3)**

Survey of the history of Miami University, 1760s to 2010s, as it relates to the development of higher education in the United States. Themes include frontier imperialism, settlement, nation-building, the modern university and finally the national university. Students will use primary sources unique to Miami University throughout the course; will access online archival, visual, oral, and other sources unique to Miami University; will begin to build historical arguments supported by primary and secondary evidence.

HST 197. World History to 1500. (3)

Introduction to the origins and development of complex civilizations across the world in the premodern era (ending c. 1500 CE). Stresses interdependency and interactions among cultures; compares social, political, cultural, and religious experiences of different peoples; and examines their development in the context of climate and environmental conditions. IIB, IIIB. PA-3B, PA-4C. CAS-B.

HST 198. World History Since 1500. (3)

Provides global perspective as well as introduction into history of individual civilizations. Stresses interrelations among societies and cultures and compares experiences of peoples and civilizations with one another. IIB, IIIB. PA-3B, PA-4C. CAS-B.

HST 206. Introduction to Historical Inquiry. (3)

Introduction to essential skills in investigating and interpreting the past. Course stresses active participation, writing, and intensive reading of primary documents and secondary literature. Required of (and limited to) History Majors. ADVW. PA-1C.

HST 212. United States History since 1945. (3)

In-depth examination of political, social, economic, and cultural/intellectual developments in the U.S. since the end of World War II.

HST 215. Latin America in the United States. (3)

Interdisciplinary examination of historical, social, economic, and cultural forces that have shaped the experience of peoples of Latin, Hispanic, Latino/a background in the United States. IC, IIB, IIIB. PA-3B, PA-4A.

Cross-listed with LAS 215.

HST 216. Introduction to Public History. (3)

Introduction to the major issues addressed by historians who work in the public sphere, with emphasis on the creation of a shared public past and the disciplines that comprise the field of public history. Cross-listed with AMS.

HST 217. Modern Latin American History. (3)

Introduction to the major themes shaping Latin American history since independence, including US foreign policy; economic development; the discourses of race, ethnicity, class, and gender; cultural elements that either unite or distinguish Latin American countries.

Cross-listed with LAS.

HST 221. African-American History. (3)

Survey of African American History from African origins to the present. PA-3B, PA-4A. CAS-B.

Cross-listed with CRE 221.

HST 222. U.S. Foreign Relations Since 1898. (3)

Survey of U.S. foreign policy from 1898 to the present, with emphasis on issues of neutrality, isolationism, collective security, imperialism, the Cold War, nuclear policy, arms control, and relations with the Third World.

HST 224. Africa to 1884. (3)

Survey course focusing on the changing historiography of Africa, African ancient civilizations, the emergence and development of the Bantu and Nilotes, Eastern Africa and the Orient, early Christianity and Islam, trans-Saharan trade, the medieval Sudanic Empires, statelessness and state formation, Africa and the West between 1400 and 1800, South Africa to 1870, the Mfecane, the Sudanic Jihads, long-distance trade, and African-European relations in the 19th century. IIB. PA-3B. CAS-B.

Cross-listed with CRE 224.

HST 225. The Making of Modern Africa. (3)

Survey of the transformation of Africa, south of the Sahara, from the time of the scramble for, and partition of, the continent among European powers in the second half of the 19th century to the present. Emphasizes economic, social, cultural, political, and intellectual features. This is done through reading monographs, articles, and literary works (novels, plays, poems, etc.) on African experiences with colonialism, the rise and triumph of nationalism, African womanhood, popular culture and the experiences of change, and the rise and nature of post-colonial economic and political crises in the region. IIB. PA-3B. CAS-B.

Cross-listed with CRE 225.

HST 229. The World Wars. (3)

Survey of the era of the world wars (1914-1945) with an emphasis on the global experiences of the conflicts and on the experiences of ordinary people in the Great War and World War II. PA-3B, PA-4C, SI-02. CAS-B.

HST 231. Genocides in the 20th Century. (3)

Focuses on four of the largest instances of organized mass murder in modern times – the Armenian genocide, the Holocaust, the mass killings in Pol Pot's Cambodia, and the Rwandan genocide in 1994. Explores both the motivations behind these atrocities and the ways in which we have sought to "make sense" of them and prevent them from occurring again. IIB, IIIB. PA-3B, PA-4C. CAS-B.

HST 236. Medicine and Disease in Modern Society. (3)

Explores the history of medicine and disease in Europe and America from the late eighteenth century to the present. The focus is on the rise of scientific medicine emphasizing the methods of social, intellectual, and cultural history. This approach rejects traditional progressionist accounts of the rise of scientific medicine and seeks to place medicine in a wider context. The predominant theme is that of the increasing influence of medical theory and medical institutions on society, and the growing concern of the state with public health. The course includes an exploration of the connections between medicine and ideas about class, race, gender, nation, and disease. This course requires no previous knowledge of modern history.

HST 237. Plagues, Pandemics, & Peoples. (3)

This course explores the history of large-scale infectious disease events from the ancient world to the present. SI-05. CAS-B.

HST 240. Topics in World History. (1-4; maximum 9)

Topics in World History. May be repeated when topic changes. CAS-B.

HST 241. Introduction to Islamic History. (3)

Introduction to medieval Islamic and Middle Eastern society, culture and political history from the Prophet Muhammad to the rise of the Ottomans.

HST 243. History of the Atlantic Slave Trade, 1400s to 1800s. (3)

Development of European slaving activity in the African continent in the 15th through 19th centuries. Emphasis on the activities of Portuguese, Spanish, English, French and Dutch slavers, including the Middle Passage and also the less-studied slave trade in the Mediterranean and Indian Ocean. Identifies the economic forces, as well as the social consequences, of the ongoing slave trade. Cross-listed with CRE 243 and LAS 243.

HST 244. Raiders of the Lost Archive. (3)

This introductory course, for majors and non-majors alike, uses the Indiana Jones films to explore how scholars conduct historical research. Join the global quest to investigate topics like adventure fiction, imperialism, indigenous history, antiquities and artifacts, museum studies, and historical memory. Students have the opportunity to contribute research to active projects, to experience the thrill of discovery, and to blaze their own trails in the archives. PA-3B, SI-04. CAS-B.

HST 245. Making of Modern Europe, 1450-1750. (3)

Survey of European history in global context from the Renaissance through the Enlightenment. Emphasis on political, cultural, and religious change in the first global age. Class also introduces students to the skills of historical thinking, and why they are essential to living in a global age. IIB, IIIB. PA-3B, PA-4C. CAS-B.

HST 246. Survey of Medieval History. (3)

Formation of European Synthesis: from the crusades to 15th century.

HST 250. History and Popular Culture. (3)

Topical studies of historical imagery as presented in the popular communications media: best-selling fiction, documentaries, school texts, 'popular' histories, and especially film. Students may not take course more than once with same instructor.

HST 252. History at the Movies. (3)

Explores the ways that history is represented in film and video (as opposed to print). By comparing film to texts, analyzing narrative structure, and studying the representations of the past on screen, students learn how history is depicted in this medium. Introduces history of film by viewing and discussing works of several early directors who represented history. Films and directors selected for inclusion will vary from year to year.

Prerequisite: FST 201 recommended (not required).

Cross-listed with FST.

HST 254. Introduction to Russian and Eurasian Studies. (3)

Examines the major developments that have shaped Russian and Eurasian Culture, society and politics over the last millennium. The course incorporates perspectives from the social sciences, humanities and the fine arts. IIB. PA-3B. CAS-B.

Cross-listed with ATH 254, CLS 254, POL 254, REL 254, and RUS 254.

HST 259. Introduction to the Miami Tribe of Oklahoma. (3)

Offers an interdisciplinary examination of the Myaamia as a living people, within a living culture - a people with a past, present and future. Explores pre-contact economy, social and political organization; the historic period of contact, treaties and federal legislation and the cultural basis of Myaamia responses; and present-day issues of concern to the dependent sovereign nation of the Miami Tribe of Oklahoma. IC, IIC. PA-3B, PA-4A.

Cross-listed with IDS.

HST 270. Topics in European History. (1-4; maximum 12)

Topics in European History. May be repeated when topic changes.

HST 271L. Western Heritage. (3)

Analyze the origins of the key values, attitudes and aspirations out of which the western World has emerged since the days of the Italian Renaissance.

HST 275. 20th Century European Diplomacy. (3)

Examines the origins of World War I and World War II, the Cold War, European unity, decolonization, the fall of communism, and the Yugoslav conflict.

HST 277. Independent Studies. (0-6)**HST 286. Data, Ethics, and Society. (3)**

A historical, cultural, and philosophical introduction to key ethical and political problems in a world increasingly saturated with data. Examines rapidly changing and disquieting issues such as privacy and surveillance, intellectual property, and identity. Addresses the ethical issues that may arise from data collection, production, management, and use in scientific study, policy development, social justice debates, and economic applications. Students will develop critical skills to reflect upon, evaluate, and navigate issues they may encounter in a variety of environments impacted by data. CAS-B.

Prerequisites: STA/ISA 125 or STA 261 or STA 301.

Cross-listed with GIC 286/PHL 286.

HST 290. Topics in American History. (1-4; maximum 12)

May be repeated when topic changes.

HST 296. World History Since 1945: Conflict and Community. (3)

This course explores the conflicts—wars, civil protests, diplomatic tensions, movements for rights—and the moments of cooperation and community-building since 1945. Topics include the Cold War, decolonization, globalization, responses to a changing environment, struggles for civil rights, technological innovation, systems of economic development, and the socio-cultural trends that reflect and shape the way we live. IIB, IIIB. PA-3B, PA-4C, SI-02. CAS-B.

HST 304. History, Memory, Tradition. (3)

Examination of the role of history, memory, and tradition in American culture, and the theoretical underpinnings of public history.

Cross-listed with AMS.

HST 305. Becoming Christianity. (3)

Students will learn how a sect became an enduring "religion" in its own right, how sects make their case for legitimacy, establish group identities, wrestle with factions and disunity, and eventually transcend ethnic boundaries so thoroughly that a former sect comes to reside among peoples who were once excluded from its original group. CAS-B.

Cross-listed with REL 305.

HST 306. History of Christian Thought. (3)

A survey of the history of Christian thought that introduces the major intellectual issues throughout Christian history, including understandings of God, evil, human nature, and salvation. Examines the diversity in Christianity between and within Orthodox, Catholic, and Protestant traditions. Explores the interaction between intellectual developments and historical context. CAS-B.

Cross-listed with REL 306.

HST 313. History of England to 1688. (3)

Life of the English people from the beginning of the Middle Ages to 1688.

HST 315. The Renaissance. (3)

Intellectual developments of the period 1350-1550, set in their social, economic, and political contexts. Focuses on origins and development in Italy, but also looks to the movement's wider European context and impact. Topics include the 14th century crisis, humanism, the family, the debate between active and contemplative life, Renaissance court life, and the state as a work of art. Authors read include Petrarch, Kempe, Colonna, Valla, Castiglione, Machiavelli, Erasmus, More.

HST 316. The Age of the Reformation. (3)

The religious revolutions of the 16th century, both Protestant and Catholic, in their social, political, and religious contexts. Topics chosen from: medieval reform movements and heresies; popular religion; the debates over clerical celibacy, free will, and the priesthood; social discipline and the modern state; family and women; the missions to the New World; the witch craze and the Inquisition. Cross-listed with REL 316.

HST 319. Revolution in Latin America. (3)

History of modern Latin America through the experience of revolution in the 20th century. Focus on diverse expressions of political and social change with emphasis on Cuba, Mexico, Nicaragua, and Brazil. Cross-listed with LAS.

HST 323. Discoveries of Archaeology. (3)

Introductory survey of monumental discoveries (ancient and modern) that have changed and influenced the course of history, intellectual thought, and artistic taste and enlarged and transformed our knowledge of the ancient world. Specific discoveries from selected archaeological sites direct the focus of the course: e.g. Egypt, Troy, Crete, Athena, Delphi, Pompeii, Herculaneum, and Rome. Cross-listed with CLS 323.

HST 324. Eurasian Nomads and History. (3)

Examination of the nomads of the Eurasian steppes and their role in the civilizations of the Eurasian periphery, including China, the Near East, and Russia.

HST 328. Italy: Machiavelli to Mussolini. (3)

Explores Italian history from the end of the Renaissance, through the Baroque, the Enlightenment, Romanticism, and on to modernity. Addresses questions about culture and society, identity and nationality, art and politics, and about Italy's influence worldwide.

HST 330. Topics in European History. (1-4; maximum 9)

Topics in European history. May be repeated when topic changes.

HST 331. Industry and Empire: Europe from 1850 to 1914. (3)

Explores the period during which Europe came to control the political and economic destiny of much of the world. This was also the period in which great mass movements that were to dominate the 20th century were born, theoretical constructs of the social sciences were created, and a great blossoming of national literatures and cultures occurred. Particular attention paid to the attempts states made to cope with new social and economic dynamics of the industrial world, as well as socialism, nationalism, and anti-Semitism.

HST 332. Age of Dictators: Europe 1914-1945. (3)

Focuses on the great crisis of 20th century European civilization, from the outbreak of war in August 1914 to the defeat of Hitler Germany in May 1945. Through novels and historical monographs, explores effects of total war and mass mobilization on the industrially advanced state systems of the period, as well as social emancipation, economic disintegration, and cultural innovation brought on by the great wars of the period. Attention paid to the experience of the "Great Powers" (Germany, the Soviet Union, Britain, and France).

HST 333. Reconstruction of Europe Since 1945. (3)

Examines how Europe came to be divided into two political spheres sustained by dueling military alliances. Focuses on political and economic reconstruction within the two blocs created by the Cold War divide, as well as new cultural impulses generated by changed realities of a shrunken and shattered Europe after 1945. Examines the revolutions of 1989, the fall of the Soviet Union, and process of European unification.

HST 340. Internship. (0-20)**HST 350. Topics in American History. (3; maximum 9)**

May be repeated when topic changes.

HST 354. Modern Chinese History. (3)

Survey of changes in institutions, ideas, economy and society in China's search for modernity from late imperial times (17th to 19th centuries) to the present.

HST 355. History of Modern Sport and National Identity. (3)

Examines the relationship between sports and national, regional, and local identities; sporting and relations between states; the process by which the world adopted or rejected Western games; and the impact of globalization on national sporting cultures, in the last two centuries. Topics include the history of Olympic Games, soccer's World Cup and the global proliferation of baseball and basketball.

HST 356. Modern Japanese History. (3)

Major issues in the history of Japan from mid-19th century to recent times such as the Meiji Restoration, the impact of the West, tradition and modernity, industrialization, social and cultural development, and wars and democracy.

HST 357. Gilded Age America. (3)

Covering the period between 1877 and about 1920, this course explores the political, economic, social, and cultural history of the era in the United States known as the Gilded Age, as well as Progressive Era responses to issues raised in that era. Pedagogy includes both lecture and hands-on experiential work with primary and secondary sources. Cross-listed with AMS.

HST 359. Junior Honors Colloquium. (3)

Introduction to some of the issues involved in the conceptualization and writing of a major history project. Designed for students planning to write a thesis in history in the senior year.

HST 360. Topics in World History. (1-4; maximum 9)

Topics in World History. May be repeated when topic changes.

HST 361. Colonial America. (3)

Exploration and conquest of North America by Europeans and the development of English colonies to 1730.

HST 362. The Era of the American Revolution. (3)

Origins, events, and legacies of the American Revolution, with particular emphasis on political and social developments. CAS-B. Cross-listed with AMS.

HST 363. The Early American Republic, 1783-1815. (3)

Emphasizes the Constitution, the Federalists, and the Jeffersonians with study of Washington, Madison, Hamilton, John Adams, and Jefferson as major figures. Cross-listed with AMS.

HST 367. The United States in the 1960's. (3)

Examines political, social, and cultural changes in the United States in the turbulent decade of the 1960s. Describes the consensus that existed in the 1950s, and then explores such topics as the civil rights movement, the women's movement, expansion of the welfare state, war in Vietnam, and the growth of a counterculture. Cross-listed with AMS.

HST 371. Native American History to 1840. (3)

American Indian history from the period before European contact through the removal era of the 1830s and 1840s. Cross-listed with AMS.

HST 372. Native American History since 1840. (3)

American Indian history from 1840 through the twentieth century and into the present. IC. CAS-B. PA-4B.

HST 374. History of the Russian Empire. (3)

Key issues in Russian history, particularly the rise, growth, and stagnation of the vast multinational and multiconfessional Russian empire, the influence of other empires on Russia, the governance of vast territories, and the development of Russian imperial and national identities.

HST 375. The Soviet Union and Beyond. (3)

Central problems and controversies in Russian history since 1917, among them: what produced the 1917 Revolution; how communism developed and collapsed; how Soviet citizens experienced communism; how Russian history changed after communism's collapse in 1991.

HST 377. Independent Studies. (0-6)**HST 382. Women in American History. (3)**

Survey of the history of women's lives and roles in American society from colonial period to present. Emphasis on examining women's individual and collective roles in private and public spheres and on exploring how specific economic and political transformations have affected women's lives. IC. PA-4B. CAS-B. Cross-listed with AMS/WGS.

HST 385. Race, Science, and Disease in the Americas. (3)

Surveys a variety of debates over race and disease since the European overseas expansion to the Americas, particularly in those regions that developed plantation-based agriculture. Begins with the medical and scientific construction of ideas about race from the conquest to the eighteenth century. Places the development of racial theories of sickness and health in a broad social and political context, and, in particular, explains the medical salience of race in the settings of slavery and colonialism. Discussions will focus primarily on Latin America, the Caribbean, and the United States, but will also explore the making of knowledge about race in global setting. Cross-listed with CRE 385 and LAS 385.

HST 386. Race in U.S. Society. (3)

Examines the historical contexts within which major transformations in racial practices and policies have taken place and analyzes racialized customs and behaviors in the United States across time and place. IC. PA-4B. CAS-B. Cross-listed with CRE 386.

HST 387. U.S. Constitutional Development to 1865. (3)

Development of state rights and nationalism from the framing of the Federal Constitution to 1865.

HST 392. Sex and Gender in American Culture. (3)

Examination of change over time in the construction of sexual norms, attitudes, and behaviors in American culture, as well as of gender roles. Covers the period just prior to the Indian-European encounter through the present. IC. PA-4B. CAS-B. Cross-listed with AMS/WGS.

HST 400. Senior Capstone in History. (3; maximum 6)

Provides intensive reading, research, and writing in selected topics. Each topic focuses on a specific problem or issue presented for analysis. Though requirements vary with topic, each Capstone involves active participation, both orally and in writing. Topics and descriptions are published annually in the department's course-offerings booklet. Take Capstones that build upon other classes taken. Required of all history majors. EL. SC. CAS-B.

HST 410/HST 510. Topics in European History. (3; maximum 9)

Topics in European History. May be repeated when topic changes.

HST 428/HST 528. History Through Literature. (3)

Explores the relationship between historical narratives and fictional ones. Students will read works of historical fiction along with historical theories in order to think more deeply about narrative and how fiction can offer profound historical interpretations. Reading assignments will vary from instructor to instructor: possibilities include Tolstoy's *War and Peace* and Eliot's *Middlemarch*.

HST 433/HST 533. Oral Tradition: History and Practice. (3)

Traces the oral tradition in historical writing and introduces theory and practice of oral history as a methodology basic to historical research.

HST 435/HST 535. Public History Practicum. (3)

Combines classroom study, primary and secondary source research, and fieldwork in the public sphere. Projects may include digital history projects including database projects, digital visual representations, and creation of online exhibits. Other projects may include archival research, local museum and historical society collaborative projects, and public writing. Cross-listed with AMS.

HST 436/HST 536. Havighurst Colloquium. (3)

Exploration of significant issues related to Russian and post communist affairs. Each semester focuses on a central theme or topic that is examined through presentations, readings, research, discussion, and writing. May be repeated once for credit with only 3 hours counting towards the history major. Cross-listed with ATH 436/536; RUS 436/536; CLS 436; POL 440/POL 540/540; and REL 470A.

HST 450/HST 550. Topics in American History. (3; maximum 9)

Topics in American History. May be repeated when topic changes.

HST 452/HST 552. Florence in the Time of the Republic, 1250-1550. (3)

Few European city-states have aroused as much comment from contemporaries and historians as the Republic of Florence. Begins with the emergence of the popular commune (1250), continues through the crisis of the 14th century (plague, depression, workers' revolts), the Medici family domination, foreign invasions, and the fall of the republic. Special attention to the myth of the 'Renaissance' and Florence's role in the creation of that myth. Topics include: political theory, including Machiavelli's *Prince* and *Discourses*; banking and business; the definition of community through civic religion; families and clans; art and architecture; ritual behavior and the definition of people marginal to society.

HST 470/HST 570. Topics in World History. (3; maximum 9)

Topics in World History. May be repeated when topic changes.

HST 477. Independent Studies. (0-6)**HST 480. Departmental Honors. (1-6; maximum 6)**

Departmental honors may be taken in one or more semesters of the student's senior year.

HST 601. Historical Methods. (3)

Introduction for beginning graduate students to the practice of history.

HST 602. History and Theories. (3)

Introduction to theories and models of the practice of history in the last century.

HST 603. Research Seminar I. (3)

Required course, which gives students an opportunity to conduct research in primary and secondary sources in a field of interest, complete a prospectus and a bibliography or source list, and set out a research and writing plan. The course is designed as well to prepare students for HST 604 to be taken subsequently.

HST 604. Research Seminar II. (3)

Required course and must be taken in sequence with HST 603. Students are required to write a finished paper of between 20 and 25 pages that is based on their research but which is independent of the final project.

HST 645. College Teaching of History Surveys. (0)**HST 670. Colloquium in History. (3)**

Reading and discussion of major works on selected topics. Colloquium may be taken more than once if topic changes.

HST 677. Independent Studies. (0-6)**HST 700. Research for Master's Thesis or Project. (1-12; maximum 12)**

Honors (HON)

HON 177. Independent Studies. (0-6)

HON 181. Foundations of Engaged Learning I. (1-2; maximum 2)
Introduces students to the mission, requirements and portfolio review process of the University Honors Program. Sections vary in theme, yet all sections foster the development of inquiry, academic and leadership skills and personal reflection. This course is required for all first-year, first-semester students in the University Honors Program, and it is credit/no credit only.

HON 190. Introductory Honors Experience. (0-2; maximum 10)

Students will have the opportunity to learn and practice authentic research, service and leadership tasks and activities designed by and under the careful supervision of a faculty, staff or other trained educator. These learning experiences may include (but are not limited to) undergraduate research programs, intensive introductory Service-Learning and community engagement programs, and substantive leadership experiences. The experience involves ongoing self-reflection. This course is credit/no credit only.

HON 200. Honors College Book Club. (0)

In this course, students will meet in small book groups with 8-12 of their peers. Each group is led by an honors peer facilitator selected and trained by honors faculty or staff members during the semester prior to the book club. Book groups will study and discuss a popular or award-winning novel or nonfiction book focusing on a relevant, interdisciplinary theme. Book groups will meet for one-hour sessions for a total of six weeks. Each week will be dedicated to a different aspect of the reading, and students will use the final session to share insights gained through the group work.

HON 201. Honors College Film Club. (0)

This sprint course leverages movies to spark intellectual inquiry and discussion among honors students and faculty. Students and faculty come together for lively conversations and debate on a timely or enduring issue, problem, question or theme that is sparked by a classic or popular movie. Themes and films vary from semester to semester.

HON 290. Intermediate Honors Learning Experience. (0-2; maximum 10)

Students will have the opportunity to practice authentic research, service and leadership tasks and methods using guided support. These learning experiences may include (but are not limited to) Honors seminars, undergraduate research programs, intensive Service-Learning and community engagement programs, and substantive leadership experiences such as serving as a peer mentor. This course is credit/no credit only.

HON 340. Honors Internship. (0-20)**HON 380. Honors Special Topics Seminar. (3)**

These interdisciplinary seminars are designed to promote intensive intellectual exchange among Honors College students in a collaborative learning environment. Courses are limited to 19 Honors College students or less, may be team taught, and emphasize close interaction between instructor(s) and students. Seminar topics will vary from semester to semester.

HON 477. Independent Studies. (0-6)

Humanities Center (HUM)

HUM 177. Independent Studies. (0-6)**HUM 277. Independent Studies. (0-6)****HUM 377. Independent Studies. (0-6)****HUM 477. Independent Studies. (0-6)**

Information Systems & Analytics (ISA)

ISA 125. Introduction to Business Statistics. (3)

This course provides an introduction to data, probability, sampling and its importance to analytical decision-making in business. Upon successful completion of this course, students will have the foundational skills necessary to summarize data, describe relationships among variables, and conduct one-sample and two-sample statistical inference. Note: Credit for graduation will not be given for more than one of STA 125, ISA 125, STA 261, STA 301, or STA 368.

Prerequisites: MTH 102 or MTH 121 or MTH 125, MTH 122, MTH 141 or MTH 151; ACT Math Score of 22 or higher; SAT Math Score of 540 or higher; or Miami International Math Placement Test score of 8 or higher; or successful completion of MTH 025; or permission of department chair.

Cross-listed with STA 125.

ISA 177. Independent Studies. (0-6)

ISA 203. Supplementary Business Statistics. (1)

Review of elementary statistics. Regression analysis and statistical process control. For students needing additional coursework to complete the topics in ISA 205.

Prerequisite: MTH 151, STA 261 or equivalents.

ISA 211. Information Technology and Data Driven Decision Making in Business. (3)

Introduction to the concepts of information systems and analytics used to support organizations for the non-business major. Focus is on the critical information technology and systems impacting the operations of organizations in the digital world. Additionally, how organizations use business analytics to make data-driven decisions will be covered.

ISA 225. Principles of Business Analytics. (3)

Provides a continuation of the study of data and its importance to analytical decision-making in business. Topics include: probability and classification, data visualization, two or more population inference, predictive modeling with simple and multiple regression analysis, business forecasting, data-mining. Emphasis on computer implementation, analysis of real data, and communication of results. Prerequisite: (MTH 141 or MTH 151) and ISA/STA 125.

ISA 235. Information Technology and the Intelligent Enterprise. (3)

Focuses on the strategic role of information technology and systems. Topics include: Challenges faced by managers in firms, understanding key technologies and how they help meet these challenges, and the processes, policies and procedures needed to manage technical and digital assets.

Prerequisite: CSE 148.

ISA 241. Database for Analytics. (1.5)

This course is designed to help students develop knowledge and skills related to collection, manipulation, and management of structured data in databases along with skills to access and data. The course deals with the logical and physical design of databases, entity relationship modeling, and structured language query (SQL).

ISA 242. Programming for Analytics. (1.5)

This course is designed to help students develop programming skills to access and process data. The course equips students with programming skills and tools to build and maintain business applications. Emphasis is on the use of structured techniques and using application libraries for data retrieval, logic development, and information presentation.

ISA 243. Database and Programming for Analytics. (3)

This course is designed to help students develop skills related to collection, manipulation, and management of structured data in databases along with programming skills to access and process data. The first part of this course deals with the logical and physical design of databases, entity relationship modeling, and structured language query (SQL). The second part of this course equips students with programming skills and tools to build and maintain business applications. Emphasis is on the use of structured techniques and using application libraries for data retrieval, logic development, and information presentation.

ISA 245. Database Systems and Data Warehousing. (3)

Provides an understanding of the importance of database systems in organizations. The course focuses on database concepts, design methodologies, database management systems, structured query language, implementation of database systems, and data warehousing.

Prerequisite: ISA 235.

ISA 250. Basic Math for Analytics. (3)

Provides students with practical and applied foundational mathematics needed as background for success in data-driven decision making. Topics include sets, functions in single and multiple variables including logarithms, exponentials, and trigonometric; matrix algebra operations; introductory calculus concepts; and basic optimization principles necessary for data analysis. Introduction to applied software driven techniques is included in the course.

Prerequisites: MTH 102 or MTH 121 or three years of college preparatory mathematics or permission of department chair.

Co-requisites: STA 261, ISA 225, or STA 301.

Cross-listed with STA.

ISA 277. Independent Studies. (0-6)

ISA 281. Concepts in Business Programming. (3)

The course focuses on structuring, designing and developing data driven business applications. Emphasis is on the use of structured, object-oriented techniques, and using application libraries for data retrieval, logic development, and information presentation.

ISA 291. Applied Regression Analysis in Business. (3)

Multiple regression as related to analysis of business problems. Includes useful regression models, statistical inference (intervals and hypothesis tests) in regression, model building, regression assumptions, remedies for violations of assumptions, applications in experimental design, and time series analysis.

Prerequisite: ISA 225 with a grade of C or better or ISA 205.

ISA 301. Business Data Communications and Security. (3)

Introduces theory, concepts and applications of data communications technologies in a today's business environment. It includes and introduction to personal, local and wide area network architectures as well as wired, wireless, and mobile technology standards employed in those architectures. The course also introduces the business issues related to network and data security and covers methodologies and technologies commonly employed to protect corporate data assets. Finally, the course explores emerging standards and other related management considerations such as cloud computing.

Prerequisite: ISA 235.

ISA 303. Enterprise Systems. (3)

An introduction to enterprise systems such as enterprise resource planning (ERP), Supply Chain and customer relationship management (CRM) systems. Both managerial and technological considerations in the implementation and use of these systems within businesses will be explored in depth.

Prerequisite: ISA 235.

ISA 305. Information Technology Governance, Risk Management, Security and Audit. (3)

The foundations of information technology risk management, security and assurance including the principles of which managerial strategy can be formulated and technical solutions can be selected.

Prerequisites: ISA 235 or equivalent; or permission of instructor.

ISA 321. Quantitative Analysis of Business Problems. (3)

Examination of business problems from a quantitative model building point of view. Selected models from management science, including linear and nonlinear programming and simulation. Methodologies combined with those from prerequisite courses.

Prerequisite: ISA 291 or ECO 311 or STA 463/STA 563.

ISA 333. Nonparametric Statistics. (3)

Applied study of statistical techniques useful in estimating parameters of a population whose underlying distribution is unknown. Chi-square, runs, and association tests covered. CAS-QL. (For majors in the department, this course counts only toward the B.S. in Data Science and Statistics.)

Co-requisite: ISA 291 or STA 363.

Cross-listed with STA.

ISA 335. Blockchain and Business Applications. (3)

This course provides an introduction to Blockchain, the revolutionary technology behind Bitcoin. The first part of the course is designed to provide an understanding of all the traditional components of blockchains, including cryptographic techniques required to make transactions safe, consensus mechanisms, and incentive schemes. In the second part of the course, students are exposed to applications of Blockchain in a variety of domains, including modern tools for the development and modeling of blockchains.

Prerequisite: BUS 104.

ISA 340. Internship. (0-20)

Available to Farmer School of Business (FSB) majors and minors.

Available for 0 credit hour during spring, summer and fall terms.

Available for 1 credit hour during summer terms only. For one hour of credit, student must secure a sponsoring FSB faculty member within his/her major or minor to supervise the internship and accompanying required internship reflection paper. ISA 340 is not available during winter term. Students are to work through their respective academic departments to enroll in the course. Credit/no credit only. Note: FSB students may earn a maximum 2 credit hours toward graduation for BLS/BUS/ECO/ESP/FIN/ISA/MGT/MKT 340.

Prerequisite: 55 earned hours and permission of department.

ISA 365. Statistical Monitoring and Design of Experiments. (3)

Introduction to statistical methods for monitoring process data and data streams. Introduction to experimental design with applications in business analytics.

Prerequisite: ISA 205 or ISA 225 or STA 301 or STA 363 or equivalent.

Cross-listed with STA 365.

ISA 377. Independent Studies. (0-6)**ISA 387. Designing Business Systems. (3)**

Introduces contemporary approaches for planning, evaluating, and acquiring business software applications such as development, outsourcing, and purchase. Provides an understanding of the business and development environment, the application life cycle, methods, techniques, and tools used today.

Co-requisite: ISA 245 or CSE 385.

ISA 401/ISA 501. Business Intelligence and Data Visualization. (3)

An introduction to the use of business intelligence and data visualization in organizations, with emphasis on how information is gathered, stored, analyzed, and used. Topics covered include business intelligence, data warehousing, data visualization, and data mining.

Prerequisite: ISA 245 or CSE 385.

ISA 403. Building Web and Mobile Business Applications. (3)

A second course in the design and development of business applications for mobile and the web. It follows the data driven business programming prerequisite ISA 281 and focuses on delivering scalable web and web based mobile applications by using client and server side technologies.

Prerequisites: ISA 281 and ISA 245 or CSE 385.

ISA 405. Information Security. (3)

Introduces the broad foundational topics of information security such as threats, vulnerabilities, encryption, controls, privacy issues.

An in-depth coverage of organizational security concepts such as governance, policy, risk management frameworks, business continuity planning, security compliance, ethics etc. Concepts are covered using both case studies and cyber security tools. Finally the course will explore emerging standards and managerial issues in security.

Prerequisites: ISA 301 or permission of instructor.

ISA 406. IT Project Management. (3)

Information technology project management theories, techniques, and software tools are taught. Focus is on the problems and methods of conduction projects with special attention to modern information technology and software implementation projects.

Prerequisites: ISA 387 or CSE 201.

ISA 412/ISA 512. Data Warehousing and Business Intelligence. (3)

The first part of this course deals with the design of data warehouses for business intelligence purposes. In particular, students learn about different design practices and architectures of data warehouses, how to design multidimensional databases, and how to create data integration workflows (ETL processes) to populate and update data warehouses. After learning how to design and populate data warehouses, students learn in the second part of the course how to perform descriptive analytics using different querying languages and tools, and how to create business reports and dashboards based on data from data warehouses.

Prerequisite: Math concepts covered in ISA/STA 250.

ISA 414/ISA 514. Managing Big Data. (3)

The course covers both theories and technologies needed to successfully extract insights from unstructured data and large-scale datasets. Upon successful completion of the course, students will be able to articulate the importance of data analytics and big data management inside organizations. Moreover, they will be able to develop big data solutions to support business decisions and new business strategies.

Prerequisite: ISA 245 or CSE 385 and one of (ISA 281, ISA 401/ISA 501, ISA 491/ISA 591, STA 402/STA 502, STA 404/STA 504); or permission of instructor.

ISA 419. Data Driven Security. (3)

Traditionally, information technology (IT) security entailed using a few tools, solutions and best practices that focused on attack prevention and protecting a company's sensitive information and network assets. However, these solutions are no longer sufficient. Businesses are transitioning to a new era, where cybersecurity is enhanced and almost requires data-driven analytical solutions. The primary goals of data-driven security are to: a) discover malicious patterns from the data-lakes of logs produced by security software, b) develop automated tools that can assist in the surveillance of security-related data. This course covers various analytic applications in information/cybersecurity including: user behavior analysis, network and host intrusion detection, web security, phishing detection, and emerging issues in Industrial Internet of Things (IIoT) security. The course is very applied and involves a large amount of programming to examine real datasets.

Prerequisites: BUS 104, ISA 225 and ISA 235.

ISA 424. Data Infrastructure for the Enterprise. (3)

This course provides a broad overview of the data infrastructure needs of business for data based decision making. It discusses emerging and established technologies for storing data such as data warehouses, data lakes, nosql database systems, and cloud computing systems. The course also introduces the students to managerial issues organizations face with data.

Prerequisite: ISA 245.

ISA 444/ISA 544. Business Forecasting. (3)

Applied techniques useful in analyzing and forecasting business time series. Emphasis on Box/Jenkins methodology. Time series regression with autocorrelated errors, exponential smoothing, and classical decomposition are also discussed.

Prerequisite: ECO 311, ISA 291 or STA 463/STA 563.

ISA 477. Independent Studies. (0-6)**ISA 480. Topics in Business Analytics. (1-3; maximum 3)**

Issues oriented seminar focused upon significant emerging topics in the business analytics field.

Prerequisite: determined by professor.

ISA 481. Topics in Information Systems. (3-4; maximum 3)

Issues oriented seminar focused upon significant emerging topics in the decision sciences field.

Prerequisite: determined by professor.

ISA 491/ISA 591. Introduction to Data Mining in Business. (3)

Analysis of large data sets related to business is the focus. Topics such as cluster analysis, market basket analysis, tree diagrams, logistic regression, neural nets, model evaluation and application will be presented and implemented using current data mining software.

Prerequisite: ECO 311, ISA 291, or STA 463/STA 563.

ISA 495. Managing the Intelligent Enterprise. (3)

Includes research, reading, writing, and discussion. Independent research on a topic and company from a management information systems perspective. Respond to issues or problems raised in cases in an analytic and creative manner. Present topic report and research to class. SC.

Prerequisite: Farmer School of Business core courses, senior standing.

ISA 496. Business Analytics Practicum. (3)

Provide analytics consulting to various business clients to work through and solve analytical, data driven problems. Course will utilize skills gained from previous analytics courses including data mining, visualization, modeling and data skills.

Prerequisite: ISA 401/ISA 501 or ISA 491/ISA 591.

ISA 616. Communicating with Data. (3)

Bridges the study of technical and computational tools to the audiences who need the results of this work. This course will span the entire process of developing a data analytic product from consultation with a client to implementing a solution to presenting the solution to the client. This course will address the fundamentals of effectively communicating with and about quantitative analyses. Topics include using data visualization to describe data; document descriptive, predictive, and prescriptive analytical methods for reproducibility; write professional white papers and technical reports; and ethical considerations related to writing and communication with data. Cross-listed with STA.

ISA 621. Enabling Technology Topics I. (3)

Examines existing and emerging information technology (IT) within the organization. The foci of the course are the role IT plays in business processes, the underlying theoretical basis for innovation through IT, methodologies for successful IT innovation, and infrastructure technologies commonly employed and why.

ISA 628. Information Technology and Analytic's Role in the Enterprise. (1.5)

Examines existing and emerging information technology (IT) for reinventing processes, managing and disseminating data, and consuming that data to improve decision making within the organization. The foci of the course are the role IT plays in business processes, the underlying theoretical basis for innovation through IT, infrastructure technologies commonly employed and technologies for leveraging data.

ISA 629. Leveraging IT and Data Across the Business. (1.5)

This course introduces common technologies and techniques for data manipulation and consumption in various business processes common to most organizations. The course is integrated with and taught in conjunction with the three other domain specific courses in the Certificate in Business Management taught in the first semester of the Master's in Management. Students will learn current tools and apply common techniques to solve discipline specific problems. The course reinforces both the use of data and technology for decision making and the domain specific knowledge covered in the other courses.

Prerequisite or Co-requisite: ISA 628.

ISA 630. Machine Learning Applications in Business. (3)

In this course students will learn supervised and unsupervised modeling techniques using artificial intelligence and machine learning. Methods will include ensemble modeling, customized ensembles and deep learning. The course will focus on the impact and implications of these advanced techniques in business.

Prerequisite: ISA 591.

ISA 632. Big Data Analytics and Modern AI. (3)

This course will further develop students' big data and AI skills for advanced data analytics tasks. We will introduce advanced operations and functions in in-memory cluster computing and non-relational storage solutions, and investigate how to integrate various data sources into a data lake. We will also discuss how data governance can help to improve the management and quality of big data. Moreover, we will examine advanced analytics functions enabled by in-memory cluster computing, such as distributed machine learning, real-time analytics on streaming data, and large-scale social network analysis. Following that, we will cover data-driven modern AI technologies, such as natural language processing, speech recognition, image processing and dialog generation. Those topics will be taught in an applied way, without focusing too much on the theory. Prerequisites: ISA 514.

ISA 633. Prescriptive Analytics in Business. (3)

This course will cover different strategies to optimize decision-making in practice. The course is divided into three main modules. Students will be first introduced to statistically designed experiments and their use to find optimal courses of action in different business settings. In the second module, students will utilize mathematical models to take an abstract business problem and represent it using mathematical equations/relationships. The third module introduces students to discrete-event simulations and how it can be used to evaluate a number of what-if-analyses. Using the knowledge from this class, the students will model real-world business problems in the domains of: supply chain management, human resource management, finance, accounting, economics and/or marketing.

ISA 634. Analytics Solution Deployment and Lifecycle Management. (3)

This course will introduce students to current and emerging methods and technologies for deploying and managing analytical solutions in practice. The emphasis will be on how organizations embed analytical solutions into corporate technology systems and infrastructures to make the solutions consumable. This will include performing business validation of the model, developing an execution plan for deployment, monitoring, and maintenance of the solution. The course will include deploying analytics solutions to a small number of users as well as scaling solutions throughout the enterprise. We will examine methodologies for tracking model quality and changes over time.

ISA 641. Data Discovery Through Business Analytics for Managers. (2)

This course introduces the current, basic tools and methods of data driven decision making. Included in the course will be introduction to programming using open source software. Students will learn to apply basic programming concepts to summarize and visualize data as well as cursory data discovery.

ISA 650. Business Analytics Practicum. (3; maximum 6)

The graduate level Business Analytics Practicum is an immersive, project-based, experiential course intended to draw on skills and knowledge gained in courses throughout the MS in Business Analytics program. Students will be immersed in a semester long data driven problem solving project that requires the selection and application of appropriate skills, tools and methodologies covered in the MSBA program to address the problem at hand and appropriately communicate findings to multiple audiences.

Prerequisites: Completion of the 12 hours of coursework in the Graduate Certificate in Analytics.

ISA 677. Independent Studies. (0-6)**ISA 681. Studies-Management Information Systems. (1-3)**

Integrative Studies (BIS)

BIS 177. Independent Studies. (0-6)**BIS 201. Introduction to Integrative Studies. (3)**

Introduces integrative learning processes needed to build and focus learning throughout the multidisciplinary BIS program. Students explore their own epistemologies while practicing strategies to meaningfully integrate various disciplines and fields of study, culminating in individualized Statements of Educational Objectives for their course of studies in the degree program.

BIS 210. Special Topics in Integrative Studies. (3; maximum 6)

Special Topics in Integrative Studies offers a rotating series of topics to meet the changing needs and interest of students and faculty. May be taken for credit more than once with different content and permission of instructor.

BIS 277. Independent Studies. (0-6)**BIS 301. Integrative Studies Seminar II. (3)**

Second required seminar in Bachelor of Integrative Studies program, shaped around selected theme. Integrates concepts, perspectives, and methodologies of student Concentrations. Emphasizes critique, analysis, and synthesis of knowledge and ways of knowing and of cross-disciplinary connections.

Prerequisite: a grade of C- or better in BIS 201.

BIS 305. Integrative Writing in Global Contexts. (3)

Through this advanced composition course, students develop and exercise means to integrate multiple perspectives and disciplinary discourses through writing for global audiences. Readings focused on issues in diversity and intercultural communication, assignments involving various genres and disciplinary methodologies, and projects that analyze and integrate multiple forms of writing help students draw on their liberal learning to address real-world challenges in regard to diverse others and the interconnected global community. IC, ADVW. PA-1C.

Cross-listed with EGS 305.

BIS 315. Comic Books in American Culture. (3)

This course will prompt you to think about visual storytelling by examining the symbolism, art, literature, and history of comics. Students will develop communication abilities as they write and use comic-creating software and/or drawing skills. EL.

BIS 340. Internship. (0-20)**BIS 377. Independent Studies. (0-6)****BIS 401. Senior Integrative Seminar. (3)**

This course brings together BIS seniors in a way that will complete the integrative nature of their course work. It is a true seminar in its intensive, collaborative, and rhetorical nature. The course re-inforces and extends the emphasis on "self," "others," and "product/outcome" characterizing the three BIS seminars. SC.

Prerequisites: BIS 201 or approval of the instructor.

BIS 410. Advanced Special Topics Seminar in Integrative Studies. (3; maximum 6)

Topical offerings in Integrative Studies in emerging and established fields of interdisciplinary study such as Critical Animal Studies, Youth Studies, Area Studies, Critical Race Studies, and Environmental Studies. May be taken for credit more than once with different content and permission of instructor.

BIS 477. Independent Studies. (0-6)

Interdisciplinary (IDS)

IDS 151. Diversity Seminar. (1)

Seminars designed to enable students to take part in discussions involving difference, including those stemming from race, ethnicity, gender, religion, sexual orientation, physical ability, class and region. Seminar helps create an environment where students learn to engage the differences found on campus and in the world into which students graduate.

IDS 154. Introduction to Study Abroad. (2)

Introduces students to cultural basics, skills, and host-country specifics required for maximizing their study abroad experience and for respecting and interacting with people in other cultures. Students will consider questions, issues, and challenges that will be part of their travel, study, and daily lives while studying abroad and develop tools for increased cultural competencies.

IDS 156. Study Abroad Reentry Seminar. (1)

Guides students on a journey of unpacking their international travel experiences and reflecting on what it means to cross cultures. Along the way, students will explore their own identity while identifying ways to integrate their global experiences into their lives now and in the future. Limited to students who have studied abroad, including current international students here at Miami.

IDS 159. Strength Through Cultural Diversity. (3)

Serves as an interdisciplinary introduction to diversity. A primary goal of this course is to facilitate students' abilities to build their cultural competencies and their abilities to work toward a socially just and inclusive world by providing the conceptual tools and vocabulary to think about, discuss and experience diversity. Topics covered include multiculturalism, ethnocentrism, prejudice, discrimination, privilege, the impacts of social and cultural change, and the engagement of students in the global community. IC, IIC. PA-2A, PA-4B.

IDS 177. Independent Studies. (0-6)**IDS 206. Diversity and Culture in American Film. (3)**

Analysis of the representation of diversity and culture as portrayed in American motion pictures. IC, IIB. PA-3B, PA-4B. CAS-B. Cross-listed with FST.

IDS 253. Voices Intergroup Dialogue. (3)

This course introduces the intergroup dialogue model of peer learning and involves semi-structured face-to-face meetings across social identity groups, discussion of relevant reading material, and exploration of group experiences in social and institutional contexts. The goal is to create a setting in which students engage in open and constructive dialogue and explore issues of intergroup relations, intellectual diversity, free speech, conflict, and community. In the process, students learn about themselves and peers with different social identities while gaining valuable skills in cross-cultural communication and team-building. IC. PA-4B.

IDS 259. Introduction to the Miami Tribe of Oklahoma. (3)

Offers an interdisciplinary examination of the Myaamia as a living people, within a living culture - a people with a past, present and future. Explores pre-contact economy, social and political organization; the historic period of contact, treaties and federal legislation and the cultural basis of Myaamia responses; and present-day issues of concern to the dependent sovereign nation of the Miami Tribe of Oklahoma. IIC, IC. PA-3B, PA-4A. Cross-listed with HST.

IDS 277. Independent Studies. (0-6)**IDS 340. Internship. (0-20)****IDS 377. Independent Studies. (0-6)****IDS 477. Independent Studies. (0-6)**

International Studies (ITS)

ITS 141L. European Cities in Cultural Context/Luxembourg. (1)

Deals with certain key European cities and considers for each its place in history, its development, the remaining landmarks of important events in the past, architectural and artistic masterpieces, important persons who lived there (statesmen, philosophers, musicians, etc.) and their contribution. Considers the present significance of the city in economic, political and cultural terms, as appropriate.

ITS 142L. Great European Cities. (1)

This course introduces students to the historic and cultural evolution of Europe from its ancient past to its contemporary process of economic and political integration. Students will be exposed to the multifaceted aspect of the present European mosaic and the search for a European identity.

ITS 177. Independent Studies. (0-6)**ITS 201. Introduction to International Studies. (3)**

Integration of core disciplines comprising international studies, with analysis of major world regions and issues. Recommended for freshmen and sophomores. IIC, IIIB. PA-4C, PA-2A. CAS-C.

ITS 202. Problem Solving in International Studies. (3)

This course is a required course for the major in International Studies and comprises the major's writing requirement. The course covers the fundamentals of policy analysis and writing policy recommendations as an analytical method for institutional engagement in understanding and seeking to solve complex international problems. The course is a prerequisite for ITS 302, ITS 365 and ITS 402. ADVW. PA-1C. CAS-W.
Prerequisite: ITS 201.

ITS 208. The Rise of Industrialism in East Asia. (3)

Introduction to historic parameters, geographic variables, state policies, and sociocultural contexts of industrialism in East Asia (China, Japan, Korea, Taiwan, Hong Kong, and Singapore). IIC, IIIB. PA-2A, PA-4C. CAS-C.
Cross-listed with GEO/SOC.

ITS 277. Independent Studies. (0-6)**ITS 301. Intercultural Relations. (3)**

This course bridges ITS 201 and the senior capstone, ITS 402, within the ITS major. Development of cultural awareness; in-depth study of theory and field-based research on the cross-cultural dynamics of cross-national encounters, trends, and events. CAS-C.
Cross-listed with ATH.

ITS 302. Issues in the Global South. (3)

This course bridges the required ITS 202 Problem Solving in International Studies course and the senior capstone within the ITS major. Examines a series of issues faced by developing societies. Topics include theories of national independence, technology, post-colonial hardships, and the role of the U.S. This course can be taken to complete part of the ITS core requirements or to complete one course requirement in the International Development concentration.
Prerequisite: ITS 201.

ITS 333. Global Development and Inequality. (3)

Examines processes and outcomes of economic development in the modern era, emphasizing the interpretation of development measures and critiques of prevailing models. This course adopts an interdisciplinary perspective emphasizing the recent history and political, cultural, and geographic dimensions of economic development and the production of global patterns of inequality.
Prerequisites: ECO 201 and ECO 202.

ITS 340. Internship. (0-20)**ITS 365. Applied Topics in International Studies. (3; maximum 6)**

This course bridges the required ITS 202, Writing Policy Analysis course and the senior capstone within the ITS major. Students examine a series of cases about applied topics in global issues today. Students evaluate the cases from an interdisciplinary perspective and from the point of view of a policy analyst or participant. Examples of topics include global trade, human rights, UN decision making, veiling in Islam, and dictatorship. ITS 365 may be taken to complete a core requirement in the major and a separate section of ITS 365 may be taken to complete one course in the concentration requirement. A total of two different sections of ITS 365 can be taken for the major.
Prerequisite: ITS 201, ITS 202.

ITS 377. Independent Studies. (0-6)**ITS 390. Special Topics in International Studies. (1-3)**

Presentations and discussion of current international events. Students read the newspaper daily and reflect on global developments in human rights. Offered credit/no credit only.

ITS 402. Senior Capstone in International Studies. (3)

Examination of approaches and diverse human relationships that comprise the field of international studies, with participants writing a group-project policy report. SC.
Prerequisite: international studies major with senior standing, who has previously completed either ITS 302 or ITS 365, or permission of instructor.

ITS 402N. Problems of the Middle East. (3)**ITS 477. Independent Studies. (0-6)**

Italian (ITL)

ITL 101. Beginner's Course. (4)

Objective: to develop the four language skills of oral comprehension, speaking, reading, and writing.

ITL 102. Beginner's Course. (4)

Objective: to develop the four language skills of oral comprehension, speaking, reading, and writing.
Prerequisite: ITL 101.

ITL 105W. Intensive Elementary Italian. (8)

Intensive course, offered only in summer abroad, covers work normally included in 101, 102. Allows student to take a full year's work in less than eight weeks, 15 hours per week.

ITL 177. Independent Studies. (0-6)**ITL 201. Second Year Italian. (3)**

Review of grammar, writing skills, and augmentation of vocabulary and idiomatic expression, and an introduction to critical reading.
Prerequisite: ITL 102 or 105 or equivalent.

ITL 202. Second Year Italian. (3)

Review of grammar, writing skills, and augmentation of vocabulary and idiomatic expression, and an introduction to critical reading. CAS-A.
Prerequisite: ITL 201.

ITL 205W. Intensive Intermediate Italian. (8)

Intensive course, offered only in summer abroad, covers work normally included in 201, 202, plus structured conversation. Allows student to take a full year's work in less than eight weeks, 15 hours per week. CAS-A.
Prerequisite: ITL 102 or 105 or equivalent.

ITL 221. Italy, Matrix of Civilization. (3)

Representations of political, social, and artistic transformations in Italy from the cultures of the Romans to contemporary Italians, taking into consideration sexuality, religion, political thought, the artistic outpouring of the Renaissance, the scientific revolution, colonialism, linguistic minorities, emigration and immigration, and Italy's multi-ethnic future. Taught in English. IIB, IIIB. PA-3B, PA-4C, SI-02. CAS-B.

ITL 222. Italian American Culture. (3)

The course explores the history of Italian immigration in America, focusing on the development of Italian American communities across the land and the contributions that Italian Americans have made to American society and culture. Students examine and discuss the dynamics of immigration, assimilation, ethnicity, and diversity. Taught in English. IC. PA-4B.

Cross-listed with AMS 222 and FST 222.

ITL 231. Italian Food Cultures in Context. (3)

Examines food movements in Italy in a historical, literary and cultural perspective and compares the Italian case to the US discussing food production and consumption in light of the global environmental crisis. Includes hands-on experience with the local community. In English. IIIB, EL. PA-4C, SI-01. CAS-B. Cross-listed with IES 231.

ITL 262. Italian Cinema. (3)

Discussion and analysis of major movies and trends in Italian cinema. Topics may vary but attention is given to social and ideological implications of Italian cinema and the way movies produce a critique of cultural mores. Taught in English. No prerequisites. CAS-B-LIT. Cross-listed with FST.

ITL 277. Independent Studies. (0-6)**ITL 279. Made in Italy. (6)**

Italy has distinguished itself worldwide for the excellence of its products in relation to its quality, elegance, taste, style and creativity. The goal of this Made in Italy workshop is to provide students with an understanding of major innovations of Italian industry such as fashion, food, and design, while offering an introduction of basic principles of business management from an Italian point of view. The course analyzes the history and evolution of these industries from their origin to the present, and the challenges faced in Italy today in the era of globalization. Students will also familiarize with basic Italian vocabulary and will deepen their understanding of cultural differences while developing strategies to adapt to a new culture. IIIB, IC. PA-4B, PA-4C.

ITL 301. Culture, Society and Politics in Perspective. (3)

Gateway to upper-level offerings in Italian. Organized around a theme developed by each professor, this class initiates students into the work of original analysis and creative interpretation. The course will include works from a variety of media, voices, and historical moments, from films to songs, journal articles to sonnets, theater to opera. Students will explore the relationships between cultural production, intended in a broad sense, and Italian society while gaining exposure to a range of approaches to, and theories of, reading. Students will hone their ability to present their ideas orally and in writing. CAS-B-LIT.

Prerequisites: ITL 202 or ITL 205 or equivalent.

ITL 302. Introduction to Italian Literature. (3)

A survey of Italian literature, from classical to contemporary literature. Techniques for critical reading in major genres such as drama, poetry, visual art and prose with emphasis on historical and societal transformation across time. Taught in Italian. CAS-B-LIT. Prerequisite: ITL 202 or ITL 205 or equivalent.

ITL 305W. Intensive Advanced Italian. (8)

Students perfect their ability in the four language skills through practice in oral and written composition and are introduced to various aspects of Italian culture including literature, art, music, history, politics, etc., through lectures, reading, and discussion. Offered only in summer abroad. CAS-A.

Prerequisite: ITL 202 or 205 or equivalent.

ITL 350. Special Topics. (3; maximum 6)

Examines works of Italian culture in a comparative and multidisciplinary fashion. Each offering of the course will be based on a particular theme. Students may take the course more than once provided that the topic is not the same as in a previous election. Taught in English.

ITL 362. Mafia and Cinema. (3)

This course explores how modern films depict the complex phenomenon of the mafia. Taught in English. IC. PA-4B. CAS-B. Cross-listed with FST 362.

ITL 364. From Marco Polo to Machiavelli. (3)

Examination of Classical and Asian influences in Italian culture from the Middle Ages through the Renaissance. Works of Marco Polo, Dante, Petrarca, Boccaccio, the Italian Humanists, and Renaissance artists and writers, such as Leonardo da Vinci, Michelangelo, Ariosto, Castiglione, and Machiavelli, including women poets, such as Vittoria Colonna, Gaspara Stampa, and Veronica Franco, are read and discussed against the historical background of Mediterranean trade and culture from the 13th through the 16th century, when the Italian peninsula was a crossroads between Europe, Africa, and Asia. Taught in English. CAS-B-LIT. Cross-listed with ENG.

ITL 377. Independent Studies. (0-6)**ITL 401. Dante's Divine Comedy. (3)**

Intensive examination of Dante's major work, *The Divine Comedy*, read in a bilingual edition. Lectures and discussion in English. No prerequisites. CAS-B-LIT. Cross-listed with ENG.

ITL 410. Topics in Italian. (3; maximum 9)

This course, taught in Italian, focuses on different topics in Italian literature and culture. Specific topics to be studied will be announced each time the course is offered. Students may take the course for credit up to three times, provided that the topic of each offering is different each time. All readings, discussions, and assignments will be in Italian.

Prerequisite: ITL 202 or 205, or the equivalent (two years of university-level Italian), or permission from the instructor.

ITL 425. Senior Seminar. (3)

This capstone course is an intensive interdisciplinary seminar on a selected topic that explores the connections between the literatures and cultural systems linked to the Greek and Roman world, and to the French and Italian traditions. Taught in English, this course invites majors in French, Italian, and Classical Studies to strengthen their powers of critical thinking and synthesis through research, writing, and discussion. Required of all French, Italian, and Classical Studies majors in their senior year and open to qualified non-majors with permission of instructor. The capstone is taught on a rotating basis by faculty in French, Italian, and Classical Studies. SC. CAS-B, CAS-W. Prerequisite: senior standing in the major; for other majors, permission of instructor.

Cross-listed with CLS 425 and FRE 425.

ITL 477. Independent Studies. (0-6)**ITL 677. Independent Studies. (0-6)**

Japanese (JPN)

JPN 101. First Year Japanese. (4)

Acquisition of the basic oral-aural skills of elementary Japanese as well as the reading and writing skills.

JPN 102. First Year Japanese. (4)

Acquisition of the basic oral-aural skills of elementary Japanese as well as the reading and writing skills.

Prerequisite: JPN 101 or equivalent.

JPN 177. Independent Studies. (0-6)**JPN 201. Second Year Japanese. (3)**

Further development of the fundamental skills of speaking, listening, writing, and reading in Japanese.
Prerequisite: JPN 102 or equivalent.

JPN 202. Second Year Japanese. (3)

Further development of the fundamental skills of speaking, listening, writing, and reading in Japanese. CAS-A.
Prerequisite: JPN 201 or equivalent.

JPN 231. Japanese Tales of the Supernatural in English Translation. (3)

Focusing on the supernatural, this course examines major literary works chronologically, Tale of Genji (ca. 1010), to contemporary films. IIB. PA-3B. CAS-B-LIT.

JPN 255. Drama In China/Japan:Eng Trans. (3)

Provides historical overview of major traditional dramatic art forms of China and Japan: Zaju, Kunqu, Peking Opera, Noh, Kyogen, Bunraku, and Kabuki. Critically treats and interprets theatrical conventions in each and attempts to clarify aesthetic significance. IIB. PA-3B. CAS-B-LIT.

Cross-listed with CHI.

JPN 260. Topics in Japanese Literature in English Translation. (3; maximum 9)

Treatment of selected works of Japanese literature that suggest a particular theme, such as Death. CAS-B-LIT.

JPN 261. Global Godzilla & Hello Kitty: Japanese Popular Culture in Global Context. (3)

This course examines the cultural heritage of the representations of Japanese popular media such as anime, manga, films, games, music, and fashion in order to better understand how the entertainment industries shape contemporary Japanese society and global mediascapes in personal, local, and global contexts. Through the study of cultural artifacts within different media, we will learn how Japan's popular culture changed over time and how it impacted global cultural production and consumption. In addition, the course will introduce students to critical and theoretical approaches to various media, fan cultures, and the interplay between these two. PA-3B, PA-4B, SI-04. CAS-B.

JPN 266. Survey of Japanese Cinema. (3)

This course examines representative Japanese films from the movies of the immediate postwar era to the new wave of Japanese anime (animated films).

Cross-listed with FST 266.

JPN 277. Independent Studies. (0-6)**JPN 301. Third Year Japanese. (3)**

Emphasis on advanced oral and written communication in Japanese, while learning about important concepts in modern Japanese society through reading and discussion.
Prerequisite: JPN 202 or equivalent.

JPN 302. Third Year Japanese. (3)

Emphasis on advanced oral and written communication in Japanese, while learning about important concepts in modern Japanese society through reading and discussion.
Prerequisite: JPN 301 or equivalent.

JPN 311. Introduction to Translating Japanese Media. (3)

This class introduces students to the theory and practice of translation from Japanese (the source language) into English (the target language). Students will engage with theoretical, readings, reflections on the various practices of translation, and evaluations of existing translations alongside their source texts. In-class work, assignments, and group projects will emphasize the practice of translation within different formats, genres, and subject areas. Translations offer a way of improving mastery (vocabulary, grammar, and style) in both the source language as well as in the target language. Moreover, translation skills can be a valuable asset in professional careers. The course design includes real-world examples in the field of translation and provides opportunities for students to translate authentic texts.
Prerequisite: JPN 202.

JPN 340. Internship. (0-20)**JPN 377. Independent Studies. (0-6)****JPN 381. Introduction to Japanese Linguistics. (3)**

Provides a deeper understanding of the characteristics of the Japanese language, using the framework of theoretical linguistics as an analytical tool.

Prerequisite: JPN 102.

JPN 401. Fourth Year Japanese. (3)

Development of advanced command of Japanese in comprehension and production through written works and class discussion. Cultural, social, and psychological implications, literary works, contemporary articles, etc., will also be explored.

Prerequisite: JPN 302 or equivalent.

JPN 402. Fourth Year Japanese. (3)

Development of advanced command of Japanese in comprehension and production through written works and class discussion. Cultural, social, and psychological implications, literary works, contemporary articles, etc., will also be explored.

Prerequisite: JPN 401 or equivalent.

JPN 477. Independent Studies. (0-6)**JPN 677. Independent Studies. (0-6)**

Journalism (JRN)

JRN 101. Journalism and American Life. (3)

Students in this Miami Plan class explore the role of journalism in American democracy. They consider the social, historic, cultural, and economic contexts shaping the practice of journalism in the United States while also considering the ethics guiding journalistic choices. This is a course that introduces students to journalism as genre as well as practice, providing students a window into the watchdog, mirror, and marketplace functions of news media in a democracy. IIB. PA-3B, SI-03. CAS-B.

JRN 102. Precision Language for News Writing. (3)

A practical laboratory for English-language writing in the news style. The goal of the course is clear written communication for media writers and public relations professionals. Key formal concepts include the news lead, inverted pyramid, differences in writing across platforms, writing about particular kinds of news or events, and attributing information to reliable sources.

JRN 120. Prodesse Scholars: Truth, Lies, and the News. (3; maximum 6)

Prodesse Scholars interested in public affairs and the media explore the crisis of trust that endangers democratic decision-making. How did we get here? How do we tell truthful reportage from propaganda? Drawing on history, journalism, and philosophy, members of the course will: 1) debate real-world case studies, past and present; and 2) try their hand at writing their own truthful accounts of events unfolding right on campus. How would YOU resolve the age-old challenges of the journalist's trade — to convey reality accurately, fairly, objectively, and without bias?.

JRN 177. Independent Studies. (0-6)**JRN 201. Reporting and News Writing I. (3)**

Introduces basic news writing, news gathering, and interviewing. Emphasizes instruction and experience in writing for print and online forms. Prerequisite: for all journalism writing and creative courses. ADVW. PA-1C. CAS-W.

JRN 202. Reporting and News Writing II. (3)

Refines media news writing skills acquired in JRN 201, with an emphasis on multiple-field reporting. Students produce cross-media content, working in broadcast and online forms. Prerequisite: JRN 201.

JRN 277. Independent Studies. (0-6)**JRN 303. Multimedia Journalism. (3)**

Explores the theory and practice of multimedia journalism. Topics include current forms of and social impact of multimedia reporting, particularly in online spaces. Students will also develop online multimedia news projects. Prerequisite: JRN 202.

JRN 310. Topics in Journalism Studies. (3; maximum 6)

Introduces students to a particular area of scholarship or research methodology within the academic discipline of journalism studies (such as literary analysis, content analysis, journalism history, cultural representations, journalism theory). Students in this class produce work intended for an audience of interested scholars (such as literature reviews or primary source, critical or content analyses) rather than for a general audience.

JRN 313. Digital Audio Reporting. (3)

Advanced-level coursework emphasizing digital audio reporting, writing, and editing. Students produce audio news stories for broadcast, online and podcast platforms. Prerequisite: JRN 202 or permission of instructor.

JRN 314. Digital Video Reporting. (3)

Advanced-level coursework emphasizing digital video writing, reporting and editing. Students will learn to produce video news stories across broadcast television and mobile platforms. Prerequisite: MJF 146 and JRN 202, or permission of instructor.

JRN 316. Editing and Design. (3)

Introduces the roles of news producers and editors as key team members in print, broadcast, and online journalism. Topics to be covered include text editing, news values, and design principles, photo presentation and visual editing, audiences and interactivity. Prerequisite: JRN 201.

JRN 318. Advanced Storytelling in Journalism. (3)

Engages students in the art and craft of telling in-depth stories that inform, engage, compel, and entertain. These techniques involve reporting and writing alike, and they can be put to use in magazines, newspapers, books, websites, documentary film, and multimedia formats.

Prerequisite: JRN 201.

JRN 333. International Journalism. (3)

Covers wide-ranging issues in global news media, including press freedom and safety, the journalist's role in international politics and economy, and covering conflict. Through research and analysis, students explore how autocracies and transitional nation-states aim to manipulate media, how journalists shape worldviews, and how war correspondents operate. Specialty projects can include gathering refugee and immigrant testimonials, or service work. IIIB. PA-4C.

JRN 340. Internship. (0-20)**JRN 343. Sports Reporting and Writing. (3)**

343 Sports Reporting and Writing 3 Journalism 343 serves as an introduction to the basics of sports writing, editing, and reporting with a focus on developing a portfolio of published student work. Prerequisites: JRN 201 or permission of instructor.

JRN 350. Specialized Journalism. (3; maximum 6)

Focuses on rotating topics such as business reporting, political reporting, sports reporting and photojournalism.

JRN 377. Independent Studies. (0-6)**JRN 412. Public Affairs Reporting. (3)**

An advanced class that focuses on reporting about issues that affect people's lives. Students learn to locate and analyze data sets that shed light on those issues. They also learn to develop story ideas from such data, and to incorporate the data into elegantly written stories accompanied by effective visual representations of related data. CAS-QL. Prerequisite: JRN 201.

JRN 415. Capstone in Television Journalism. (4)

Provides practicum experience in which students write, report, and produce a regularly scheduled television newscast aired on Oxford's cable television system. Participate in and evaluate all aspects of television news gathering and reporting process. SC.

Prerequisite: MAC 211, JRN 202, and JRN 314 or applied television journalism experience (subject to instructor approval if prereqs not met).

JRN 418. Critical Writing in Journalism. (3)

Focuses on theory and practice in reviewing books, stage productions, motion pictures, and concerts for mass media.

Prerequisite: JRN 201.

JRN 421. Capstone in Journalism. (3)

Integrates theory and practice of journalism; issues of law, ethics, and history as they pertain to journalism. Topics vary each year. SC.

Prerequisite: JRN 201 and senior standing.

JRN 424. Ethics and Digital Media. (3)

Students will focus on key ethical issues related to online writing, communication, and visual design. Course will introduce key ethical principles, including principles of rhetoric, communication, and design ethics, as well as key principles of professional ethics as articulated in fields like professional writing, technical communication, and graphic design. Topics include intellectual property, access and universal design, privacy and surveillance, visual representation and manipulation, global communication and cultural difference, economic issues of justice and equity, and professional rhetorics. Cross-listed with ENG/IMS.

JRN 426. Inside Washington. (8)

Engages students in an intensive study of the contemporary Washington, D.C. - government institutions, public officials, journalists, consultants, staff, and interest groups - through reading, lecture, on-site observations, expert presentations, discussion, research, writing, and internships. Program conducted in Washington, DC. Prerequisite: permission of instructor. Cross-listed with MAC/POL.

JRN 427. Inside Washington Semester Experience. (4; maximum 4)

Engages students in an intensive study of the contemporary Washington, D.C. -government institutions, public officials, journalists, consultants, staff, and interest groups - through reading, lecture, onsite observations, expert presentations, discussion, research, and writing. Course is part of a 16-credit semester program conducted in Washington, D.C. Prerequisites: permission of instructor. Co-requisites: JRN/MAC/POL 454; JRN/MAC/POL 377 or 477; JRN/MAC/POL 340. Cross-listed with MAC/POL.

JRN 429. Environmental Communication. (3)

Examines theories, principles, and methods for communicating environmental concepts and scientific information verbally, textually and visually to a range of audiences and stakeholders. Students will work with scientists, peer communities, clients, and focus groups to develop effective and appropriate environmental communications across mediums. Projects may include producing scientific posters, writing reviews of research projects on an environmental problem, preparing oral presentations, creating visual story of scientific work, interviewing scientists for a general news story, writing environmental proposals, and facilitating focus groups. Cross-listed with ENG/IES.

JRN 454. The Washington Community. (3-4; maximum 4)

This course focuses on the Washington, D.C., as a complex political-social system that is both the seat of American democracy and a metropolis with typical urban opportunities and problems. In this class, students will complement their study of the formal political and media systems in the "Inside Washington" course by focusing on the development and behavior of constituent communities within the city of Washington. Course is part of a 16-credit semester program conducted in Washington, D.C. Cross-listed with MAC/POL.

JRN 477. Independent Studies. (0-6)

Kinesiology, Nutrition, and Health (KNH)

KNH 101. Personal Nutrition: a survey course. (2)

Nutrition topics relevant to young adults will be explored through application of basic nutrition principles to real life situations. Self-assessment and monitoring of personal nutrition status are an integral part of this course. This course is for non-majors. This is not substitution for KNH 102 Fundamentals of Nutrition for KNH majors.

KNH 102. Food, Nutrition & Health. (3)

An introduction to the essential nutrients and the associated digestion, absorption, transport and function of these nutrients as part of the metabolic process to sustain human health. This course also explores the connection between diets and development of chronic diseases, current issues in nutrition, and nutrition and food safety research and resources. PA-2B, SI-05.

KNH 103. Introduction to the Profession of Dietetics. (2)

An introductory course for students interested in Dietetics. Content will include the history, current practices and future trends in Dietetics. This course covers the practical application of principles from the integration of knowledge of food, nutrition, biochemistry, physiology, management and behavioral and social science. Students will explore career opportunities in Dietetics including an overview of the dietetic internship application process.

KNH 104. Introduction to Food Science. (3)

Introduction to food composition, selection and preparation, and food science principles. Includes lecture (1) and lab (2).

KNH 116. Personal Wellness. (2)

This course is designed to introduce students to the concepts of wellness; what it is and how in-depth wellness can be. Students will learn tools to help with their own personal wellness and apply concepts for their own need. The course will encourage a development of "achieving balance" and awareness of how making choices affects other dimensions of wellness.

KNH 125. Introduction to Public Health. (3)

Public health is a multi-disciplinary field aimed at reducing preventable morbidity and premature mortality, and promoting a higher quality of life in populations and groups through health intervention. This course is designed to introduce the basic tenets, applications, and foci of public health, including integrating public health with other health professions. It will provide a history of public health, an overview of the core disciplines, current events and issues in the field. IIC. PA-2A.

KNH 177. Independent Studies. (0-6)**KNH 184. Motor Skill Learning and Performance. (3)**

Introductory analysis of neurophysiological, biomechanical, and socio-behavioral factors that facilitate and inhibit acquisition, refinement, and retention of motor skills.

KNH 188. Physical Activity and Health. (3)

Critical examination of relationships among exercise, physical activity, fitness, and health from epidemiological perspective. The role of genetic, sociocultural, economic, geographic and political influences on physical activity patterns, exercise habits, fitness and health are explored. A description of the physiological mechanisms that link physical activity and health are also examined. IIC. PA-2A.

KNH 194. Standard First Aid and CPR. (2)

Meets requirements for American Red Cross Standard First Aid certification and Cardiopulmonary Resuscitation (CPR) certification. Prerequisite: sophomore standing or permission of instructor. Co-requisite: KNH 194L.

KNH 194L. Standard First Aid and CPR Laboratory. (1)

Laboratory portion of KNH 194. Co-requisite: KNH 194.

KNH 202. Nutrition Across the Life Span. (3)

This course examines the nutrient needs related to growth, development, and health across the life span. It includes the study of nutrient requirements, nutrition assessment, and nutritional care for those in each life stage (preconception, pregnancy, lactation, infancy, toddler/preschool, child/preadolescent, adolescent, adult, and older adult).

Prerequisite: KNH 102.

KNH 203. Nutrition in Disease Prevention Management. (3)

This course is the study of nutrition in the relation to chronic disease prevention. The course will focus on the menu development for the institutional food service environment including hospitals, extended care facilities and schools. Basic culinary terms and techniques will be integrated into the lab portion of the course. Students will learn and practice management strategies while designing custom menus for specific health related populations. Economic and financial concepts will also be demonstrated and evaluated.

Prerequisites: KNH 101 or KNH 102 and KNH 104.

KNH 205. Understanding Drugs for the Health Promotion Professional. (3)

Examines historical, personal, and cultural bases for current patterns of drug use, misuse, and abuse, and identifies the short and long-term consequences associated with such patterns.

KNH 207. Serving and Supporting Children, Youth, and Families I. (4)

Introductory analysis of relationships among the conditions, characteristics, and capacities of children, youth, and families (especially those labeled 'at risk') and the institutional services and supports intended to improve their well-being. Emphasis placed upon question-finding in different contexts, especially the ways in which the knowledge we claim and the solutions we offer are dependent upon our analytical frames and language.

Cross-listed with FSW.

KNH 209. Medical Terminology for Health Professionals. (3)

Provides the opportunity for students to comprehend basic terms related to anatomy, pathophysiology, diagnostics and treatment. Students will understand word parts necessary to build medical terms and acceptable medical abbreviations and symbols. Credit not granted to students who have earned credit in BTE 224.

KNH 214. Global Well-Being. (3)

As a result of the positive psychology movement that has gained momentum around the world, well-being is now known to be a significant factor influencing quality of life, health, and human performance. This course explores the essence of well-being and its relevance to everyday living. The course also broadens students' perspective by exploring well-being within cultural and global contexts. Students will be given multiple opportunities to examine institutional and cultural influences on individual and societal well-being as well as the global forces influencing the development and use of the human experience of well-being across the globe. IIC, IIIB, IC. PA-2A, PA-4B, PA-4C.

KNH 218. Applied Health Behavior Change. (3)

Applied Health Behavior Change focuses on the role of theory in shaping research and practice in health promotion and education. This course will provide an overview of social and behavioral science theories that are currently used to: 1) understand health related behaviors; and 2) guide development of interventions designed to prevent, reduce or eliminate major public health problems.

KNH 221. Social Marketing in Public Health. (3)

Foundational principles and techniques of social marketing which influences individual and societal health behaviors through a systematic plan.

KNH 242. Personal Health. (3)

Variable course content based upon students' personal health problems and needs. Includes such topics as mental health, marriage and family, mood modifiers, nutrition, etc. IIC. PA-2A.

Prerequisite: sophomore standing.

KNH 244. Functional Anatomy. (3)

The course emphasizes aspects of bodily structures and function among skeletal, nervous, and muscle systems. Students will learn the major bony landmarks, the structure and function of the major joints and muscles responsible for controlling human movement.

Co-requisite: KNH 244L.

KNH 244L. Functional Anatomy Laboratory. (1)

Practical examination of musculoskeletal structures of the human body.

Co-requisite: KNH 244.

KNH 245. Issues of Health & Wellness for the Young Child. (3)

This course examines contemporary issues of health and wellness for children ages three to eight years. Childhood health encompasses physical, intellectual, emotional, social, spiritual, and environmental components. The needs of all children, including those with acute and chronic illness and disability, will be promoted through a child-centered approach in a variety of educational contexts.

KNH 262. Public Health Education. (3)

Foundational principles and techniques of health education pedagogy including professional assessments preparing for the Certified Health Education Specialists credential.

KNH 277. Independent Studies. (0-6)**KNH 293. Fitness and Conditioning. (3)**

Analysis of training principles and conditioning strategies for individuals of all ages. Differences between sport-specific strategies and those for health-related fitness are emphasized.

KNH 302. Global and Community Nutrition. (3)

Explores the integration of current food and nutrition research into the development of public policy with emphasis on implementation of Global and Community Nutrition programs.

Prerequisite: KNH 102.

KNH 303. Food Systems Management. (3)

Organization and management of food systems: study of the functions of management including human and physical resources, food service design and layout, production and fiscal controls, computer usage and labor guidelines.

Prerequisites: KNH 101 or KNH 102.

KNH 321. National and Global Health Policy. (3)

National and Global Health Policy provides students with an overview of the U.S. health care system, its components, and the policy challenges created by its organization. The course focuses on the major health policy institutions (nationally and globally) and important issues that cut across institutions, including private insurers and the federal/state financing programs. The course will also address mental health issues, disparities in access to care, the quality of care, structure of the delivery system, the challenges of long-term care and the aging of the population, including the drivers of cost growth.

KNH 329. Psychological Perspectives on Health. (3)

Examines psychological factors involved in health. Topics include appraisal of information concerning risks to health, effects of social comparison on the experience of illness, control processes and coping with illness, emotional and cognitive factors associated with physiological responses to stress, psychosocial factors that moderate stress, including social relationships, personality, and gender, and the processes involved in attitude and behavioral change with respect to health issues.

KNH 340. Internship. (0-20)**KNH 362. Public Health Communication. (3)**

Describes the foundations of professional development in health promotion through multiple perspectives: health education, health communication, health science, and health behavior. Principles of design inform the diverse role of health promoters working within an ecological framework. Applications of models and theories are practiced in personal, national, and international contexts. Prerequisite: Junior standing.

KNH 377. Independent Studies. (0-6)**KNH 381. Biodynamics of Human Performance. (3)**

Mechanics and neurophysiology of movement performance. Co-requisite: KNH 381L.

KNH 381L. Biodynamics of Human Performance Lab. (1)

Provide students with opportunities to explore and apply concepts presented in lecture to daily activities and sport movements through hands-on experiments by using some of the measurement equipment used in the field of biomechanics. Co-requisite: KNH 381.

KNH 382. Physical Activity & Fitness Assessment. (3)

Examination of the theory and application of various procedures, methodologies and technologies used to assess heart disease risk, physical activity, the attributes of health-related physical fitness and the administration of clinically-oriented exercise testing procedures in healthy and chronic disease populations. Prerequisite: KNH 188. Co-requisite: KNH 382L.

KNH 382L. Physical Activity & Fitness Assessment Laboratory. (1)

This course is designed to be taken in conjunction with KNH 382 (Lecture); KNH 382L will supplement the theoretical knowledge gained in KNH 382 (Lecture) and enable you to develop the practical skills necessary to: 1. Assess major signs or symptoms of cardiovascular, renal, pulmonary or metabolic diseases and coronary heart disease risk; 2. Risk stratify individuals for appropriate medical clearance procedures and initial physical activity/exercise intensity recommendations; 3. Develop and administer an appropriate/optimal battery of physical activity, health-related physical fitness and functional movement assessment procedures; 4. Administer clinically-oriented exercise testing procedures; and 5. Interpret and discuss all of these assessment data.

Prerequisite: KNH 188.

Co-requisite: KNH 382.

KNH 395. Public Health Research Methods. (3)

This course will guide students in the interpretation and analysis of research relevant to public health. Students will understand the foundation of research study designs, interpretation of results, and the translation of results to enhance public health practice. Students will also gain experience in the development, maintenance, evaluation, and reporting of public health data. Human subjects protection will be emphasized.

KNH 402. Capstone in Kinesiology, Nutrition, and Health. (3)

The senior capstone enables students to work collaboratively on important societal topics that cut across Kinesiology, Nutrition, and Health. Utilizing research, in which students apply knowledge to improve health outcomes, and a variety of writing genres that include critiques, reflection, creative, research, and media articles, students will explore, analyze, and synthesize scholarly literature on a variety of topics and/or themes. A culminating scholarly project will be created. SC.

Prerequisite: Senior standing.

KNH 403/KNH 503. Professional Practices in Dietetics. (3)

This course addresses key skills necessary for the practice of Dietetics, including nutrition screening and counseling, group and individual nutrition education, nutrition care plan development, cultural competency, and medical and professional ethics. Prerequisites: KNH 102, 104 and Senior standing.

KNH 404. Advanced Food Science. (3)

Applications of experimental methods in the preparation of food. Comparison and evaluation of food products in relation to quality and use. Research methods are emphasized. 2 Lec. 1 Lab.

Prerequisites: KNH 104 or equivalent and minimum of 5 hours in chemistry, CHM 141 and CHM 144 or equivalent.

KNH 405/KNH 505. Advanced Nutrition I: Macronutrient Metabolism. (3)

This course focuses on macronutrients and energy and will cover topics related to energy metabolism, carbohydrates and fiber, lipids and lipoproteins, and amino acids and proteins. It is designed to review and build upon students' existing knowledge of biology and chemistry and will provide instruction in biochemical and physiologic principles necessary to understand the aspects of macronutrients. Students cannot get credit for both KNH 304 and KNH 405/KNH 505/505.

Prerequisites: KNH 102, CHM 142 and 145, and BIO 161.

KNH 406/KNH 506. Advanced Nutrition II: Micronutrient and Phytochemical Metabolism. (3)

This course focuses on micronutrients including fat- and water-soluble vitamins and minerals and phytochemicals. It will cover micronutrient and phytochemical sources, digestion, absorption, bioavailability, homeostasis, functions throughout the lifecycle, including roles in health promotion and disease prevention, and deficiency and toxicity states.

Prerequisite: KNH 405/KNH 505 or equivalent.

KNH 409/KNH 509. Nutrition for Sports and Fitness. (3)

Study of the interrelationship between nutrition and physical fitness. Discussion of nutritional aspects for specific sports. Examination of nutrition research related to health enhancement and performance.

Prerequisite: KNH 102.

KNH 411. Medical Nutrition Therapy I. (3)

Examination of physiological and metabolic changes in selected states and implications for medical nutrition therapy.

Prerequisites: KNH 102 and a minimum of 6 hours chemistry.

KNH 413. Medical Nutrition Therapy II. (3)

In depth study of the principles of nutrition in more complicated disease states of the Neurological System, Respiratory System, Musculoskeletal System, and Neoplastic and Metabolic Disorders.

Prerequisites: KNH 102 and a minimum of 6 hours in chemistry.

Co-requisite: KNH 411.

KNH 420. Field Experience. (1-4; maximum 8)

Practice in field settings of instructional, diagnostic, prescriptive, and evaluative processes in physical education, health, sport studies, and athletic training.

Prerequisite: departmental permission.

KNH 420G. Field Experience in Dietetics. (1-4)**KNH 424/KNH 524. Public Health Disparities Past and Current. (3)**

Interpretation of the principles and patterns of public health through a historical lens. Thematic comparisons are explored from antiquity to contemporary health practices in human health and disease.

KNH 428. Public Health in Action. (3)

Students will draw upon the knowledge and skills they have developed as part of their entire liberal education to work both independently and as a member of a cross-disciplinary team to critically examine and propose solutions to relevant public health issues impacting today's society. Students will partner with an organization to explore public health issues and develop a final product that can be used by the organization to improve the health of its members. Professionalism, cultural competence and ethics in public health practice are addressed. EL, SC.

Prerequisites: Senior standing and public health major.

Cross-listed with GTY 428 and MBI 428.

KNH 434/KNH 534. Public Health Communication and Marketing. (3)

Describes the foundations of professional development in health promotion through multiple perspectives: health education, health communication, health science, and health behavior. Principles of design inform the diverse role of health promoters working within an ecological framework. Applications of models and theories are practiced in personal, national, and international contexts. Foundational principles and techniques of social marketing which influences individual and societal health behaviors through a systematic plan will also be discussed.

Cross-listed with KNH 534.

KNH 441/KNH 541. Environmental Public Health. (3)

This course is a study of the effects of human-made and natural physical, biological, and chemical agents on human health. The course explores the interaction of population health, demographics, and environmental determinants of disease. The course covers the basic principles of epidemiology, exposure, risk characterization, disease pathogenesis, and diagnostic testing, as well as the public works and regulatory controls used to limit exposure. CAS-D.

Cross-listed with IES 441/IES 541.

KNH 442/KNH 542. Strength Training and Conditioning. (3)

This course critically examines the physiological principles and current research underlying the design of strength training and conditioning programs aimed at improving health and performance of athletes and non-athletes.

Prerequisite: junior or senior standing.

KNH 453/KNH 553. Seminar in Kinesiology and Health. (1-4)

Advanced study of current developments in technical and organizational aspects of activities within these fields.

Prerequisite: junior or graduate standing.

KNH 462/KNH 562. Public Health Planning and Evaluation. (3)

Introduction to current models of health education programming and the issues and trends therein. Provides knowledge and skills needed to plan, implement, and evaluate health education programs.

KNH 465/KNH 565. Musculoskeletal Disorders and Exercise. (3)

This course examines common Musculoskeletal Disorders (MSDs) with special consideration given to the roles of lifestyle and the movement system in the cause and treatment of MSDs.

Prerequisite: junior or senior standing.

KNH 468/KNH 568. Physiology of Exercise and Physical Activity. (3)

Critically examines the physiological processes and mechanisms thought to underlie the relationships between physical activity, exercise, and health.

Prerequisite: (BIO 161 or BIO 305) and KNH 188.

Co-requisite: KNH 468L/KNH 568L.

KNH 468L/KNH 568L. Physiology of Exercise and Physical Activity Laboratory. (1)

This course is designed to be taken in conjunction with KNH 468/KNH 568 (Lecture) and will enable students to develop practical skills involved in exercise physiology assessment necessary to: 1. develop and administer an appropriate/optimal battery of physical activity and health-related physical fitness procedures; 2. administer health- and performance-oriented exercise testing procedures; and 3. interpret and discuss all of these assessment data.

Prerequisite: (BIO 161 or BIO 305) and KNH 188.

Co-requisite: KNH 468/KNH 568.

KNH 477. Independent Studies. (0-6)**KNH 480/KNH 580. Mechanics of Musculoskeletal Injury. (3)**

In this class, we learn how various human and animal biological materials such as muscle, tendon, ligament, bone, cartilage, skin and other tissues develop. We then examine how mechanical loading can cause adaptation and injury of these biological materials.

Prerequisite: KNH 244.

KNH 481. Life at Altitude. (6; maximum 12)

During this course we will visit Nepal/Tibet and trek through the Himalayas to Mt Everest Base Camp. We will perform physiological tests before and during the workshop to assess the effects of altitude exposure on the body. We will live among a group of Sherpa and learn about their culture including their religion, role of the family, health care education etc. All majors are welcome. No trekking experience necessary.

KNH 482/KNH 582. Exercise Prescription: Healthy Individuals & Individuals with Chronic Diseases/Disorders. (3)

In a case-study format, students will develop evidence-based physical activity/exercise recommendations (exercise prescriptions) for healthy individuals. Additionally, this course provides in-depth information about chronic diseases, disorders and disabilities that are commonplace and can be managed with exercise and physical activity. Content is directed towards understanding of specific physiological and pathophysiological characteristics associated with common chronic diseases, disorders and disabilities, its effect on the exercise response and adaptations, the effects of commonly used medications on the exercise response, and unique circumstances associated with specific chronic diseases/disorders. The development of specific physical activity/exercise prescriptions (recommendations & guidance) is directed for individuals with the following: cardiovascular diseases, pulmonary diseases, metabolic diseases, immunological and hematological diseases, orthopedic diseases and disabilities, neuromuscular disorders, and cognitive, psychological, and sensory disorders.

Prerequisite: KNH 382 and KNH 382L.

KNH 483/KNH 583. Advanced Motor Control and Learning. (3)

This course provides advanced-level examination of the behavioral neuroscience of human action. Emphasis is placed on understanding the sensorimotor control of stance and locomotion, reflex circuitry and voluntary movement, visually-guided actions and programmed movement, as well as the process by which humans benefit from experience so that future behavior is better adapted to the environment.

Prerequisite: must have had an introductory course in motor control and learning such as KNH 184 or permission of instructor.

KNH 491/KNH 591. Injury Recognition and Patient Care. (3)

The course provides an overview of the mechanism, prevention, and management of health conditions commonly seen in athletic training practice. The course examines the affected anatomy and physiology of injuries, explains preventive measures to reduce incidences of such injuries, and provides instruction on procedures employed in injury treatment.

Prerequisite: Junior/Senior standing, or Graduate standing, or permission of instructor.

KNH 600. Independent Reading. (1-9; maximum 9)

Supervised independent reading about research and applied practices in areas of Exercise and Public Health and Health Education (1-9 credits; maximum 9 credits toward graduation).

Prerequisite: permission of department chair and instructor.

KNH 601. Athletic Training Clinical Practicum I. (1)

Provides the student with clinical based opportunities within a variety of athletic training settings working under the direct supervision of an Athletic Trainer (AT) assigned as a preceptor. Classroom and laboratory sessions are designed to introduce specific educational competencies and clinical proficiencies as well as review topics and skills from the previous semester. Students are required to complete a minimum of 200 hours during the semester while assigned to a clinical rotation in addition to one hour of laboratory instruction each week.

Prerequisite: KNH 491/KNH 591/591.

KNH 602. Athletic Training Clinical Practicum II. (1)

Provides the student with clinical based opportunities within a variety of athletic training settings working under the direct supervision of an Athletic Trainer (AT) assigned as a preceptor. Classroom and laboratory sessions are designed to review specific educational competencies and clinical proficiencies from the previous semester. Students are required to complete a minimum of 200 hours during the semester while assigned to a clinical rotation in addition to one hour of laboratory instruction each week.

Prerequisite: KNH 601.

KNH 603. Athletic Training Clinical Practicum III. (1)

Provides the student with clinical based opportunities within a variety of athletic training settings working under the direct supervision of an Athletic Trainer (AT) assigned as a preceptor. Classroom and laboratory sessions are designed to review specific educational competencies and clinical proficiencies from the previous semester. Students are required to complete a minimum of 200 hours during the semester while assigned to a clinical rotation in addition to one hour of laboratory instruction each week.

Prerequisite: KNH 602.

KNH 604. Athletic Training Clinical Practicum IV. (1)

Provides the student with clinical based opportunities within a variety of athletic training settings working under the direct supervision of an Athletic Trainer (AT) assigned as a preceptor. Classroom and laboratory sessions are designed to review specific educational competencies and clinical proficiencies from the previous semester. Students are required to complete a minimum of 200 hours during the semester while assigned to a clinical rotation in addition to one hour of laboratory instruction each week.

Prerequisite: KNH 603.

KNH 607. Foundational Skills in Athletic Training. (3)

This course investigates the knowledge, skill and professional foundations of Athletic Training. Emphasis is placed on the role of the Athletic Trainer (AT) as a member of the health care system by decision-making through evidence-based practice and foundational skills including environmental illness prevention, fitting protective equipment and devices, and prophylactic preventative taping.

Prerequisite: KNH 605.

KNH 609. Emergency Patient Care in Athletic Training. (3)

A course on recognition, care, and management of emergency health conditions commonly seen in athletic training practice with focus on the practical application of evidence-based standards of care in the management of emergency situations.

Prerequisite: KNH 605.

KNH 610. Internship in Exercise, Health, and Sport Delivery Systems. (1-4)

Supervised clinical experiences in sport and health agencies coupled with directed readings.

KNH 611. Behavioral Approaches to Health Promotion and Education. (3)

Analysis of research and theory in health promotion, especially behavioral approaches to disease prevention.

KNH 612. Theoretical Foundations of Health Promotion and Education. (3)

Focuses on the role of theory in shaping research and practice in health promotion and education. Includes a historical perspective to investigate the interaction between health education and applied social sciences.

KNH 613. Health Communication & Education. (3)

Introduces health communication theory and processes for different audiences within the social ecological model. Explores evidence-based strategies when educating for health, including design analysis of health literacy and media literacy.

KNH 620. Research Problems. (1-9; maximum 9)

Supervised research experience in areas of Exercise and Health Science, and Public Health and Health Education.

Prerequisite: permission of department chair and instructor.

KNH 621. Research Foundations in Kinesiology and Health. (3)

Provides foundational knowledge and skills regarding the research process in kinesiology and health, including a critical analysis of research traditions and practices in the field.

KNH 623. Qualitative Research Approaches in Kinesiology, Nutrition, and Health. (3)

Course provides overview of the methodological procedures used by researchers in the kinesiology, nutrition, and health fields that adhere to an interpretive, qualitatively-based research approach. Course topics include research methods, data collection issues, and basic analysis procedures.

Prerequisites: Graduate Status and KNH 621.

KNH 625. Clinical Anatomy and Kinesiology. (3)

This graduate course will provide in-depth study of human anatomical structures and their function including the upper extremity, lower extremity, head, neck, trunk, and pelvis. There will be a strong emphasis on clinical implications and how disease and/or injury affect normal anatomical structure/function relationships.

Prerequisite: Graduate standing or permission of instructor.

KNH 626. Examination & Diagnosis I - Lower Extremity. (3)

Course will present examination techniques and explore differential diagnoses for health conditions commonly seen in athletic training practice. Clinical examination skills utilized in the diagnosis of lower extremity injury will be the focus. An awareness of diagnostic accuracy will be emphasized throughout the course.

Prerequisite: KNH 605.

KNH 627. Examination & Diagnosis II - Upper Extremity. (3)

Course will present examination techniques and explore differential diagnoses for health conditions commonly seen in athletic training practice. Diagnostic clinical examination skills utilized in the diagnosis of upper extremity injury will be the focus. An awareness of diagnostic accuracy will be emphasized throughout the course.

Prerequisite: KNH 601.

KNH 628. Examination & Diagnosis III - General Medical. (3)

Course will present examination techniques and explore differential diagnoses for health conditions commonly seen in athletic training practice. Diagnostic clinical examination skills utilized in the diagnosis of general medical conditions, including head injuries, will be the focus. The course will also present a comprehensive approach to the assessment and diagnosis of musculoskeletal injuries to the spine and torso including the identification of risk factors, the role of clinical outcome measures, and appropriate referral decisions.

Prerequisite: KNH 601.

KNH 636. Therapeutic Interventions I - Modalities. (3)

A comprehensive study of the use of therapeutic agents for the treatment of athletic injuries. Emphasis will be placed upon the indications, contraindications, precautions, and physiological effects of electromagnetic, acoustic, and mechanical modalities.

Prerequisite: KNH 601.

KNH 637. Therapeutic Interventions II - Rehabilitative Exercise. (3)

A comprehensive study of the application of movement and exercise as each relates to the varied and detailed goals of rehabilitation and reconditioning for injured physically active individuals. Emphasis is placed on pathologies and their relationship to therapeutic rehabilitation.

Prerequisite: KNH 601.

KNH 638. Therapeutic Interventions III - Pharmacology & Psychosocial. (3)

This course prepares the student to safely and effectively recommend over the counter medications, recognize common prescription medications and their implications for physical activity, understand basic pharmacological principles, and act appropriately when the abuse of legal or illegal substances is suspected. Students will also be equipped with the knowledge and skills to respond appropriately to psychosocial disorders and mental health emergencies, as well as address psychological factors in injury response and rehabilitation in order to facilitate return to optimal function. The role of evidence-based nutrition in optimizing physical performance in active individuals will also be discussed.

Prerequisite: KNH 601.

KNH 640. Internship. (0-12; maximum 6)**KNH 641. Immersive Experience in Athletic Training. (1)**

The course is a practice-intensive experience that allows the student to experience the totality of care provided by Athletic Trainers (ATs). Students will participate in the day-to-day and week-to-week role of an AT for a period of time identified by the athletic training program (but minimally one continuous four-week period).

Prerequisite: KNH 601.

KNH 647. Obesity and Weight Management. (3)

This course will examine the prevalence, etiology, risk factors, co-morbidities, and the prevention and treatment of obesity. Emphasis will be on evidence-based strategies to prevent and manage obesity across the lifespan.

KNH 654. Physical Activity Motivation. (3)

This broad survey course examines physical activity from primarily a social psychological perspective. The focus is on the role physical activity plays in people's health and wellbeing as well as the psychological and social factors that influence their physical activity participation. The philosophy and effectiveness of varying types of physical activity interventions, programs, and strategies are also examined.

KNH 656. Clinical Pathology in Athletic Training. (3)

This course provides an in-depth exploration of altered structural and physiological adaptation processes and how they apply to assessment and treatment of disease with an emphasis on conditions encountered in athletic training and health care.
Prerequisite: KNH 601.

KNH 658. Health Care Administration and Informatics in Athletic Training. (3)

This course is to provide students with a survey of Healthcare Information Technology including electronic records and health informatics. Emphasis will be placed on the integration of health information technology into clinical practice. It is also designed to give students an understanding of the planning, management and coordinating all administrative components of an athletic training program.
Prerequisite: KNH 601.

KNH 668. Advanced Physiology and Biophysics of Human Activity. (3)

Advanced level study of the physiological responses and adaptations to physical activity. Heavy emphasis is placed on the nature of control mechanisms and their integration across organ systems.
Prerequisite: KNH 468/KNH 568 or its equivalent.

KNH 677. Independent Studies. (0-6)**KNH 685. Physical Activity and Nutrition in Aging. (3)**

Examination of research and practices on the relationship among health, nutrition and selected age-related diseases in relationship to longevity, with a focus on lifestyle and preventative health.

KNH 688. Advanced Biomechanics. (3)

Students will examine biomechanical concepts and applications using math, physics, and physiology. This will include the application of force to the human body and how the human body adapts/ reacts to these forces as well as the application of mechanics to sport situations. Students will design and complete a biomechanics research project using the equipment in the biomechanics laboratory. Results of the research will be presented as the final class project.

KNH 691. Evidence-based Athletic Training. (3)

The course introduces the principles of evidence-based practice (EBP) as applied to the field of athletic training. Content covers research evaluation and the implementation of evidence-based practice into clinical practice. Athletic training students will learn to formulate clinical questions, appraise existing research, and apply the principles in an effort at providing the most optimal patient care.

KNH 692. Evidence-based Athletic Training II. (3)

The course builds from the foundation of KNH 691 – Evidence-based Athletic Training. Content covers the appraisal of evidence-based practice within clinical practice. Athletic training students will learn to incorporate outcomes that are reported by the patient into their clinical practice as a means to enhance the decision making process and to prioritize patient-centered care.
Prerequisite: KNH 691.

KNH 693. Graduate Seminar in Athletic Training. (1)

The course is designed to guide first-year Master of Athletic Training (MAT) students through the development of an evidence-related project (e.g., patient case report, literature review, systematic review, meta analysis, critically-appraised paper, critically-appraised topic) with a focus on clinically relevant research in athletic training that enhances patient outcomes.
Prerequisite: KNH 691.

KNH 695. Graduate Seminar in Athletic Training II. (1)

The course is designed to guide second-year Master of Athletic Training (MAT) students through the dissemination (e.g., internal research colloquium, conference free-communication session, journal publication) of an evidence-related project with a focus on clinically relevant research in athletic training that enhances patient outcomes.
Prerequisite: KNH 693.

KNH 697. Graduate Capstone in Athletic Training. (3)

This course will offer students the opportunity to synthesize advanced athletic training theory and evidence-based practices, clinical techniques, and foundational behaviors of professional practice necessary for successful practice as an entry-level athletic trainer. Students will also have opportunities to develop an understanding of the necessary requirements for continued professional growth, and appreciate the roles and responsibilities of an Athletic Trainer (AT). Seminars will include discussions on current topics pertaining to the field of athletic training.
Prerequisite: KNH 695.

KNH 700. Thesis, M.A.. (1-10; maximum 10)**KNH 704. Non-Thesis Project. (0-12; maximum 12)**

Korean (KOR)

KOR 101. Beginning Korean I. (4)

Introductory course designed to prepare learners to speak, comprehend, read and write basic Korean. It begins with an introduction to the Korean language and culture. By the end of the semester students will be able to produce simple questions and statements involving learned materials.

KOR 102. Beginning Korean 2. (4)

Introductory course designed to prepare learners to speak, comprehend, read and write basic Korean. Cultural material will be integrated with language practice activities. Students will learn to talk about themselves and handle most basic social situations.
Prerequisite: KOR 101 or permission of instructor.

KOR 177. Independent Studies. (0-6)**KOR 201. Intermediate Korean 1. (3)**

Focuses on vocabulary building and integrating the five language skills, i.e., listening, speaking, reading, writing, and culture. Students will learn to communicate in most daily life situations, using appropriate speech styles.
Prerequisite: KOR 102 or permission of instructor.

KOR 202. Intermediate Korean 2. (3)

Class discussions will center on a variety of situations that one is likely to encounter while living in Korea. The course is taught mainly in Korean. CAS-A.
Prerequisite: KOR 201 or permission of instructor.

KOR 277. Independent Studies. (0-6)**KOR 377. Independent Studies. (0-6)****KOR 477. Independent Studies. (0-6)**

Latin American Studies (LAS)

LAS 177. Independent Studies. (0-6)

LAS 204. Brazilian Culture Through Music and Film. (3)

Through music and film this course raises questions about national identity, history, social, religious, and ethnic diversity in Brazil. IIA, IIB, IIIB. PA-3A, PA-3B, PA-4C. CAS-B.

Cross-listed with FST/MUS/POR.

LAS 208. Introduction to Latin America. (3)

An interdisciplinary introduction to contemporary Latin America and the Caribbean through anthropology, art, geography, environment, film, history, literature, music, politics, sports and others. IIC, IIIB.

PA-2A, PA-4C. CAS-C.

Cross-listed with ATH 206.

LAS 211. Writing with Purpose: Interdisciplinary Inquiry and Communication. (3)

This is an intermediate level course which enables students to investigate and discuss interdisciplinary practices of knowledge creation and dissemination. Students will practice a variety of writing and other communication strategies necessary for the effective dissemination of ideas to interdisciplinary audiences and the general public, and can expect to gain experience in working with a wide spectrum of interdisciplinary research, tools and methods while engaging intellectually in interdisciplinary modes of thinking, reading, listening, and speaking. ADVW. PA-1C.

Cross-listed with AAA/AMS/CRE/WGS.

LAS 215. Latin America in the United States. (3)

Interdisciplinary examination of historical, social, economic, and cultural forces that have shaped the experience of peoples of Latin, Hispanic, Latino/a background in the United States. IC, IIB, IIIB. PA-3B, PA-4A.

Cross-listed with HST 215.

LAS 217. Modern Latin American History. (3)

Introduction to the major themes shaping Latin American history since independence, including US foreign policy; economic development; the discourses of race, ethnicity, class, and gender; cultural elements that either unite or distinguish Latin American countries.

Cross-listed with HST.

LAS 243. History of the Atlantic Slave Trade, 1400s to 1800s. (3)

Development of European slaving activity in the African continent in the 15th through 19th centuries. Emphasis on the activities of Portuguese, Spanish, English, French and Dutch slavers, including the Middle Passage and also the less-studied slave trade in the Mediterranean and Indian Ocean. Identifies the economic forces, as well as the social consequences, of the ongoing slave trade.

Cross-listed with CRE 243 and HST 243.

LAS 254. Caribbean, Latin American and Latinx Literatures. (3)

Study of fiction, poetry, and non-fiction by writers from Latin America, the Greater Antilles (Cuba, PR, DR, Haiti, and Jamaica) as well as from the Lesser Antilles islands, and Latinx communities in the US including Chicano/a, Cuban-American, Puerto Rican, and Central American. IC, IIB, IIIB. PA-3B, PA-4B, PA-4C. CAS-B-LIT.

Cross-listed with ENG 254.

LAS 277. Independent Studies. (0-6)

LAS 300. Special Topics. (1-3)

Topics vary.

LAS 315. Latin American Diaspora: Communities, Conditions and Issues. (3)

Study realities and challenges of Hispanic-Latino communities in Southwest Ohio in the context of transnational connections that link communities across the Americas. Incorporates Service-Learning projects and community based research. IC. PA-4B.

Cross-listed with AMS.

LAS 317. The Arts of Colonial Latin America. (3)

Explores the art of Iberia and Latin America, with a particular emphasis on the latter, from 1492 to 1810. Topics to be examined include conquest, assimilation, integration, and resistance as it informed the predominantly religious art and urban fabric of Latin America.

Cross-listed with ART.

LAS 319. Revolution in Latin America. (3)

History of modern Latin America through the experience of revolution in the 20th century. Focus on diverse expressions of political and social change with emphasis on Cuba, Mexico, Nicaragua, and Brazil.

Cross-listed with HST.

LAS 325. Identity, Race, Gender, Class. (3)

Develops conceptual tools and critical perspectives that enable students to better understand and analyze the processes through which identities are constructed and experienced. Learning activities facilitate analysis of individual identities as experienced through the life cycle and across diverse cultural and subcultural contexts, and build a systematic understanding of the processes and dynamics through which identities and identity groups develop and interact. IC. PA-4B. CAS-C.

Cross-listed with ATH/CRE/WGS.

LAS 332. Latin American Popular Culture. (3)

Interprets and contextualizes elements of Latino and Latin American popular culture (art, music, food, and celebrity) in light of academic readings in Spanish and English that explore issues of hybridity, representation, commodification, and the quest for authenticity. Conducted in Spanish and English. CAS-B-LIT.

Prerequisite: SPN 311 or permission of instructor.

Cross-listed with SPN 332.

LAS 377. Independent Studies. (0-6)

LAS 385. Race, Science, and Disease in the Americas. (3)

Surveys a variety of debates over race and disease since the European overseas expansion to the Americas, particularly in those regions that developed plantation-based agriculture. Begins with the medical and scientific construction of ideas about race from the conquest to the eighteenth century. Places the development of racial theories of sickness and health in a broad social and political context, and, in particular, explains the medical salience of race in the settings of slavery and colonialism. Discussions will focus primarily on Latin America, the Caribbean, and the United States, but will also explore the making of knowledge about race in global setting.

Cross-listed with CRE 385 and HST 385.

LAS 390. Special Topics. (3)

Topics vary.

LAS 410. Current Latin American Issues. (1-3)

Apply academic knowledge of Latin America to contemporary issues by reading works by scholars, authors and artists; attending lectures and performances; and engaging in critical analysis and debate. SC.

LAS 424. Seminar on Modern Architecture in Latin America. (3)

The course combines general background readings on the subject with specific readings on a selected group of countries, architects and projects based on a thematic organization. The faculty presents introductory lectures, while class members will present the results of individual and team research and analysis as assigned. Some of the analysis will be graphical, some will be written; all presentations will require illustrations of the work(s) in question. Cross-listed with ARC.

LAS 477. Independent Studies. (0-6)**LAS 677. Independent Studies. (0-6)**

Latin Language & Literature (LAT)

Note: Students who have previously taken Latin must take the placement test before enrolling in any Latin course. Once placed, a student may not skip a course in the sequence leading to [LAT 202](#).

LAT 101. Beginning Latin. (4)

Essentials of Latin language including basic principles of grammar, acquisition of a basic vocabulary, and practice in reading and writing.

LAT 102. Beginning Latin. (4)

Continuation of LAT 101 culminating in readings selected from appropriate Latin authors.

Prerequisite: completion of LAT 101 or equivalent.

LAT 111. Review Latin. (4)

This course is designed as a rapid review of Latin that is equivalent to LAT 101 and LAT 102. The primary goal of this course is to review Latin forms, vocabulary, grammar and syntax to prepare for LAT 201 and LAT 202. It covers the basic vocabulary, grammar, and syntax of Latin, in order to prepare students to read more complex passages transitioning to ancient Latin authors. Credit earned in LAT 101 and/or 102 is considered duplication of credit.

Prerequisite: two years of high school Latin.

LAT 177. Independent Studies. (0-6)**LAT 201. Intermediate Latin. (3)**

Review of essentials of Latin grammar with immediate emphasis on reading. Readings selected from major figures in Latin poetry.

Prerequisite: LAT 102 or placement exam score.

LAT 202. Representative Latin Authors. (3)

Reading and analysis of Ciceronian Catilinarian Orations. CAS-B-LIT or CAS-A (not both).

Prerequisite: LAT 201, placement test score, or permission of the instructor.

LAT 277. Independent Studies. (0-6)**LAT 310. Special Topics in Latin Literature. (3; maximum 12)**

Study of selected authors or special topics in Latin literature (may be repeated when content changes). CAS-B-LIT.

Prerequisite: LAT 202.

LAT 377. Independent Studies. (0-6)**LAT 410. Latin Seminar. (3; maximum 12)**

Intensive reading of a selected author or in a specific topic. Advanced reading level and comprehension are assumed. Individual research and reports required. Specific study of current scholarship. CAS-B-LIT. Prerequisite: one semester of Latin at 300 level or permission of instructor.

LAT 477. Independent Studies. (0-6)**LAT 480. Independent Reading for Departmental Honors. (3-6)**

Reading centered upon a major topic of Roman literature and thought, normally culminating in an independent essay.

Prerequisite: normally completion of LAT 201 through at least one semester at 400 level.

Liberal Arts & Applied Science (CLA)

CLA 190. Community Leadership Dialogues. (3)

This introductory seminar, required of all CLAAS Divisional Honors Program students, is devoted to the analysis from different perspectives of key questions, texts, or problems in the humanities, natural or social sciences, business, engineering, or the arts as identified by the instructor. The course introduces students to reading closely, thinking critically, and writing at the college level through discussion, debate, and engagement with challenging community and leadership issues. Students will work collaboratively on a community-based project that culminates in a public presentation about their processes, findings, and proposed solutions. Requirements and topics vary by instructor. Required of all CLAAS Divisional Honors students. Prerequisite: Admitted to CLAAS Divisional Honors Program.

CLA 290. CLAAS Honors Seminar. (3; maximum 6)

This seminar, required of all CLAAS Divisional Honors Program students, is devoted to the analysis from different perspectives of key questions, texts, or problems in the humanities, natural or social sciences, business, engineering, or the arts as identified by the instructor. The course advances students' close reading, critical thinking, and college writing skills through discussion, debate, and engagement with challenging civic, community, and leadership issues. Requirements and topics vary by instructor. Required of all CLAAS Divisional Honors students. Repeatable for credit based on topic. Prerequisite: Admitted to CLAAS Divisional Honors Program.

CLA 490. CLAAS Honors Signature Project. (1-3)

Student-designed projects focus on a specific problem or issue presented for advanced analysis. All projects are faculty directed. Requirements and topics vary by project. Required of all CLAAS Divisional Honors students.

Prerequisite: Admitted to CLAAS Divisional Honors Program.

Liberal Studies (LST)

LST 302. Principles of Liberal Studies. (3)

Focuses on exploring the nature and purpose of a liberal studies education and gaining an in-depth understanding of key liberal studies skills and competencies. Through experiential learning, examine how liberal studies skills function in the professional world. Prerequisite: completion of 60 credit hours to declare the degree and take LST courses.

LST 340. Internship. (0-6)**LST 402. Capstone in Liberal Studies. (3)**

Focuses on the application of knowledge from students cognate areas to develop solutions to real-world problems. As part of the Miami Plan, it emphasizes sharing of ideas, synthesis, and critical, informed action and reflection, and includes student initiative in defining and investigating problems. Culminates in an applied research project and oral presentation. SC.

Prerequisite: 96 hours registered or earned (senior standing).

Linguistics (LIN)

LIN 177. Independent Studies. (0-6)

LIN 201. Introduction to Linguistics. (3)

Scope of linguistics: fundamental concepts and methods of linguistic science (phonetics, phonology, morphology, syntax, semantics, and pragmatics) in its descriptive and historical aspects. V. PA-1A. CAS-E.

LIN 202. American Dialects, Culture, and Identity. (3)

This course focuses on dialect diversity, culture, and identity in the United States. We will examine the historical development of American dialects as well as systemic changes in lexicon, phonology, morphology and syntax in both social and digital contexts. Students will learn basic tools for dialect analysis and apply these tools to class research projects. This course will focus on linguistic structure but will incorporate readings from anthropological, educational, psychological, and sociological theory. IC, IIB. PA-4A, SI-02, SI-04. CAS-B.

LIN 210. Special Topics in Language Awareness. (3; maximum 9)

Introduces various ways of looking at language: sociological, psychological, and formal. Students study how language plays a role in every human activity, from gender and racial stereotyping to the development of automata. May be taken three times, with different topics. PA-2A. CAS-C.

LIN 277. Independent Studies. (0-6)

LIN 301. History of the English Language. (3)

Linguistic and cultural history of British and American English, and other varieties of English around the world.

LIN 302. Structure of Modern English. (3)

Linguistic structure of American English with specific reference to application in teaching.

LIN 340. Internship. (0-20)

LIN 377. Independent Studies. (0-6)

LIN 410. Selected Topics in Linguistics. (3; maximum 6)

Focus on a single topic per term, such as field methods, the structure of a specific language, linguistic geography, sociolinguistics or ethnolinguistics.

Prerequisite: LIN 201 or equivalent.

LIN 460. Capstone in Linguistics. (3; maximum 6)

Students work on projects to discover how linguists observe, collect, and analyze language data. Students learn to apply linguistics methodologies to problems about how language shapes our perceptions, how language mediates between people and institutions, or how to develop formal systems that enable computers to parse human sentences. Projects often touch upon concerns of other disciplines. SC.

LIN 477. Independent Studies. (0-6)

Luxembourg (LUX)

LUX 101. Intercultural Perspectives in Action. (3)

This course will introduce students to the basic vocabularies of "culture" and intercultural engagement, mapping out a specific and individualized plan for personal growth for every student in the class through our use of a validated intercultural assessment survey. This class will engage in discussions that help students to practice new intercultural skills, and to strengthen those skills in the field through Discovery Tours or service work for local communities. This development will culminate in a personal intercultural leadership vision statement and E-Portfolio, which will encapsulate intercultural growth and provide students with a powerful guide for future career development. IC. PA-4B.

LUX 201. Self-determination and regionalism in Europe. (3)

European regionalism and the right to self-determination denotes political movements as well as changes in the structures of governance in European countries, the outcomes of which mean that regions have been granted more extensive autonomy in many countries. In several cases the nature of the nation-state has been radically transformed from unitary to regionalized states (e.g. Spain, Italy, UK). This course aims at allowing students to develop and sharpen their own views about past and ongoing processes of regional integration and self-determination. It does so by contextualizing regionalism and self-determination with its history in various parts of Europe in the last fifty years. CAS-C.

LUX 277. Independent Studies. (0-6)

LUX 325. Study Tour Component. (1)

The required study tour 1-credit course provides the field trip component attached to required Base Courses of the Dolibois European Center. It is each time linked to a specific course.

LUX 335. European Experience. (1)

The European Experience course is designed to present and self-assess the learning experience of students attending the program of Miami University John E. Dolibois European Center through a portfolio of experiences and accomplishments, whether direct (such as participating to lectures or organizing events) or indirect (such as publishing wikis or blog posts). It emphasizes engagement in the community, reflection on personal growth, and appreciation for diverse perspectives during a study abroad experience. It helps students develop a personal narrative on an experience that is both individual and collective. The purpose of the European Experience course is a systematic self assessment of a study abroad experience and is intended to help student formalize their time abroad in a narrative that will develop their awareness of the outcomes and benefits of their experience abroad.

LUX 340. Internship. (0-20)**LUX 345. Luxembourg: European Context. (1)**

MUDEC's experience in Luxembourg is unanimously praised by students. However, MUDEC offers no course that deepens the student experience through an academic understanding of the context in which they are living. Miami University chose the Grand Duchy as the site of its European Center because of its geographic location in the heart of Western Europe. The history and culture of the Grand Duchy are closely linked to that of Europe, from ancient, medieval and modern times to the present day. In the contemporary world, Luxembourg, despite its small size (999 square miles) and a population of only 540,000, plays an important role in European politics. This wider European dimension, both past and present, forms the central focus of this course.

LUX 377. Independent Studies. (0-6)

Management (MGT)

MGT 103. CBL Buck Leadership Lab II: Team Leadership Development. (1)

This course is limited to those accepted into the Isaac & Oxley Center for Business Leadership. This lab allows students in the early stages of their CBL experience to explore the dynamics of team leadership through hands on simulations, case discussion, and team-based challenges. Students will explore the value they bring to a team context, how to leverage the talents of teammates, and how to build emotionally intelligent work teams.

Prerequisite: acceptance into The Isaac and Oxley Center for Business Leadership.

MGT 111. Introduction to Business. (3)

Study of relationships between business and its environment, social responsibilities of business, and business management. Not open to business students. IIC. PA-2A.

MGT 177. Independent Studies. (0-6)**MGT 211. Introduction to Management for Non-business Majors. (3)**

An introduction to the practice of management, including the topics of managing culture, ethics, and diversity. The course examines decision making, competition, strategy, managing change, organizational structures, and behavioral topics of leadership, motivation, and team management.

MGT 277. Independent Studies. (0-6)**MGT 291. Introduction to Management & Leadership. (3)**

Introduction to the importance of investing in human capital. Students are introduced to the theories and practices of how to attract, develop, and retain a competitive workforce. The goal of this course is to help students better understand, predict, and manage themselves and their work relations with others and with organizations, and to understand how organizations utilize this knowledge to design competitive management practices.

Prerequisite: sophomore standing.

MGT 295. Introduction to Operations and Supply Chain Management. (3)

Identification, understanding, analysis, application, and measurement of basic issues encountered in the creation of goods and services for a given firm as well as the strategic and tactical relationships between firms that participate in an effective supply chain. Problems are examined through the use of cases, lectures, discussions, and computer-based approaches such as simulation, spreadsheets, and problem-solving software.

Prerequisites: STA/ISA 125, STA 261, or STA 301.

MGT 303. Human Resource Management. (3)

Introduction to concepts, issues, and practices of modern human resource management and their impact on organizational effectiveness. Students develop a critical appreciation of the role human resource management plays in the dynamic environment in which organizations operate. Topics covered include human resource planning, recruitment, selection, training and career development, performance appraisal, compensation and benefits, employee and labor relations, and employee rights.

MGT 304. Diversity and Cross-Cultural Management. (3)

As the diversity in workplaces increases and the network of globalized operations expands, managers need to increase their multicultural competency in order to effectively address issues, challenges, and opportunities that arise. This course introduces students to the field of diversity management and intercultural management and explores concepts and issues relating to improving DEI in the workplace and managing effectively in an intercultural environment.

Prerequisite: MGT 291 or MGT 211.

MGT 340. Internship. (0-20)

Available to Farmer School of Business (FSB) majors and minors.

Available for 0 credit hour during spring, summer and fall terms.

Available for 1 credit hour during summer terms only. For one hour of credit, student must secure a sponsoring FSB faculty member within his/her major or minor to supervise the internship and accompanying required internship reflection paper. MGT 340 is not available during winter term. Students are to work through their respective academic departments to enroll in the course. Credit/no credit only. Note: FSB students may earn a maximum 2 credit hours toward graduation for BLS/BUS/ECO/ESP/FIN/ISA/MGT/MKT 340.

Prerequisite: 55 earned hours and permission of department.

MGT 377. Independent Studies. (0-6)**MGT 402. Employment Law. (3)**

Examines the growing body of law that governs the employment relationship. Students learn the rights and responsibilities of employers and employees by reading and discussing judicial decisions. Aims at improving students' ability to analyze legal questions and to identify the applications of the law for the practice of human resource management.

MGT 404. Compensation Management. (3)

Explores design and evaluation of compensation programs that attract, retain, and motivate competent employees. Particular emphasis on job evaluation, performance appraisal, incentive wage systems, supplementary benefits, and international compensation.

Prerequisite: MGT 303 or permission of instructor.

MGT 405/MGT 505. Negotiations and Conflict Management. (3)

Examines collective bargaining, employee involvement, organizational dispute resolution systems, and other means of ensuring participation and fair treatment in the workplace. Emphasis is given to understanding and practicing techniques for managing workplace conflicts, including mediation, negotiation, and arbitration. Prerequisite: MGT 303 or permission of instructor.

MGT 406. Talent Acquisition and Development. (3)

Provides an in-depth exploration of the components of successful talent acquisition and development programs including demand and organizational needs forecasting, internal and external recruitment strategies, selection tools, training program design, and other employee development strategies. Emphasizes creating comprehensive talent acquisition and development programs that align with organizational goals, mission, and strategy. Prerequisites: MGT 291 or MGT 211; and MGT 303.

MGT 414. Employee Engagement and Motivation. (3)

In-depth examination of concepts, principles, and theories of motivation and their relationship to work behavior and work contexts. Historical and current perspectives are explored, emphasizing integration and application. Prerequisite: MGT 291 or MGT 211.

MGT 415. Leadership and Learning. (3)

Investigates current leadership thinking and behavior in formal organizations as well as its relationship to power and decision-making in those settings. Emphasis on exploring theory, research, and applications of leadership in order to develop personal guidelines for exercising leadership in organizations. Impact of power and dependence of both leaders and followers is investigated as well as the particular relationship of leadership to decision-making in organizations. Prerequisite: MGT 291 or MGT 211.

MGT 416. Leading Organizational Change. (3)

Offers in-depth study of behavioral topics critical for success of contemporary organizations, including organizational theory, organizational design, organizational change and development, organizational culture, job stress, organizational conflict, and group dynamics. Extensive in-depth readings into selected topics and a major project form the basis of the course. Prerequisite: MGT 291 or MGT 211.

MGT 418/MGT 518. Sustainability and ESG in Business. (3)

Students will gain a broad understanding of contemporary issues related to environment, sustainability and governance in business. This class will provide a foundational understanding of social and environmental responsibility, the circular economy, Science Based Targets and GHG emissions Scopes. It will explore how companies, individuals, NGOs, supply chains and government activities in ESG across a wide range of business processes. Prerequisite: MGT 295.

MGT 431. Logistics Management. (3)

Develops a framework for understanding all the firm's movement-storage activities necessary to provide products to customers where and when they are desired. Transportation, warehousing, inventory, order-processing, and handling activities are investigated in terms of their impact on customer service and total distribution cost. Prerequisite: MGT 295.

MGT 432. Global Strategic Sourcing. (3)

Provides an overview of the corporate sourcing function. Emphasis is on outsourcing analysis, sourcing strategies and supplier selection, strategic cost analysis, negotiations and assessments of supplier and sourcing department performance. Prerequisite: MGT 295.

MGT 451/MGT 551. Operations Planning and Scheduling. (3)

Problems and solution methodologies associated with planning and scheduling of operations in a production or service environment. Graduate credit not available for Farmer Business School students. Prerequisite: MGT 295 or equivalent or permission of instructor.

MGT 453/MGT 553. Quality Management Systems. (3)

Study of techniques used to improve productivity of organizational resources. Topics include employee involvement, total quality management, group technology, cellular manufacturing, supplier development, and preventive maintenance. Prerequisite: MGT 295 or equivalent or permission of instructor.

MGT 474. Human Capital Consulting. (3)

Students will learn how to measure various aspects of an organization's human capital using a variety of tools enabling them to quantify the effect of human capital on organizational performance. Prerequisites: MGT 291, MGT 303.

MGT 477. Independent Studies. (0-6)

MGT 490/MGT 590. Contemporary Issues. (1-3; maximum 9)
Issues oriented seminar for seniors or graduate students; focuses on a significant contemporary topic in the management field. Prerequisite: senior or graduate standing and permission of instructor.

MGT 495. Executive Decision Making and Strategy. (3)

Provides opportunity for students, at or near the conclusion of their undergraduate business curriculum, to integrate the concepts learned in the core courses and to bring together various disciplines to bear on the strategic issues facing any organization. Business problems are examined that simultaneously involve several functional areas, employ analysis methodologies from a variety of courses in marketing, organizational behavior, finance, accounting, statistics, law, operations and economics, and involve consequences that effect the entire organization. SC. Prerequisites: FIN 301, MGT 291, MGT 295, MKT 291, senior standing, or permission of instructor.

MGT 498. Supply Chain Management. (3)

Provides students with broad understanding of supply chain management. Covers primary activities required to manage supply chains effectively, how members of the supply chain are horizontally integrated, and processes for assessing performance and impact of supply chain management activities. Focuses on relationships between supply chain entities and behavioral issues that influence management of those issues. Students learn integrative tools for analyzing and evaluating alternative courses of action regarding supply chain management activities and functions. Prerequisites: MGT 432 and MGT 431.

MGT 610. Strategic Human Capital Management. (1.5)

This course focuses how to align human capital management and organizational strategy. Research indicates that establishing and maintaining this alignment is critical for organizations seeking a sustainable competitive advantage. The course examines how human capital management practices in areas such as talent acquisition, talent development, and compensation relate to key human capital and organizational performance outcomes in a range of settings. Prerequisite: ACC 611.

MGT 627. Supply Chain and Operations Management. (3)

' Broad study of production system that is part of all manufacturing and service organizations. Examines, in a variety of organizational settings, the process design, facilities deployment, materials management, quality control problems, and supply chain management.

MGT 644. Leadership, Change & Cross-Cultural Management. (3)

Leadership, change, and cross-cultural management are pervasive factors for success in a complex global environment. This course addresses the interface among these three bodies of knowledge and practice because they play critical and related roles in managing a firm's strategic advantages. Prerequisite: MBA standing.

MGT 650. Leadership, Teams, and Ethical Decision Making. (1.5)

This course prepares students to become effective organizational leaders. By studying both traditional and contemporary approaches to leadership, students will develop an understanding of key leadership success factors, team leadership, and ethical decision-making. Course readings and hands on experiential exercises will allow students to enhance their self-awareness and refine their leadership skills, and to apply these skills to improve their effectiveness as leaders.

MGT 654. Strategic Human Resource Management. (3)

Organizational leaders have responsibility for setting and implementing human resource strategy, which needs to be aligned with organizational strategy. Proper alignment is key to establishing a sustainable competitive advantage. Prerequisite: MBA standing.

MGT 677. Independent Studies. (0-6)

Marketing (MKT)

MKT 177. Independent Studies. (0-6)**MKT 211. Business Concepts in Customer Engagement. (3)**

A business concepts course for students in majors and minors outside of the Farmer School of Business. The course content has been specifically designed to focus on critical areas of the customers' experiences in and with organizations. Concepts from courses in Consumer Behavior, Service Delivery, and Personal Selling will be used to examine the Customer Engagement Process. The course will be taught in three modules.

MKT 277. Independent Studies. (0-6)**MKT 291. Principles of Marketing. (3)**

Factors involved in the management of the marketing function relative to product development, promotion, pricing, physical distribution, and determination of marketing objectives within the framework of the marketing system and in domestic and international markets.

Prerequisite or Co-requisite: ECO 201.

MKT 292. Careers In Marketing. (1)

Survey course dealing with possible careers in marketing. Focus is on self assessment, building a resume portfolio and career objectives. Over half of the classes will involve practitioner panels and discussions. Credit/No Credit only. Co-requisite: MKT 291.

MKT 315. Professional Selling. (3)

A fundamental aspect of business is selling – whether it is an idea, product, service, or point of view. This course focuses on the role of personal selling and customer relationship management in business, including how salespeople carry out their boundary spanning responsibilities to their organization and customers. Prerequisite: MKT 291, MKT 211, or permission of the instructor.

MKT 325. Developing Customer Insights. (3)

Successful marketers need to (a) understand their customers' needs, motivations, attitudes, decision-making, and behaviors, and (b) use their understanding to generate insights that drive marketing strategies. This course is designed to help students develop an understanding of the skills, processes, and concepts necessary to generate meaningful and actionable customer insights. Students will gain hands-on experience with insight development techniques and learn to translate generated insights into actionable marketing recommendations. Prerequisite: MKT 291.

MKT 335. Analytical Research and Reasoning for Marketers. (3)

Marketing in today's environment with numerous large and real-time data sets requires new analytic skills. This class focuses on analytical research methods utilized by marketers to better understand the markets in which they compete; the categories, competition, channels and consumers that comprise their risks and growth opportunities. Students will be equipped to move at the speed of data availability, address complexity and ambiguities in information, quickly respond with research analyses and develop actionable conclusions with recommendations. Prerequisites: MKT 291, ISA 125 or STA 125 or STA 261 or STA 301.

MKT 340. Internship. (0-20)

Available to Farmer School of Business (FSB) majors and minors. Available for 0 credit hour during spring, summer and fall terms. Available for 1 credit hour during summer terms only. For one hour of credit, student must secure a sponsoring FSB faculty member within his/her major or minor to supervise the internship and accompanying required internship reflection paper. MKT 340 is not available during winter term. Students are to work through their respective academic departments to enroll in the course. Credit/no credit only. Note: FSB students may earn a maximum 2 credit hours toward graduation for BLS/BUS/ECO/ESP/FIN/ISA/MGT/MKT 340. Prerequisite: 55 earned hours and permission of department.

MKT 345. Building and Managing Strong Brands. (3)

This course is designed to teach students how to build and manage seamless brand experiences in an increasingly complex media environment. It provides students with conceptual frameworks and specific skills relevant to branding and brand management. Students will learn how to measure brand value, how to manage social media platforms, how to create branding synergistic effects through integration of traditional and digital media, and how to measure and optimize branding efforts. Prerequisite: MKT 291, MKT 325.

MKT 377. Independent Studies. (0-6)**MKT 392. Content Marketing. (3)**

Content marketing is a profession, a central marketing strategy in contemporary business. Students acquire proficiency in the creation and distribution of digital media (e.g., blogs, videos, social media posts) to promote brand interest and awareness while providing value to users.

Cross-listed with IMS 392.

MKT 395. Strategic Thinking and Decision-Making in Marketing. (3)

Strong strategic thinking skills are needed to effectively set goals, analyze the marketing and external environment, anticipate the unexpected, and develop long-range plans. This course will enhance students' ability to think strategically, use creative thinking and processes to approach marketing problems and opportunities from multiple perspectives, employ strategic decision-making frameworks, tools, and capabilities to solve complex marketing challenges, and communicate strategic decisions and rationale to stakeholders.

Prerequisite: MKT 291, MKT 325, MKT 335.

MKT 404. Culturally Intelligent [CQ] Marketing. (3)

This course is designed to develop marketers who have the knowledge, perspectives, and skills to practice culturally intelligent (CQ) marketing in increasingly diverse and dynamic environments. Cultural Intelligence (CQ) is the ability to recognize and adapt to cultural differences, including differences across cultural identities. Students will learn the CQ MKT process and consider how the four dimensions of Cultural Intelligence, CQ DRIVE, CQ KNOWLEDGE, CQ STRATEGY, and CQ ACTION, can be activated in a marketing context to deliver marketing thought and practice that is adaptive, inclusive, and culturally aware.

Prerequisite: MKT 291.

MKT 412. Sustainable Marketing Management. (3)

The goal of this course is to provide an overview of the role of sustainability in marketing strategy. We use the triple bottom line perspective to cast sustainability as the simultaneous pursuit of financial, social/relational, and environmental performance. The course provides an assessment of current efforts to pursue sustainability with a primary focus on the interaction of the marketing organization with the environment. In the process, we investigate the interaction between consumption and the physical environment. We examine specific marketing tactics employed by firms seeking to maximize triple bottom line performance. We subsequently address consumption processes in the household, industrial, services, and transportation sectors of the economy.

Prerequisite: MKT 291.

MKT 415. Marketing to Organizations. (3)

Introduces the nature and functions of marketing between businesses and business/government in terms of structure, buyer behavior, processes, supply chain management, information flows and the marketing mix.

Prerequisite: MKT 291.

MKT 418. Social Media Marketing and Online Community Management. (3)

Traditional advertising and marketing models are being increasingly challenged by a world in which content creation, transmission, and aggregation are being decentralized. Markets are now conversations - some very short. Social media are living conversations that present marketers with the challenge of how to understand and participate in those conversations in an authentic and value-based manner. Moreover, these conversations don't happen in a vacuum. The connected nature of different social (and physical) relationships define a community of interest. The community manager uses this entire space to help bring value to this community. This class examines the variety and taxonomy of social media and the strategies and tactics associated with social media marketing and community management.

Cross-listed with IMS 418/IMS 518.

MKT 419/MKT 519. Digital Branding. (3)

Survey course emphasizing a hands-on immersion into ECommerce; studies the impact this technology has on the basics of the marketing mix and effective and efficient marketing strategies. Focuses on applications, innovations, and future direction (not on the technology that enables the Internet and www). Heavy reading, electronic and in-class discussions, and 'surfing' required. Recommended prerequisite: MKT 291.

Cross-listed with IMS.

MKT 425. Global Marketing. (3)

This course will provide students with an overview and understanding of global marketing. This involves an analysis of world markets, their respective consumers and environments, and the marketing management required to meet the demands of constantly changing foreign markets.

Prerequisite: MKT 291.

MKT 442. Highwire Brand Studio. (4-8)

Multidisciplinary practicum involving students from marketing, graphic design and other relevant majors. Three competing, multi-disciplinary student teams work for a semester on an actual client's current brandings and marketing communications challenge. Campaign solutions typically include primary research and market analysis, campaign strategy development and graphic design for advertising and other sales support materials. Incorporates contemporary technology and industry standard materials and research. Expertise and facilities of marketing, graphic design and other relevant majors are fully integrated within each team. Each campaign is formally presented to the client at the end of the semester. SC.

Prerequisite: MKT 345 or permission of instructor.

MKT 461. Principles of Retailing. (3)

Survey of retail management issues impacting effective last mile customer service in contemporary product and service retailing; includes topics such as retail channels, retail mix, retail market strategy, financial strategy, ethics, location, trading area and site analysis, store design/environment, visual merchandising, merchandise assortments and budgets, and store operations.

Prerequisite: MKT 291.

MKT 477. Independent Studies. (0-6)**MKT 490. Emerging Topics in Marketing. (1-4; maximum 6)**

This course focuses on a significant emerging topic in the marketing field. The course itself may take the form of a lecture, seminar, practicum, or individual study depending on the topic.

Prerequisite: MKT 291 or permission of instructor.

MKT 495. Strategy Works. (4)

This marketing strategy practicum will provide students an opportunity to integrate and apply marketing planning and strategic concepts to real-world problems while developing skills in teamwork, written and oral communication, critical thinking, and quantitative and qualitative analysis. SC.

Prerequisites: MKT 291, MGT 291 and FIN 301.

MKT 618. Marketing Management. (3)

Focuses on business's front lines; the value creation from which all economic activity derives. Address how sellers identify, manage, and meet customer needs and wants through concepts, heuristics, models, and frameworks that help stimulate and manage customer-centric organizations. Leverage a mix of current readings and case analyses to bring cutting edge thinking and applications to life.

MKT 622. Creativity, Innovation & Problem Solving in Marketing. (3)

Participants will learn to meet the demand for rapid, creative solutions to ever-changing business challenges. Addresses creativity stimulation within both individuals and teams by building a toolbox of techniques that participants apply to problems commonly arising in marketing and business. Included are topics such as (1) problem definition (e.g., too narrow vs. too broad), (2) the need for multiple perspectives (e.g., core competency vs. core rigidity), (3) methods for stimulating idea generation (e.g., empathic design), and methods for evaluating ideas and their potential profitability (e.g., conjoint).

Prerequisite: MKT 618.

MKT 632. Information Network Marketing. (3)

This course surveys the digital marketing landscape including its fringes, examining opportunities and threats driven by advances on the network frontier. The student will develop a set of critical skills so that she/he is better able to evaluate and find opportunity when presented with new technologies throughout their career. Understanding how to approach these advances is a critical skill for a marketer in today's environment.

Prerequisites: MKT 618 and ISA 621.

MKT 633. Digital Marketing. (1)

Students will gain hands-on experience managing an actual digital marketing campaign for a real client. This will include creating, executing and optimizing a campaign on a live advertising platform. Over the course of the campaign, students will develop an understanding of online consumer behavior, real-time marketing, online brand building, and social media strategy. Deliverables will include a pre-campaign strategy brief and a post-campaign analysis.

Prerequisite: MKT 618.

MKT 635. Branding and Brand Equity Management. (3)

Theory and practice of brand equity management in consumer and business-to-business environments. Topics include brand equity models, brand audits, brand equity leveraging and brand portfolio management. Significant emphasis is also placed on the theory and practice of integrated marketing communications.

Prerequisite: MKT 618.

MKT 640. Internship. (0-12; maximum 6)**MKT 645. Marketing Analytics for the Executive. (3)**

Marketing decisions have always been rooted in data. However, over the past decade more and more data has become available to marketers. This course details the analysis measures and methods used by leading marketers to make more precise marketing decisions in the 21st century.

Prerequisite: MKT 618.

Mathematics (MTH)

Note:

1. *Service courses* do not count toward majors in the Department of Mathematics. They may or may not count toward majors in other departments. Look carefully at your major requirements and at the mathematics and statistics placement guide in this Bulletin.
2. On regional campuses, placement into MTH 115, MTH 125, and MTH 151 is based on achieving an appropriate score on a standard placement test administered at the regional campus.
3. Credit cannot be earned in a lower level course after earning credit at a higher level.

MTH 025. Algebra Concepts for Precalculus. (5)

A study of algebra topics which are background knowledge for Precalculus. Topics include linear equations in one and two variables, polynomials, rational expressions, radicals, quadratics, and an introduction to functions.

MTH 049. Math Literacy. (4)

Math Literacy for College Students is a one-semester course for students whose programs do not require Precalculus or Calculus. The emphasis is on active learning, applications, and context. Students work in groups daily, with very limited lecture time. Topics include numeracy, unit conversion, problem-solving, data analysis, pattern recognition, mathematical reasoning, linear, exponential and quadratic models, and basic statistics. MTH 049 is designed to be accessible to students that struggle with the abstract nature of algebra. The successful student will be well-prepared for STA 261 and MTH 119, as well as non-majors science courses that have traditionally required completion of an algebra course.

MTH 115. Mathematics for Teachers of Grades P-6. (4)

Service course. Topics include problem solving, numeration, computation, number theory, and rational numbers. Designed to provide content background for teaching mathematics in elementary grades. Successful completion of this course may require an examination in basic mathematics. Open only to early childhood or middle childhood majors not concentrating in mathematics and special education majors. V. PA-1A.

Prerequisite: two years of high school algebra or a college algebra course.

MTH 116. Mathematics for Elementary Teachers. (4)

Service course. Topics are from geometry, probability, and statistics. Designed to provide content background for teaching mathematics in elementary grades. Open only to early childhood and special education majors.

MTH 119. Quantitative Reasoning. (4)

Quantitative Reasoning is a course designed to satisfy the Miami Plan Formal Reasoning requirement for students in majors that don't specifically require a mathematics course beyond the level of Precalculus. The focus is on critical thinking and applications, and all topics are covered from a contextual standpoint. Topics include mathematical reasoning and problem solving, consumer math, probability, and statistics. Instructors have the discretion to cover other selected topics as time permits. V. PA-1A. CAS-E.

Prerequisites: Successful completion of MTH 049, or an ACT Math score of at least 18, or an SAT Math score of at least 500, or a Miami Math Placement Test score of at least 6, or permission of instructor.

MTH 121. Finite Mathematical Models. (3)

Service course. Introduction to linear, probabilistic, graph-theoretic, and network models with emphasis on development of algorithms. Systems of linear equations, linear programming, matrix algebra, graphs, networks, discrete probabilistic models, and linear recurrence relations with applications of these topics to areas in the management, social, and biological science. V. PA-1A. CAS-E.

Prerequisite: MTH 102 or 104 or three years of college preparatory mathematics including Algebra II.

MTH 122. College Algebra. (3)

Service course. The course will cover the following topics: functions, transformations of functions, polynomials, rational functions, logarithmic and exponential functions and their graphs. Students will gain experience in using algebra and functions to solve real life problems analytically, numerically, and graphically. Credit will not be given for both MTH 122 and MTH 125. This course will achieve all of the essential learning outcomes determined by the Ohio Department of Higher Education and listed in TMM001 College Algebra.

Prerequisites: ACT MATH score of 20, or MPT score of 7, or SAT MATH score of 520, or completion of MTH 025 or MTH 102.

MTH 124. Trigonometry. (3)

Service course. The course will cover the following topics: functions, trigonometric and inverse trigonometric functions, equations, angles/triangles, identities, and vectors. Students will gain experience in using the topics covered in this course to solve real life problems analytically, numerically, and graphically. Credit will not be given for both MTH 124 and MTH 125. This course will achieve all of the essential learning outcomes determined by the Ohio Department of Higher Education and listed in TMM003 College Algebra. Prerequisite: ACT Math (24) or SAT Mathematics (580) or SAT MATH SECTION SCORE (580) or Math Placement Test (12) or Miami Intl Math Placement Test (12) or MTH 122.

MTH 125. Precalculus. (5)

Service course. Review of algebra topics important for calculus. Functions, polynomials, rational functions, logarithmic and exponential functions, trigonometric functions and their inverses, conic sections, nonlinear systems, and applications of functions. Credit does not count toward a major in mathematics and statistics. Note: Students who have credit for MTH 151 or a higher mathematics class may not enroll in MTH 125. The only exceptions are when a student audits the course or meets the criteria of the Course Repeat Policy, as stated in the Student Handbook. Credit for graduation will not be given for more than one of MTH 102 and MTH 104 nor for more than one of MTH 104, MTH 123, and MTH 125. At most nine credit hours toward graduation can be earned from any combination of MTH 101, MTH 102, MTH 104, MTH 123, and MTH 125.

Prerequisite: Earn a grade of C or better in MTH 102, or an ACT Math Score of 22 or higher, or an SAT Math Score of 530 or higher, or a Miami Math Placement Test score of 8 or higher, or a Miami Precalc Placement Test score of 8 or higher, or successful completion of MTH 025.

MTH 133. Mathematical Foundations of Data Analytics. (4)

Service course. Mathematical concepts and terminology needed for statistical programming and data analysis. Topics include: systems of linear equations and matrix algebra; graphs and networks; logic and Boolean algebra; sets and probability; power, polynomial, exponential, logarithmic and trigonometric functions; basics of differential and integral calculus, including partial derivatives; elementary principles of continuous optimization; numerical methods. Emphasis on contexts related to data and programming. Prerequisites: MTH 125 or Calculus (AP Calculus or MTH 141 or MTH 151) or an ACT Math score of at least 26 or an SAT Math score of at least 600 or at least 16 on the Miami Math Placement Test.

MTH 135. Introductory Mathematics for Science Applications. (3)

Service course. Concepts, terminology and problem-solving skills important in chemistry, physics, and biology. Ratios and proportions, significant figures, scientific notation, moles and molarity, linear, quadratic, logarithmic and exponential functions, trigonometry, vectors, algebraic systems, rates of change, and elements of probability and statistics with focus on using these topics in science applications. Qualitative reasoning is emphasized and quantitative problem-solving skills are developed. PA-1A, SI-03. CAS-E. Prerequisites: An ACT Math Score of 22 or higher, or an SAT Math Score of 530 or higher, or a Miami Math Placement Test score of 8 or higher, or a Miami Precalc Placement Test score of 8 or higher, or successful completion of MTH 025.

MTH 141. Business Calculus. (5)

Service course. Limits and continuity, derivatives, graphing and optimization, exponential and logarithmic functions, integration, applications to problems arising in business. Credit not awarded for both MTH 141 and MTH 151. V. PA-1A. CAS-E.

Prerequisite: An ACT Math Score of at least 24, or an SAT Math score of at least 580, or Miami Math Placement Test score of at least 12, or MTH 122 (College Algebra) with a C- or better, or MTH 125 (Precalculus) with a C- or better.

MTH 147. Introductory Seminar for Majors in the Department of Mathematics. (1)

Introductory course for students interested in degrees offered by the Department of Mathematics. Focuses on modern career options, undergraduate research opportunities, as well as on the resources and degree requirements. The course helps students plan how to make the most of their time at Miami, build community and establish a foundation for academic and co-curricular success. Credit for graduation will not be given for more than one of MTH 147 and STA 147.

MTH 151. Calculus I. (4)

Topics include limits and continuity, derivatives and their applications, and early integration techniques of polynomial, rational, radical, trigonometric, inverse trigonometric, exponential, and logarithmic functions. It is expected that students have completed a trigonometry or pre-calculus course and possess the following pre-requisite knowledge: factoring polynomials, working with fractional exponents, finding the domain of functions, properties of common functions such as polynomial, absolute value, exponential, logarithmic, trigonometric, and rational functions, solving a variety of types of equations, inverse functions, graphing, and other related topics. Credit is not awarded for both MTH 141 and MTH 151. V. PA-1A. CAS-E.

Prerequisite: A grade of C- or better in MTH 124 or in MTH 125, or an ACT Math score of at least 27, or an SAT Math score of at least 640, or score of at least 17 on the Miami Math Placement Test.

MTH 177. Independent Studies. (0-6)**MTH 217. Mathematics for Middle Childhood Teachers: Structure of Arithmetic and Algebra. (4)**

Service Course. A systematic study of the underlying properties and structures of arithmetic and algebra with an emphasis on the rationales and irrationals. Topical Units include problem solving; arithmetic operations; place value; ratios, rates, proportion and percent; algebraic reasoning and functions; integers; rational and irrational numbers; and number theory. Open only to middle childhood education majors with a concentration in mathematics. Prerequisites: MTH 151 or equivalent.

MTH 218. Geometry for Middle Childhood Teachers. (4)

Service Course. Designed to develop a deep understanding of geometry appropriate for the middle grades. Topics include: proof and geometric reasoning, properties of geometric figures, similarity and scaling, measurement, symmetry, geometric transformations, and mathematical modeling. Open only to middle childhood education majors with a concentration in mathematics.

MTH 222. Introduction to Linear Algebra. (3)

Treatment with emphasis on Euclidean spaces and matrix algebra: systems of linear equations, elementary matrix operations, determinants, vector methods in geometry, vector spaces, and linear transformations. CAS-E.

Prerequisite: A grade of C- or better in MTH 141 or MTH 151.

MTH 231. Elements of Discrete Mathematics. (3)

Service course. Topics, techniques and terminology in discrete mathematics: logic, sets, proof by mathematical induction, relations, counting. Credit does not count toward a major in the department of Mathematics or Statistics.

Prerequisite: MTH 151 or permission of instructor.

MTH 245. Differential Equations for Engineers. (3)

Service course. Mathematical techniques used in engineering: ordinary differential equations first order, higher order and systems, Laplace transforms, and applications. Note: Credit for graduation will not be given for more than one of MTH 245 and MTH 347.

Prerequisite: MTH 251, MTH 249 or MTH 249H.

MTH 246. Linear Algebra and Differential Equations for Engineers. (4)

Service course. Mathematical concepts and methods of Linear Algebra and Differential Equations important in engineering: matrix operations, determinants, eigenvalues and eigenvectors, linear transformations, systems of linear and differential equations, first-order and higher-order differential equations, Laplace transforms, and applications. Note: Credit for graduation will be given for only one of the following courses: MTH 245, MTH 246, MTH 347. Math and/or Stats majors should take MTH 222.

Prerequisite: MTH 249 or MTH 251.

MTH 249. Calculus II. (5)

This course is for first-year students only and intended for students who have earned credit for MTH 151 either through the AP exam by scoring a 4 or above or through a College Credit Plus opportunity with a grade of B or better. The course includes the content of Calculus II and some review of fundamental concepts of MTH 151. Topics include plane analytic geometry, techniques of integration, parametric equations, polar coordinates, infinite series, approximations, applications. Admission to the honors course requires honors standing or permission of the instructor. Credit not awarded for both MTH 249 and MTH 251. V. PA-1A. CAS-E.

Prerequisite: Grade of B or better in MTH 151; if credit earned through the AP exam, a score of 4 or above.

MTH 251. Calculus II. (4)

Continuation of Calculus I. Plane analytic geometry, techniques of integration, parametric equations, polar coordinates, infinite series, approximations, applications. Credit not awarded for both MTH 249 and 251. CAS-E.

Prerequisite: a grade of C or better in MTH 151.

MTH 252. Calculus III. (4)

Continuation of Calculus I and II. Three-dimensional analytic geometry, vectors, derivatives, multiple integrals, applications. The honors course offers an in-depth treatment of these topics. Admission to the honors course requires honors standing or permission of the instructor.

Prerequisite: MTH 249, MTH 249H or MTH 251.

MTH 253. Introduction to Technical Computing. (1)

Introduction to technical computing using Matlab or a comparable software. The students learn mathematical functions, their limitations, how to modify the functions to suit specific mathematical needs, and the use of computer graphics. Topics include introduction to the software; matrices and vectors; linear equations; interpolation; zeros and roots; least squares; quadrature; eigenvalues and singular values; plotting graphs and surfaces. EL.

Prerequisites: MTH 222 and MTH 252.

MTH 277. Independent Studies. (0-6)**MTH 309. Ohio Assessment for Educators Mathematics Problems Seminar. (1)**

Only for students in AYA mathematics licensure programs. Review and discussion of problems similar to those on the Integrated Mathematics Ohio Assessment for Educators test. Topics include Mathematical Processes and Number Sense; Patterns, Algebra and Functions; Measurement and Geometry; Trigonometry and Calculus; Statistics, Probability and Discrete Mathematics. Credit/No Credit only. Prerequisites: MTH 222 and MTH 252.

MTH 331. Proof: Introduction to Higher Mathematics. (3)

Designed to ease the transition to 400-level courses in mathematics and statistics. The emphasis of the course is on writing and analyzing mathematical proofs. Topics covered will be foundational for higher level courses and will include propositional and predicate logic, methods of proof, induction, sets, relations and functions. ADVW. PA-1C.

Prerequisite: a grade of C- or above in MTH 249 or MTH 251; or a score of 4 or 5 on the AP Calculus BC exam.

Prerequisite or Co-requisite: MTH 222.

MTH 331T. Proof: Introduction to Higher Mathematics (H). (3)

Departmental honors version of MTH 331. Requires permission of instructor. ADVW.

Prerequisite: MTH 249, MTH 249H, or MTH 251.

Co-requisite: MTH 222T.

MTH 340. Internship. (0-20)**MTH 347. Differential Equations. (3)**

Theory of ordinary differential equations with applications. Topics include first order differential equations, higher order linear equations, and systems of first order equations. Credit for graduation will not be given for more than one of MTH 245 and MTH 347.

Prerequisite: completion of or registration in MTH 222 and MTH 252.

MTH 377. Independent Studies. (0-6)**MTH 407/MTH 507. Mathematical Structures Through Inquiry. (3)**

MTH 407/MTH 507 is open only to middle childhood education majors; MTH507 is open only to preK-9 teachers. Study of the structure of mathematical systems, especially number systems, developed through student-centered inquiry: pattern recognition, generalizing conjecturing, and proof. SC.

Prerequisite: MTH 151, MTH 217, and MTH 218, or permission of instructor.

MTH 408/MTH 508. Mathematical Problem Solving with Technology. (3)

For current and prospective AYA mathematics teachers; built around problem solving experiences. Heuristics for problem solving are developed, and students solve problems in a variety of mathematical areas. Various technologies, including computers and calculators, are used as tools for problem solving. Only for students in licensure or MAT programs.

Prerequisite: MTH 151.

MTH 409/MTH 509. Secondary Mathematics from an Advanced Perspective. (3)

Provides a deeper analysis of problems and concepts drawn from high school mathematics to help teachers make connections between the advanced mathematics they are learning in college and the high school mathematics they will be teaching. Only for students in AYA licensure programs.

Prerequisite: at least 9 hours of 400-level MTH/STA courses and completion of or enrollment in MTH 421/MTH 521.

MTH 410/MTH 510. Topics In Geometry. (3; maximum 6)

A course in an area of geometry; for example: affine and metric geometry, differential geometry, advanced analytic geometry, non-Euclidean geometries, finite geometries.

Prerequisite: A grade of C- or better in MTH 222 and in MTH 331, or permission of instructor.

MTH 411/MTH 511. Foundations of Geometry. (3)

Careful examination of underlying ideas of Euclidean geometry and some non-Euclidean geometries, including projective, metric, and finite. Various approaches include transformations and synthetic treatments.

Prerequisite: A grade of C- or better in MTH 222 and MTH 331.

MTH 420/MTH 520. Topics in Algebra. (1-4; maximum 8)

Topics selected from an area of modern or linear algebra.

Prerequisite: A grade of C- or better in MTH 222 and in MTH 331, or permission of instructor.

MTH 421/MTH 521. Introduction to Abstract Algebra. (4)

Elementary theory of groups, rings, integral domains, fields, homomorphisms, and quotient structures.

Prerequisites: A grade of C- or better in MTH 222 and in MTH 331.

MTH 425/MTH 525. Number Theory. (3)

An overview of topics from classical and modern number theory. Topics may include modular arithmetic, prime counting, units in modular rings, quadratic reciprocity, and Gauss sums. SC.

Prerequisite: MTH 421/MTH 521 or permission of instructor.

MTH 430. Problems Seminar. (1; maximum 3)

Solution and discussion of problems from the 'Mathematical Monthly' and other sources.

Prerequisite: permission of instructor.

MTH 432/MTH 532. Optimization. (3)

Optimization of functions of several variables, convexity and least squares, Kuhn-Tucker conditions, linear programming.

Prerequisite: A grade of C- or better in MTH 222, in MTH 252 and in MTH 331.

MTH 435/MTH 535. Mathematical Modeling Seminar. (3)

Teaches how mathematics can help solve real world problems in fields such as biology, ecology, geophysics, engineering, and social sciences. The material is learned through a hands-on approach. A significant amount of class time is spent on a variety of group projects. This seminar introduces mathematical modeling as the art of using mathematics to formulate and analyze practical problems, and emphasizes usefulness of mathematics in understanding complex phenomena. A differential equations course (MTH 245 or MTH 347) is recommended but not required. SC.

Prerequisites: A grade of C- or better in MTH 222 and in MTH 252, or permission of instructor.

MTH 437/MTH 537. Game Theory and Related Topics. (3)

At the instructor's discretion, one of the following areas is covered. (1) Economic/Traditional Game Theory: Mixed-strategy equilibria, two-person games with applications, and N-person cooperative games with side payments. (2) Combinatorial Game Theory: The game of Nim and how all impartial two-player combinatorial games are Nim-like, Partisan games, and possibly solitaire games.

Prerequisite: MTH 222 or 231 or 331; or permission of instructor.

MTH 438/MTH 538. Theory and Applications of Graphs. (3)

Basic structural properties of graphs, trees, connectivity, traversability (Eulerian Tours and Hamiltonian Cycles), matchings, and vertex and edge colorings. Classic graph algorithms will also be analyzed, including shortest path, minimum weight tree, optimal assignment, etc. Additional topics are selected from network flows, planarity, extremal problems, and directed graphs as time allows. This is a theory-oriented course, so familiarity with mathematical proof is desirable.

Prerequisite: A grade of C- or better in MTH 222 and in MTH 331, or permission of instructor.

MTH 439/MTH 539. Combinatorics. (3)

Counting methods: permutations, combinations, generating functions, recurrence relations, inclusion/exclusion. Incidence structures: block designs, Latin squares, finite geometries.

Prerequisites: A grade of C- or better in MTH 222 and in MTH 331, or permission of instructor.

MTH 440/MTH 540. Topics in Analysis. (1-4; maximum 8)

Topics selected from an area of analysis.

Prerequisites: A grade of C- or better in MTH 252 and in MTH 331, or permission of instructor.

MTH 441/MTH 541. Real Analysis. (3)

Continuity, differentiation, convergence, series and integration, in both one and several variables.

Prerequisites: A grade of C- or better in MTH 222, in MTH 252 and in MTH 331.

MTH 447/MTH 547. Topics in Mathematical Finance. (3)

Mathematical methods in options pricing; options and their combinations, arbitrage and put-call parity, stock and option trees, risk neutral pricing, geometric Brownian motion for stock models and derivation of the Black-Scholes formula; and as time allows, additional topics such as futures, forwards, swaps and bond models. A course in probability, such as STA 401/STA 501, is recommended but not required.

Prerequisite: A grade of C- or better in MTH 249, in MTH 251, or in an equivalent course.

MTH 451/MTH 551. Introduction to Complex Variables. (4)

Algebra and geometry of complex numbers, elementary functions of a complex variable including integrals, power series, residues and poles, conformal mapping, and their applications.

Prerequisites: A grade of C- or better in MTH 222, in MTH 252 and in MTH 331.

MTH 453/MTH 553. Numerical Analysis. (3)

Errors and error propagation, root-finding methods, numerical solution of linear systems, polynomial and cubic spline interpolation, numerical differentiation and integration, programming of algorithms. An introductory CSE course, such as CSE 174, is recommended but not required. CAS-QL.

Prerequisite: A grade of C- or better in MTH 222 and in MTH 252.

MTH 455/MTH 555. Introduction to Partial Differential Equations. (3)

Course focuses on first and second order partial differential equations (PDEs), boundary value problems and their applications. Topics include physical examples of PDEs, classification of second order linear PDEs, method of characteristics, D'Alembert's formulation, maximum principles, heat kernels, separation of variables, and Fourier series.

Prerequisites: MTH 245 or MTH 347, or permission of the instructor.

MTH 477. Independent Studies. (0-6)**MTH 482. Great Theorems of Mathematics. (3)**

Students explore the development of certain mathematical topics from 1800 B.C.E. to the modern day, with emphasis on the following: Development of numeration systems, Pythagorean Theorem, pi and quadrature, algebra, calculus, and the concept of infinity. Each student adopts a mathematician and completes an individual project related to that person's mathematical work. The course concludes with a final paper and presentation assignment for each student on the development of a great theorem or topic that wasn't yet explored in the coursework. SC.

Prerequisite: MTH 411/MTH 511 or MTH 421/MTH 521 or MTH 441/MTH 541.

MTH 483/MTH 583. Introduction to Mathematical Logic. (3)

Propositional logic, first-order logic, theories and models, completeness and compactness, additional topics such as nonstandard analysis.

Prerequisite: MTH 421/MTH 521 or MTH 441/MTH 541, or permission of instructor.

MTH 486/MTH 586. Introduction to Set Theory. (3)

The recursion theorem, cardinality, cardinal numbers, well-orderings, ordinals, the axiom of replacement, transfinite induction and recursion, ordinal arithmetic, the axiom of choice, cardinal exponentiation, ultrafilters, stationary sets.

Prerequisites: MTH 421/MTH 521 or MTH 441/MTH 541, or permission of instructor.

MTH 491/MTH 591. Introduction to Topology. (3)

Topological spaces, continuity, countability and separation axioms, product topology, quotient topology, compactness, connectedness, Tychonoff's Theorem, Urysohn's Lemma, metrizable spaces.

Prerequisite: A grade of C- or better in MTH 222, in MTH 252, and in MTH 331.

MTH 495/MTH 595. Introduction to Applied Nonlinear Dynamics. (3)

Study of nonlinear dynamics of dynamical systems with application of associated one-dimensional and two-dimensional flows/maps, bifurcations, phase plane dynamics, stability and control. Applications from physics, biology, chemistry, and engineering will be utilized throughout the course.

Prerequisite: MTH 245 or MTH 347 or permission of instructor. Cross-listed with MME.

MTH 600. Topics in Advanced Mathematics. (3; maximum 9)

Topics in Advanced Mathematics.

MTH 604. Discrete Mathematics for Secondary School Teachers. (3)

For high school teachers. Selected topics, such as: algorithms, Boolean algebra, combinatorics, difference equations, functions, graphs, and networks. For students in mathematics and statistics programs, credit may only be applied to the degree Master of Arts in Teaching.

Prerequisite: licensure in secondary school mathematics or permission of instructor.

MTH 605. Calculus for Secondary School Teachers. (3)

For high school teachers. A return to the main topics of calculus with more emphasis on theory, applications, and historical development than in the usual introductory course. For students in mathematics and statistics programs, credit may only be applied to the degree Master of Arts in Teaching.

Prerequisite: licensure in secondary school mathematics or permission of instructor.

MTH 606. Geometry for Secondary School Teachers. (3)

For high school teachers. Re-examination of traditional material of secondary-school geometry from an advanced viewpoint. Recent developments on content and methods are included. For students in mathematics and statistics programs, credit may be applied only to the degree Master of Arts in Teaching.

Prerequisite: licensure in secondary school mathematics or permission of instructor.

MTH 607. Algebra for Secondary School Teachers. (3)

For high school teachers. An in-depth development of selected topics with their applications and history. Theory of equations, number theory, number systems, complex numbers, systems of equations, matrices, determinants, algebraic structures. For students in mathematics and statistics programs, credit may be applied only to the degree Master of Arts in Teaching.

Prerequisite: licensure in secondary school mathematics or permission of instructor.

MTH 609. Data Analysis and Inference for Secondary School Teachers. (3)

For high school teachers. Re-examination of secondary-school data science topics from an advanced viewpoint. Student use various methods and tools to help design effective studies, make inferences from raw data, and translate those inferences into meaningful contexts. Recent developments on content and methods are included. For students in mathematics programs, credit may only be applied to the degree Master of Arts in Teaching.

Prerequisite: Licensure in secondary school mathematics or permission of instructor.

MTH 621. Abstract Algebra I. (4)

Sylow theory, composition series, polynomial rings. Galois theory of fields, modules over a principal ideal domain and their application.

Prerequisite: MTH 421/MTH 521 or permission of department chair.

MTH 622. Abstract Algebra II. (3)

Continued study of structures from MTH 621 together with algebras, tensor products, radicals, chain conditions and dimension, within one of the frameworks: commutative algebra, artinian rings, homological algebra, or Lie algebras.

Prerequisite: MTH 621.

MTH 632. Advanced Optimization. (3)

Careful development of the theory of finite-dimensional continuous optimization, emphasizing the differentiable and convex cases.

Prerequisite: MTH 432/MTH 532/532 and 441 or permission of instructor.

MTH 638. Advanced Graph Theory. (3)

Advanced treatment of graph theory with selected topics from:

Extremal problems, probabilistic, algebraic, and topological aspects of graph theory, analysis of graph algorithms, Ramsey theory.

Prerequisite: MTH 438/MTH 538 or permission of instructor.

MTH 640. Internship. (0-12)**MTH 641. Functions of a Real Variable. (4)**

Lebesgue measure, Lebesgue integration, differentiation, general measures and integration, Radon- Nikodym theorem, Fubini theorem, classical L_p spaces, Banach spaces.

Prerequisite: MTH 491/MTH 591.

MTH 651. Functions of a Complex Variable. (4)

Complex number system, analytic functions, complex integration and calculus of residues, representation, analytic continuation, Riemann mapping theorem.

Prerequisite: MTH 441/MTH 541 and 451.

MTH 655. Advanced Differential Equations. (3)

Concepts and techniques for solving the ordinary and partial differential equations that arise in various scientific disciplines.

Prerequisites: MTH 441/MTH 541/541 or permission of the instructor.

MTH 677. Independent Studies. (0-6)**MTH 689. Research in Math Education. (3)**

An introduction to the interpretation and application of educational research methods in mathematics education. Emphasis will be on action research as a methodology. Practical experience in data collection and making research plans will be included.

MTH 691. Introduction to Algebraic Topology. (4)

Fundamental group and covering spaces: homotopy, fundamental group of the circle, Seifert-Van Kampen Theorem, group presentations, covering spaces and the correspondence theorem. Additionally, if time permits, topics in homology.

Prerequisite: MTH 491/MTH 591.

MTH 700. Research for Master's Thesis. (1-12; maximum 12)

Mechanical & Manufacturing Engineering (MME)

MME 102. Introduction to Mechanical and Manufacturing Engineering. (3)

This course introduces students to engineering, with a focus on mechanical and manufacturing engineering. Topics include how to use state-of-the-art tools to: draw, perform computational analyses, model physical systems, and manipulate and present data. The course covers the Engineering Design Process; a systematic approach to problem solving used by all engineering disciplines. Additionally, the course addresses skills including effective time management, an ability to study and work effectively in groups, and professionalism. The course culminates in a team based engineering design project that draws upon all the lessons covered. This course is open to all majors. Credit will be given for only one of CPB 102, CSE 102, ECE 102, MME 102, CEC 102.

MME 177. Independent Studies. (0-6)**MME 201. Modeling and Design in Engineering. (2)**

Students will develop the ability to read, interpret and develop solid models, and drawings, in the context of applying an engineering design process. Students will apply engineering analyses to guide design decisions.

Prerequisite or Co-requisite: MME 211.

MME 202. Numerical Methods in Engineering. (3)

This course provides hands-on experiences for MME students in the areas of numerical methods and its application to engineering problems. This course includes lab exercises and focuses on utilizing computational software, which will implement numerical methods in order to solve problems associated with various engineering applications and systems.

Prerequisites: MTH 151.

Prerequisite or Co-requisite: MTH 245 or MTH 246.

MME 211. Static Modeling of Mechanical Systems. (3)

Introduction to mechanics. Study of the theory and application of the mechanics of rigid bodies in equilibrium.

Prerequisite: MTH 151 or equivalent; and PHY 181 or PHY 191, sophomore standing.

Prerequisite or Co-requisite: CEC 112 or MME 102.

MME 213. Computational Methods in Engineering. (3)

Study and use of fundamental computational methods as applied to engineering analysis and design. Computational methods are explored via discussion of errors and approximations, iterative methods of solving equations. Graphical methods are explored via 3-D modeling with emphasis on assembly and design including limit dimensioning and geometric tolerancing.

Prerequisite: MME 102 or equivalent; sophomore standing.

MME 223. Engineering Materials. (3)

Study of metals, ceramics, and plastics; dependence of properties on structure; selection and application of engineering materials.

2 Lec. 1 Lab.

Prerequisite: MTH 151 and sophomore standing.

Prerequisite or Co-requisite: CHM 141.

MME 231. Manufacturing Processes. (3)

Introduction to a wide variety of manufacturing processes with emphasis on process modeling and laboratory measurement of process conditions and product variables. Consideration of relations among material properties, process settings, tooling features, and product attributes. Design and implementation of a process for manufacture of a given component.

2 Lec. 1 Lab.

Prerequisite: MME 211, MME 223, MME 201.

Prerequisite or Co-requisite: STA 301 or STA 261.

MME 232. Polymer Processes. (3)

Physical and mechanical properties, design considerations and processing methods for polymer-based materials. 2 Lec, 1 Lab.

Prerequisite: MME 223.

MME 277. Independent Studies. (0-6)**MME 301. Product Design and Development. (3)**

This course explores the product development cycle from product planning to production ramp up. The relationship between customer needs, product design, and manufacturing capability are discussed within a business and engineering context. Students will apply decision making tools and techniques through case studies and a product based design project in order to critically evaluate the course concepts.

Prerequisites: MME 201 and MME 231.

MME 303. Computer-Aided Experimentation. (3)

Study of theory and application of instrumentation and experimentation including: components and concepts of computer-machine interface systems; design of computer-controlled experimentation for real-time industrial measurement, monitoring, and control; AC power analysis; applications of the Laplace Transform. Laboratory component included.

2 Lec. 1 Lab.

Prerequisite: ECE 205.

Prerequisite or Co-requisite: MTH 245 or MTH 246 or MTH 347.

Cross-listed with ECE.

MME 305. Measurements and Instrumentation. (3)

Study of theory and application of instrumentation and experimentation including: components and concepts of sensors, transducers, signal conditioning, data transmission and acquisition, design of computer-controlled experimentation for real-time industrial measurement, monitoring, and control; AC power applications. Laboratory component included.

Prerequisite: ECE 205.

Prerequisite or Co-requisite: MTH 246 or MTH 245.

MME 311. Dynamic Modeling of Mechanical Systems. (3)

Displacement, velocity, and acceleration of a particle; relations between forces acting on a rigid body and changes in motion produced; translation; rotation, plane motion. Solutions using principles of force, mass, and acceleration; work and energy; and impulse and momentum.

Prerequisite: MME 211, (MME 213 or MME 201 or MME 202 or

CSE 174), MTH 251 or equivalent.

MME 312. Mechanics of Materials. (3)

Elastic relationships between external forces acting on deformable bodies and resulting stresses and deformations. Theory, analysis, and applications of these relationships.

Prerequisite: a grade of C- or better in MME 211.

MME 313. Fluid Mechanics. (3)

Fundamentals and application of the mechanics of fluids including properties, statics and dynamics of fluids, dimensional analysis and similitude, steady state flow, and topics in compressible flow.

Prerequisite: PHY 191, and either CPB 219 or MME 211, or permission of instructor.

Prerequisite or Co-requisite: MTH 252 or equivalent.

Cross-listed with CPB.

MME 314. Engineering Thermodynamics. (3)

Study of the fundamental principles of thermodynamics. Emphasis placed on engineering applications such as power cycles, refrigeration, and heat transfer systems.

Prerequisite: CPB 204 (with a grade of C or better) or MME 211 or CPB 219.

Prerequisite or Co-requisite: MTH 251 or MTH 249 or equivalent.

Cross-listed with CPB 314.

MME 315. Mechanical Vibrations. (3)

Modeling and analysis of the vibrational response characteristics of single-degree-of-freedom, multi-degree-of-freedom, and continuous systems.

Prerequisites: MME 311 and MTH 245 or MTH 246 or MTH 347.

MME 321. System Modeling, Analysis, & Control. (3)

This course provides an in-depth study of mathematical modeling, and analysis of dynamic systems and introduces the design of controllers to achieve closed-loop behavior. The mathematical models will be developed for multiple domains (mechanical, electrical, thermal, fluids, electromechanical etc.) from first principles. Time and frequency domain techniques will be used to predict the dynamic performance of various engineering systems.

Prerequisites: MME 202, MME 211, and MTH 246 or MTH 245.

Prerequisite or Co-requisite: MME 305.

MME 331. Advanced Manufacturing and Design. (3)

This course focuses on the process of transforming a design concept into a producible artifact. Workparts produced via CNC / NC manufacturing will provide the primary context for this process, with supplemental coverage of design considerations for solidification and bulk deformation processes where feasible. Additionally, students will augment their "toolbox" for manufacturing design by gaining both breadth and depth in manufacturing in an automated environment, cellular manufacturing and process planning and current topics that are beyond the scope of the typical introductory manufacturing processes course.

2 Lec. 1 Lab.

Prerequisite: MME 231.

MME 334. Quality Planning and Control. (3)

Study of principles and techniques of precision linear measurement, analysis of these measurements, design of experiments, total quality management concepts and applications in the manufacturing environment. Philosophy, structure, and implementation of quality assurance programs.

Prerequisite: MME 231 and STA 301 or STA 261.

MME 335. Design of Experiments for Quality Control. (1)

This course develops the fundamentals of Design of Experiments and applies them to Quality Control concepts. Projects require the design and implementation of experiments that address engineering problems in quality control, process control and manufacturing. Subsequent data analysis emphasizes robust statistical techniques.

Prerequisite: STA 301.

Prerequisite or Co-requisite: MME 334.

MME 337. Manufacturing Automation. (3)

Students learn to design, install, maintain and troubleshoot key digital transformation components and automation equipment used as the main components of a smart factory. A major component of the course is lab-based training using state-of-the-art industrial equipment including programmable logic controllers, industrial robots/cobots, sensors and actuators, and automation networks.

2 Lec. 1 Lab.

Prerequisite: MME 305.

MME 340. Internship. (0-20)**MME 341. Engineering Economics. (3)**

Engineering economic decisions; breakeven and minimum cost analysis; engineering methods of resource allocation; concepts of interest; time evaluation of tactical and strategic alternatives.

Prerequisite: MTH 151.

Prerequisites or Co-requisites: STA 301, or STA 261, or ECE 345.

Cross-listed with CPB 341.

MME 360. Special Topics. (1-3)**MME 375. Human Robot Interaction. (3)**

This course introduces basic robotic principles including kinematics, robot architecture and control. The historic context of robotics will be discussed. Students research current technical and societal issues related to human robot interaction. Throughout the course, students develop a project to observe a small humanoid robot interacting with people. The project includes the design and implementation of the robotic activity.

Prerequisite: MME/ECE 303 or MME 305 or IMS 322.

Cross-listed with IMS.

MME 377. Independent Studies. (0-6)**MME 403/MME 503. Heat Transfer. (3)**

Continued study of unit operations with emphasis on heat transfer. Study of steady and unsteady conduction, and laminar, turbulent, boiling, and condensing convective heat transfer. Radiation heat transfer, heat exchangers, evaporators, and transfer units.

Prerequisite: CPB/MME 314 and (CPB/MME 313 or CPB 318 or CPB 418/CPB 518) and (MTH 245 or MTH 246).

Cross-listed with CPB.

MME 411. Machine and Tool Design. (3)

Applications of fundamental engineering principles for implementing all phases of the design of machines and tooling, including economic and manufacturability considerations. Emphasis on design, analysis, and engineering judgment.

2 Lec. 1 Lab.

Prerequisite: MME 231, MME 312.

MME 412/MME 512. Advanced Mechanics of Materials. (3)

This course is the advanced study of mechanical behavior of structures. Analysis, design and computational techniques for curved beams, spinning disks, thick-walled cylinders, asymmetric beams, torsion, and buckling will be introduced with the foundations for energy and Finite element methods.

Prerequisites: MME 223 and 312; MTH 245 or MTH 347 or MTH 246.

Prerequisite or Co-requisite: MME 411.

MME 413/MME 513. Introduction to Compressible Flow. (3)

Introductory concepts to compressible flow; conservation of mass, momentum, and energy; methods of treating one-dimensional gas dynamics including flow in nozzles and diffusers; normal and oblique shock waves; Prandtl-Meyer flow, Fanno flow, and Rayleigh flow.

Prerequisite: MME/CPB 313.

MME 414. Engineering Thermodynamics II. (3)

Thermodynamics of ideal and real power and refrigeration cycles and devices, mixtures, combustion, and compressible flow, property relations and determination, advanced energy considerations.

Prerequisite: MME/CPB 314.

MME 415. Thermal-Fluid Studio. (2)

This course provides hands-on experiences for MME students in the areas of fluid mechanics, thermodynamics, and heat transfer. This course includes lab exercises and focuses on the collection, analysis and interpretation of data associated with thermal-fluid applications and systems. Students will learn about different measurement devices and complete practical engineering lab work which includes design methodologies applied in exercises and projects.

Prerequisites: MME/CPB 313 and MME/CPB 314.

Prerequisite or Co-requisite: MME/CPB 403/CPB 503.

MME 432/MME 532. Digital Manufacturing. (3)

Smart manufacturing leverages real-time data analytics and control of manufacturing processes. Discusses fundamentals of digital and cyber-physical manufacturing including digital twin modeling, machine communication protocols, process monitoring and control, diagnostics and maintenance. Cloud-based and service-oriented manufacturing, and applications of artificial intelligence in manufacturing. Prerequisite: MME 331, MME 337
2 Lec. 1 Lab.

MME 433/MME 533. Smart Factory. (3)

Smart factories' principles, design and control, using advanced manufacturing such as 3D printing and other CNC/CAM systems able to adaptively manufacture parts on demand direct from digital twin designs. This course provides comprehensive coverage on the role of people, data, manufacturing, suppliers and clients, and logistics to achieve an enterprise-level smart system, various Industry 4.0 technologies, applications and case studies. Prerequisite: MME 331 and MME 337.

MME 435/MME 535. Process Engineering. (3)

Provides an in-depth study of the proper selection and sequencing of manufacturing enterprise processes and resources to improve competitiveness. The course focuses on design and improvement methodologies for layout, digital twin, simulation, process design, lean, production and cycle time, cost, materials, equipment selection, and sequence of operation.

2 Lec. 1 Lab.

Prerequisite: MME 331 and MME 337.

MME 436/MME 536. Control of Dynamic Systems. (3)

An in-depth study of the theory, design, and analysis of feedback control of dynamic systems. Integrate the problem-solving techniques and concepts of electric circuits and computer-aided experimentation into the design and construction of programmable-logic based control systems and its application in modern manufacturing systems. Design methodologies applied in lab exercises and short-term design projects.

2 Lec. 1 Lab.

Prerequisites: ECE 205 and (MTH 245 or MTH 246 or MTH 347).

Prerequisite or Co-requisite: ECE 303 or MME 303 or ECE 306 or MME 305.

Cross-listed with ECE 436/ECE 536.

MME 438/MME 538. Mechanics, Analysis, and Control of Robots. (3)

This course deals with mathematical modeling, analysis and controls of robots. Topics include spatial kinematics, forward and inverse kinematics rigid body dynamics, mechanism design for manipulators, static and force analysis, trajectory planning and control, linear motion control of robots and overview and application of different types of robots in industry.

Prerequisites: MME 321 and MME 311.

MME 439. Seminar in Robotics. (3)

Advanced and contemporary issues in robotics. Topics include but are not limited to: cooperative and mobile robotics, mathematical models for complex tasks (e.g. manipulation), humanoid robotics, wearable and rehabilitation robotics, robot hardware and middleware. Other topics as suggested by IEEE Robotics Seminar.

Prerequisite: MME 311.

MME 448. Senior Design Project. (2)

Student teams, with varied academic backgrounds, conduct major open-ended research/design projects. Elements of the design process are considered as well as real-world constraints, such as economic and societal factors, marketability, ergonomics, safety, aesthetics, and ethics; feasibility studies performed. SC.

Prerequisite: ECE 306 or MME 312 or MME 314 or CPB 314 and senior standing in student's major.

Cross-listed with ECE.

MME 449. Senior Design Project. (2)

Continuation of MME 448. Student teams, with varied academic backgrounds, conduct major open-ended research/design projects; implementation, testing, and production of design. Nonmajors can register for 1-2 credits. Prerequisite: senior standing in student's major. SC.

Prerequisite: senior standing in student's major and (MME 448 or ECE 448).

Cross-listed with ECE.

MME 451/MME 551. Sustainability Considerations in Design and Development. (3)

This course presents sustainability issues to be considered in the planning process and provides tools to evaluate these for a balanced design. Topics include analysis of interactions between the technical, economic, and societal and policy aspects of sustainability, balance of the technical evaluation (life cycle costs, etc.) against the product's impact on the environment and societal preferences, and applying decision analysis methods to evaluate these preferences and tradeoffs.

Prerequisite: MTH 151 or equivalent.

Prerequisite or Co-requisite: ISA 205 or STA 301 or equivalent.

MME 470/MME 570. Special Topics in Mechanical Engineering. (1-4; maximum 6)

Advanced special topics in mechanical engineering, which are not covered in the regular curriculum for the mechanical engineering major.

Prerequisite: Permission of Instructor (specific pre-requisite courses may be added for different special topic).

MME 477. Independent Studies. (0-6)**MME 488A/MME 588A. Material Characterization Techniques. (1)**

This course covers topics ranging from a basic description of the stress-strain deformation behavior of materials to the most common experimental configurations used to determine key material parameters. Different testing configurations and the instrumentation used to generate the data are explained.

Prerequisite: Permission of instructor.

MME 488B/MME 588B. ASTM Codes. (0.5)

488B/588B ASTM Codes (.5) Verifiable material evaluation requires the use of testing standards such as ASTM codes, which are the subject of this course. Specific topics include the process of selecting a suitable standard, preparation of test programs, and instrument setup and operation.

Prerequisite: Permission of instructor.

MME 488C/MME 588C. Sample Preparation Methods, Data Collection and Analysis. (1)

Various techniques are explained for preparing test samples to use in tension, compression, torsion, and bending test configurations. Preparation of samples for crystallographic and DSC analysis are also covered. The procedures are applicable to metallic and polymeric materials.

Prerequisite: Permission of instructor.

MME 488D/MME 588D. Practicum Material Testing and Sample Preparation. (1.5)

This course equips product design, quality, and test engineers to evaluate new materials and processes. Skills acquired from this training are also valuable to new or returning engineers. The course provides hands-on training in the mechanical testing of materials. Specific topics include sample preparation, equipment setup, application of industrial testing standards, and data analysis to perform reliable and reproducible material characterization.

Prerequisite: Permission of instructor.

MME 488E/MME 588E. Dynamic Testing of Materials (DMA). (1)

This course covers the background, implementation, and data analysis of the dynamic mechanical analysis process. Common testing modes such as three-point bending, tension, compression, and shear are discussed. Process capabilities and equipment selection are included.

Prerequisite: Permission of instructor.

MME 488F/MME 588F. Dynamic Scanning Calorimetry (DSC). (0.5)

488F/588F Dynamic Scanning Calorimetry (DSC) (.5) This course explains the details of the dynamic scanning calorimeter apparatus, which is used for determining microstructural details through thermal energy analysis. Prerequisite: Permission of instructor.

MME 488G/MME 588G. Microscopy (AFM, SEM, TEM) Applied to Material Property and Failure Evaluation. (1)

Various imaging techniques -- including AFM, SEM, and TEM -- for performing surface and microstructural analysis are studied. A broad range of applications is discussed from the identification of fatigue-based failure to deformation-induced crystallinity in polymers.

Prerequisite: Permission of instructor.

MME 488I/MME 588I. Practicum Advanced Material Testing. (1.5)

This course provides a hands-on experience in the use of test equipment for advanced material analysis. Students undertake test sample preparation, machine setup and operation, and data analysis.

Prerequisite: Permission of instructor.

MME 488J/MME 588J. Biomaterials. (1)

Biomaterials are selected to meet different criteria such as wear performance, mechanical properties, etc. This course introduces widely used polymeric and metallic materials, and provides an explanation of their properties and how these properties are tailored to meet the requirements of biological applications.

Prerequisite: Permission of instructor.

MME 488K/MME 588K. Composite Materials. (1)

Demonstrating a superiority in performance over traditional materials in myriad applications, composite materials open new opportunities for design and manufacturing. Composite manufacturing techniques, especially to achieve specific properties, are discussed. Other topics include failure mechanisms and health monitoring.

Prerequisite: Permission of instructor.

MME 488N/MME 588N. Fundamentals of Tribology. (1)

This course covers the theory, testing methods, and evaluation of materials subjected to wear. Various engineering applications involving wear of both metallic and non-metallic materials are discussed. Methods to improve wear resistance and lubricant selection are also covered.

Prerequisite: Permission of instructor.

MME 488O/MME 588O. Equipment and Testing Protocols for Wear of Materials. (1)

A discussion of the test setups and instrumentation used to assess the wear performance of materials. Methods of determining wear rates and understanding material characteristics are covered.

Prerequisite: Permission of instructor.

MME 489A/MME 589A. Overview of Traditional Manufacturing Processes. (2)

The mainstay of commercial bulk manufacturing, operations such as casting, forging and machining continue to be researched and improved. This course covers the operational details of such traditional manufacturing operations and examines equipment capabilities, sources of defects, and approaches for process optimization.

Prerequisite: Permission of instructor.

MME 489B/MME 589B. Practicum Traditional Manufacturing Process. (2)

A hands-on workshop covering several manufacturing processes. Project work culminates in the creation of an assembly using parts fabricated from different manufacturing techniques. Machine selection, fixturing, selection of tooling and settings, and safe operation of equipment are discussed.

Prerequisite: Permission of instructor.

MME 489C/MME 589C. Design, Modeling and Simulation for Additive Manufacturing. (1)

The course will cover the process of creating a part and assembly in CAD and optimizing the design for additive manufacturing. Design of scaffolding, simulation of the process and consideration of equipment and process compensation for improved tolerances will be performed.

Prerequisite: Permission of instructor.

MME 489D/MME 589D. Process Overview and Advances in 3D Printing of Polymers and Metals. (1)

A broad review of current 3D forming processes covering process capabilities, limitations and aspects of part quality. Process selection criteria will be discussed.

Prerequisite: Permission of instructor.

MME 489E/MME 589E. Practicum: Additive Manufacturing. (2)

A hands-on workshop designed to provide experience in additive manufacturing, focusing on setup, operation, post-printing operations, and property evaluation. The lab will use modern equipment and discuss steps to improve feature/part quality. Post-processing techniques such as solvent dissolution and machining will also be covered.

Prerequisite: Permission of instructor.

MME 489F/MME 589F. Overview of Advanced Manufacturing Processes. (1)

This course covers manufacturing processes that enable small to mid-batch production with a high level of automation, such as water jet cutting and electric discharge machining. Process optimization and defect mitigation will be covered.

Prerequisite: Permission of instructor.

MME 489N/MME 589N. Fundamentals of Micro-manufacturing. (0.5)

489N/589N Fundamentals of Micro-manufacturing (.5) This is a course on specialized micro-manufacturing techniques such as physical and chemical vapor deposition, and etching. Students will be instructed on the creation of manufacturing procedures, equipment selection and process evaluation.

Prerequisite: Permission of instructor.

MME 489O/MME 589O. Fundamentals of Nano-manufacturing. (0.5)

489O/589O Fundamentals of Nano-manufacturing (.5) This is a course on specialized nano-manufacturing techniques such as vapor-liquid-solid (VLS), atomic layer deposition (ALD), self-assembly monolayers (SAMs), and surface functionalization. Students will be instructed on the creation of manufacturing procedures, equipment selection and process evaluation.

Prerequisite: Permission of instructor.

MME 489P/MME 589P. Quality, Metrology. (1)

This course will demonstrate how real-time and post manufacturing evaluation data can be used to perform statistical analysis to monitor process stability, establish tool wear rates and service intervals, and improve product quality. The use of equipment, such as a FaroArm, to perform 3D inspections will be demonstrated.

Prerequisite: Permission of instructor.

MME 489Q/MME 589Q. Practicum: Advanced Manufacturing Processes. (1)

A hands-on course requiring the setup and operation of a broad array of advanced manufacturing machines. The creation of an assembly with components fabricated using various advanced manufacturing techniques will demonstrate the selection, optimization, and design iteration necessary to meet quality and cost targets.

Prerequisite: Permission of instructor.

MME 495/MME 595. Introduction to Applied Nonlinear Dynamics. (3)

Study of nonlinear dynamics of dynamical systems with application of associated one-dimensional and two-dimensional flows/maps, bifurcations, phase plane dynamics, stability and control. Applications from physics, biology, chemistry, and engineering will be utilized throughout the course.

Prerequisite: MTH 245 or MTH 347 or permission of instructor.

Cross-listed with MTH.

MME 610. Graduate Seminar. (1)

Invited presenters and faculty provide lectures and demonstrations on current research topics in computational science and engineering of interest to the faculty and students. Required of all MME CS&E graduate students in residence. Approved for credit/no-credit grading only. May be repeated.

Prerequisites: graduate student standing or consent of instructor.

MME 612. Engineering Analysis. (3)

Analytical considerations involving the construction and solutions of mathematical models for processes and systems pertinent to chemical and mechanical engineering. The analytical methods will cover the modeling of steady and unsteady state engineering problems. Recommended prerequisites: CPB 403/CPB 503, 414, 415; MME 412/MME 512, 414, 436 (or equivalent); or permission of instructor.

Cross-listed with CPB.

MME 613. Computational Fluid Dynamics. (3)

Introduction to computational fluid dynamics (CFD). Covers classification of PDEs, discretization and stability conditions. Finite difference methods, solution of elliptic, parabolic and hyperbolic equations. Navier-Stokes equation. Introduction to finite volume problems and grid generation techniques.

Prerequisite: MME 403/MME 503, MME 412/MME 512 or permission of instructor.

MME 615. Advanced Vibration. (3)

Advanced research and computational topics in vibration and its applications. Topics will include Modeling and response of discrete and continuous vibratory systems; Active and passive vibration control; Computational methods for estimating response of vibratory system; and Research problems in vibration.

Prerequisites: MME 315 or equivalent and MME 436/MME 536 or equivalent or permission of instructor.

MME 621. Finite Element Analysis. (3)

Introduction to the finite element method in terms of theory and implementation. Weak variational form boundary value problems. Formulations in one and two dimensions. Accuracy estimation.

Prerequisite: MME 412/MME 512 or permission of instructor.

MME 623. Mechanical Behavior of Materials. (3)

Mechanics and materials aspects of elastic and inelastic deformation. Basic concepts of stress and strain in 3-D representation. Specific phenomena considered include fracture mechanics, creep behavior, and fatigue of materials. The implications towards the part design will be considered. Principal approaches to metallic and polymer deformation modeling will be introduced.

Prerequisites: MME 412/MME 512 or equivalent or permission of instructor.

MME 640. Internship. (0-12; maximum 6)**MME 677. Material Characterization Techniques. (0-6)****MME 700. Research for Master's Thesis. (0-10)**

Study under graduate faculty supervision of a research problem related to mechanical engineering. Maximum of six credit hours of ECE 700 may be applied toward fulfillment of the thesis research requirement for the Master of Science in Mechanical Engineering.

Prerequisite: permission of student's graduate advisor.

MME 704. Non-Thesis Project. (0-12; maximum 12)

Media and Communication (MAC)

MAC 177. Independent Studies. (0-6)**MAC 202. The Smartphone and Society. (3)**

Explores the impact of media and communication technologies on our individual lives as well as wider political, economic, and cultural practices. This course will help students to think critically about the tools they use in their everyday lives and the ways in which technology and society mutually shape each other. IIB. PA-3B. CAS-B.

MAC 211. Intermediate Video Production. (4)

This class is designed to develop professional skills in the production of Television/Film creative work, including scripting, producing and directing, cinematography, lighting, sound and post production.

Students will produce non-fiction, fiction and live studio projects.

Prerequisite: MJF 146, major status or permission of instructor.

MAC 212. Media, Representation, and Society. (3)

Exploration of media's role in society with special attention paid to the relationship between media and the dynamics of social power and representation. PA-1C. CAS-W.

Prerequisite: MJF 105 and major status or permission of instructor.

MAC 213. Writing for Film and TV. (3)

Basic course in writing for radio and television, and new media, with emphasis on scriptwriting for feature film and narrative for television; treatment of documentary subjects; introduction to narrative forms in new media.

Prerequisite: MAC 146, or permission of instructor.

Cross-listed with ENG.

MAC 258. Copywriting for Digital Media. (3)

Basic course in writing for radio and television, and new media with emphasis on commercial, noncommercial, and promotional copywriting.

Prerequisite: MJF 146, or permission of instructor.

MAC 277. Independent Studies. (0-6)**MAC 309. Advertising in Consumer Culture. (3)**

This course examines the historical and cultural roots of advertising in Western culture, identifying the critical components that have shaped and continue to shape its persuasive dimensions.

MAC 310. Topics in Media History. (3; maximum 6)

Through specific case studies in media history, students will gain a deeper understanding of the importance of historical context for understanding media practices and institutions and the process of communication. They will also acquire skills in historical research methods.

Prerequisite: major status (MAC, JRN, STC, FST) or permission of instructor.

MAC 311. Fiction Film Production. (3)

Experience the production and direction of fictional Television and Film in a variety of forms and genres. Emphasis on advanced cinematography and post-production.

Prerequisite: MAC 211, major status (MAC, STC, JRN, FST) or permission of instructor.

MAC 312. TV Studio Production. (3)

Experience in the production and direction of television formats with emphasis on applied media aesthetics. Studio production theories and exercises.

Prerequisite: MAC 211, major status, or permission of instructor.

MAC 325. Social Media Cultures. (3)

In this course, students will research and study the relationship between human social interaction and media. We will consider and compare both analog and digital forms of social media. Students will apply theories from cultural studies, media studies, and communication studies to both online and offline social media in order to understand the interaction between social practices and contemporary media cultures. Students critique and assess multiple forms of social media through active engagement with social media platforms, critical response papers, and final group projects.

Prerequisite: MJF 105.

MAC 340. Internship. (0-20)**MAC 343. Advanced Audio Production. (3)**

This course is an advanced study in audio production for the electronic media. Included topics are music recording, narrative and journalism. It includes studio procedures, microphone techniques, and control room operations. This class introduces the student to audio production theory and criticism. The course focuses on sound aesthetics and values, providing an overview of traditional sound production and the use of digital audio media.

Prerequisite: MAC 211, major status, or permission of instructor.

MAC 344. Sound and Music in Media Cultures. (3)

Students develop skills in audio production while analyzing the roles of sound and music in media and culture.

MAC 350. Special Topics in Media and Communication. (3; maximum 9)

Students will build upon and apply key concepts in the study of media and communication to a special topic.

Prerequisite: major status (MAC, STC, JRN, FST) or permission of instructor.

MAC 351. Media Ethnography. (3)

Introduction to media ethnography, a qualitative research method used by academics and market researchers to observe and analyze people's real-world media use.

Prerequisite: Major status (MAC, STC, FST, JRN) or permission of instructor.

MAC 353. Audience Studies. (3)

Introduction to audience analysis including review of services provided by media research organizations and procedures of applied survey research for the media. Prerequisite major status or permission of instructor.

MAC 355. Media Technology & Culture. (3)

Focuses on the relationships among technology, society, and communications (mass media and information systems), exploring key historical, cultural, and political/economic issues raised by new communication technologies.

Prerequisite: major status or permission of instructor.

MAC 358. Working in Media. (3)

Exploration of issues related to working inside media industries that produce and distribute creative media content, including video games, television, film, radio, podcasting, and music. Topics covered include dynamics of creative content production; social power in workplace cultures; and employment trends and labor practices.

Prerequisite: major status (MAC, STC, FST, JRN) or permission of instructor.

MAC 362. Media and the Data Society. (3)

Examines the relationships among communication technology platforms, media systems, and consumer data. Analysis of organizational, political, economic, and cultural dimensions of data collection and use.

Prerequisite: major status (MAC, STC, JRN) or permission of instructor.

MAC 377. Independent Studies. (0-6)**MAC 414. Capstone Pictures: Project in Digital Narrative Film Production. (4; maximum 8)**

In-depth production of a digital narrative film. This may involve conceptualizing, researching and writing; comprehensive budgeting and planning; creative design of visual and aural elements; management of a production team. Students meet regularly with other students to discuss progress, problems, issues and integrate ideas. Students work together to produce the film and present it to the Miami University community. SC.

Prerequisite: appropriate course work in a relevant area and permission of instructor.

MAC 422. Advanced Creative Writing: Screenwriting Workshop. (3)

Advanced workshop in feature film screenwriting. Analysis of examples of contemporary screenplays, with emphasis on the craft of writing screenplays. Class discussion and sharing of student-written screenplays.

Prerequisite: MAC 213 or ENG 320 or permission of instructor. Cross-listed with ENG.

MAC 425. Inside Hollywood. (3)

Intensive study of the contemporary entertainment industry centered in Hollywood/Los Angeles, California, through reading, lecture, on-site observations, expert presentations, discussion, research, writing and internships. The main focus is on the film and television industry, but music, gaming and other entertainment industries are studied as well. Areas of the industry covered may include development, finance, casting, scriptwriting, production, post-production, marketing and entertainment Law. Program is conducted in Hollywood/Los Angeles, CA. Offered Summer and Winter terms only.

Prerequisite: Permission of instructor.

MAC 426. Inside Washington. (8)

Intensive study of the contemporary Washington community - government institutions, public officials, journalists, consultants, staff, and interest groups - through reading, lecture, on-site observations, expert presentations, discussion, research, writing, and internships. Program conducted in Washington, DC.

Prerequisite: permission of instructor. Cross-listed with JRN/POL 426.

MAC 443. Media Industries and Economics. (3)

Study of media industries and economics in relation to business models, communication technologies, and political contexts.

MAC 445. Electronic Media Policy and Regulation. (3)

Study of development and implementation of federal and state law and regulations and their effect on American mass media. Emphasis on regulatory process, judicial review, and political process as they affect the Federal Communications Commission and other government agencies. SC.

MAC 446. Media Globalization. (3)

Survey of international communication systems, with emphasis on comparative analysis based on current typologies, and economic, social, political, and regulatory variables.

Prerequisite: major status or permission of instructor.

MAC 447. Senior Seminar in Applied Media Analysis. (3)

Students will produce a culminating capstone project that applies the methods and concepts gained during their coursework to the analysis of a real world topic related to the texts, institutions, practices or technologies that form our media and communication environments. SC.

Prerequisite: major status (Media and Communication) or permission of instructor.

MAC 450. Topics in Communication. (3)

Study or research of issues and problems associated with communication under the guidance of a faculty member of the department.

Prerequisite: major status or permission of instructor.

MAC 461. Gender, Sexuality and Media. (3)

Examines how media help to shape notions of gender in society, how gender ideologies influence mass media perspectives and practices, and how mediated representations may reinforce or challenge social hierarchies based in differences of gender, race, ethnicity, class and sexual orientation.

Cross-listed with WGS.

MAC 477. Independent Studies. (0-6)

Media, Journalism & Film Studies (MJF)

MJF 105. Media, Culture and You. (3)

Introduction to the analysis of global media industries, texts, and audiences with a focus on their relationship to culture. IIB. PA-3B, SI-02, SI-04. CAS-B.

MJF 146. Foundations of Production. (3)

This course introduces concepts and practices central to video production work across MJF areas. Students learn the basics of graphic design, sound, image composition, editing, and story through lectures, hands-on workshops, and assignments in which students make short films.

Prerequisite: major status (MAC, STC, JRN, FST) or permission of instructor.

MJF 205. Introduction to Comm & Tech. (3)

This course introduces students to the critical study of informational media and persuasion-oriented communication technologies such as newspapers, magazines, books, advertising, broadcast media, and social media. Students will learn to think critically about the relationship between technology, information, and communication in their daily lives and future careers, using lenses such as affordances and constraints, the political economy of media; framing, bias, and objectivity; materiality and infrastructure; privacy and surveillance; technology and inequality; and the public sphere. Tracing the historical and contemporary development of communication and information technologies in and outside the United States, students will explore how media operate as forms of power, meaning-making, and influence through their production, interpretation, and use.

PA-2A.

MJF 301. Media Law and Ethics. (3)

Students learn about the legal and ethical dimensions of communication in a range of media professions, including journalism, public relations, advertising, mass and digital media production, as well as in personal life. While the First Amendment seemingly guarantees the right for journalists and other communicators to write and speak as they wish, laws and ethical codes place limits on press freedom and other forms of public communication. Whether students are aiming for careers in media or simply striving to be a better-informed media consumers and citizens, this course empowers them to understand how media law and ethics shape the production, circulation, and consumption of public information in daily life.

MJF 405. Practicum in Media Literacy and Leadership. (3)

Advanced seminar and practicum in which students support activities in a Media course. Students engage with and apply lessons on media literacy through peer mentorship, developing skills in professional communication and leadership.

Prerequisite: permission of instructor through an application process.

MJF 462. Inside London: Practicum in UK Media. (6)

London-based and online exploration of UK media, culminating in an integrated marketing communication client project.

Prerequisite: MAC 143, or MJF 105, or JRN 101, or FST 201, or STC 259, or permission of instructor.

Medical Science (MMS)

MMS 640. Internship. (0-12; maximum 6)**MMS 677. Independent Studies. (0-6)****MMS 690. General Medical Sciences Capstone. (3)**

Master of Medical Science Capstone is an immersive, project-based, capstone course. The capstone project will enable an integrated application of new knowledge, skills and observations from within all the courses offered in the Master of Medical Sciences programs. Students will consider healthcare as a historical and/or contemporary industry, their role as a professional within contemporary practice/delivery models and propose changes based on data/evidence that can be made to the future of healthcare (in that role).

Prerequisites: Acceptance into and completion of the Master of Medical Science Degree (non-PA program track); Completion of a minimum 25-credits in the Master of Medical Science coursework.

Microbiology (MBI)

MBI 104. Developing Skills and Approaches for Science Success. (1-2; maximum 2)

Teaches effective study strategies to enable comprehension of basic biology concepts emphasized in the introductory biology course, BIO/ MBI 115/116; Explores the relationship of these concepts to current endeavors such as scientific research; Emphasizes development of skills and habits of mind that will ensure success for biological science majors.

Cross-listed with BIO.

MBI 111. Microorganisms and Human Disease. (3)

Discussion of microorganisms and human diseases they cause, with particular emphasis on the impact of these relationships on the development of human societies' past, present, and future. Does not count as credit toward an A.B. or B.S. in microbiology. IVA. PA-2B. CAS-D.

MBI 115. Biological Concepts: Ecology, Evolution, Genetics, and Diversity. (4)

Integrated study of microbes, plants, and animals emphasizing biological diversity and interdependence of life and environment. IVA, LAB. PA-2B. CAS-D/LAB.

3 Lec. 1 Lab.

Cross-listed with BIO.

MBI 116. Biological Concepts: Structure, Function, Cellular and Molecular Biology. (4)

Biological principles common to microbes, plants, and animals, including interactions between organism and the environment. IVA, LAB. PA2B. CAS-D/LAB. CAS-QL.

3 Lec. 1 Lab.

Cross-listed with BIO.

MBI 121. The Microbial World. (3)

Introduces basic concepts in the study of microorganisms - bacteria, viruses, and fungi. Topics include microbial structure and function, metabolism, genetics and the immune system. Special emphasis is placed on the impact of microorganisms on medicine, agriculture, food production, biotechnology, and the environment. IVA. PA-2B. CAS-D.

MBI 123. Experimenting with Microbes. (1)

A series of laboratory exercises and demonstrations emphasizing general techniques of isolation, characterization, and cultivation of selected microorganisms. IVA, LAB. PA-2B. CAS-D/LAB.

Co-requisite: MBI 111 or MBI 121.

MBI 131. Community Health Perspectives. (3)

Discussion of community health primarily from the perspective of leading causes of disease and death in the U.S. Exploration of the impact of environment, behavior, and disease, including prevention and treatment strategies, on human health, public resources, and quality of life for society. Does not count as credit toward an A.B. or B.S. in microbiology. IVA. PA-2B. CAS-D.

MBI 143. Parasitology and Mycology Labs. (1)

Combination of laboratory exercises, demonstrations, and discussions exploring concepts and techniques used in parasitology and mycology laboratories, including public health, research, and diagnostic laboratories. Does not count as credit toward an A.B. or B.S. in microbiology. IVA. PA-2B. CAS-D/LAB.

MBI 147. Microbiology Introductory Seminar. (1)

Introduces the majors offered by Department of Microbiology, and the associated degree requirements. Students learn about departmental and university resources available to help achieve their academic goals. Includes discussion of undergraduate research opportunities and career development. Provides students with opportunities for professional orientation and networking via access to faculty, graduate students, alumnae, and professional microbiologists from industry, government and academia.

MBI 161. Elementary Medical Microbiology. (4)

Elementary microbiology for students interested in a single unit devoted to understanding characteristics and activities of microorganisms and their relation to health and disease. Taught in Hamilton and Middletown only. IVA, LAB. PA-2B. CAS-D/ LAB.

MBI 177. Independent Studies. (0-6)**MBI 201. General Microbiology. (4)**

Considers fundamental aspects of structure, metabolism, genetics, and behavior of microbes (bacteria, archaea, fungi, protists, and viruses), their roles in human and animal health, biotechnology applications, and interactions with specific environments. Laboratory exercises stress basic microbial/molecular techniques and procedures used in professional research facilities. CAS-D/LAB.

3 Lec. 1 Lab.

Prerequisite: BIO/MBI 116.

Prerequisite or Co-requisite: CHM 142.

MBI 223. Bacteriophage Biology. (1)

Isolation and study of viruses that infect bacteria using general microbiology techniques together with electron microscopy and molecular biology methods.

Co-requisite: BIO 116 or MBI 116 or BIO 116H or MBI 116H or MBI 121.

MBI 224. Bacteriophage Genomics. (1)

Continues from MBI 223 (Bacteriophage Biology). First-year students will perform hands-on analysis of the genome of a virus that infects bacteria (bacteriophage). Students will be introduced to principles of DNA structure, genome organization, and basic principles of bioinformatics, and will apply this knowledge toward the annotation of a complete bacteriophage genome using current computational methods.

Prerequisite: MBI 223.

Co-requisite: BIO/MBI 116.

MBI 255. Modern Microbiology Applications. (4)

Surveys current applications of microbiology to socially important problems. Topics may include bioremediation, biofuels, wastewater treatment, food production, gene editing, gene therapy, vaccine development, antibiotic resistance, etc. Students will perform laboratory experiments and research of the scientific literature to develop a personal knowledge base regarding these applications. Students will communicate what they have learned to peer, professional and general audiences. PA-1C. CAS-W.

Prerequisite: MBI 201.

MBI 256. Introduction to Programming for the Life Sciences. (3)

Introduction to programming for majors in the life sciences. The ability to write programs to perform tasks related to the organization and analysis of biological data has become a highly-valued skill for researchers in the life sciences, allowing wet-lab researchers to quickly process and sort through large amounts of data to find information relative to their own work. This course serves as an introduction to programming designed specifically for life science majors, targeting the specific skills and techniques commonly needed and explaining the fundamental methods of working with biological data while centering programming assignments around topics of interest to those studying the life sciences. Topics covered include basic programming techniques, representation and manipulation of genomic and protein sequence data, and the automated interface with BLAST and the NCBI GenBank database.

Cross-listed with BIO/CSE.

MBI 277. Independent Studies. (0-6)**MBI 340. Internship. (0-20)****MBI 361. Fundamentals of Epidemiology. (3)**

Consideration of the epidemic nature, etiology, and characteristics of infectious and organic diseases, and methods used to analyze their control within the framework of environmental and population variables.

Prerequisite: two hours of microbiology or biology or permission of instructor.

MBI 365. Molecular and Cell Biology. (3)

Cellular and molecular mechanisms utilized by bacteria, bacterial viruses, eukaryotes and animal viruses in converting genetic information into functional macromolecules, transporting them, using them to receive signals that induce cellular effects, and controlling the cell cycle.

Prerequisites: BIO/MBI 116 and MBI 201.

Co-requisite: CHM 231 or CHM 241.

MBI 369. Intermediate Epidemiology. (3)

Intermediate-level course designed to prepare Public Health majors with a concentration in Human Disease and Epidemiology for their capstone requirement. Course content will focus on key methodologic issues in the conduct of epidemiologic studies. Students will learn how to critically evaluate epidemiological literature, as well as gain a better understanding of how disease impacts various population groups. CAS-D.

Prerequisites: KNH 125 or MBI 131 and MBI 361 or MBI 361W.

MBI 377. Independent Studies. (0-6)**MBI 405/MBI 505. Medical Bacteriology. (4)**

Pathogenic bacteria, their identification, and mechanisms by which they cause disease.

3 Lec. 1 Lab.

Prerequisites: MBI 201 and either MBI 365 or BIO 203.

MBI 410. Senior Internship. (2; maximum 4)

Supervised microbiology-related work experience in government agencies, industry, or academia; and construction of an extensive analytical and reflective report based on the experience. SC.

Prerequisite: senior status in MBI and permission of instructor

(MBI 410 combined with MBI 490 is a Miami Plan Capstone).

MBI 414/MBI 514. Immunology Principles. (3)

Lectures covering molecules, cells, tissues, and organs of the immune system. Primary emphasis on mechanisms involved in immune responses.

3 Lec. 1 Lab.

Prerequisites: MBI 365 or BIO 203, and CHM 242 or CHM 332.

MBI 415/MBI 515. Immunology Principles and Practice. (4)

Covers the same lecture content as MBI 414/MBI 514, but adds laboratory exercises and demonstrations illustrating a variety of immunologic phenomena, techniques, and applications. Credit not given for both MBI 414/MBI 514 and MBI 415/MBI 515.

3 Lec. 1 Lab.

Prerequisites: MBI 365 or BIO 203, and CHM 242 or CHM 332.

MBI 423/MBI 523. Synthetic and Systems Biology. (3)

Design principles and applications of microbial cells. Topics include synthetic pathway design, artificial photosynthesis, repurposing genetic codons, genome synthesis and editing, and genetic circuit design among others. CHM 432/CHM 532, MBI 425/MBI 525, and MBI 445/MBI 545 are highly recommended before taking this course. Cross-listed with: BIO 423/BIO 523/523 and CHM 423/CHM 523/523. Prerequisite: MBI 201, or equivalent, or permission of instructor.

MBI 425/MBI 525. Microbial Physiology. (4)

Biochemical activities of microorganisms as revealed by their cellular physiology.

3 Lec. 1 Lab.

Prerequisite: MBI 201 and either CHM 242 or CHM 332.

MBI 428. Public Health in Action. (3)

Students will draw upon the knowledge and skills they have developed as part of their entire liberal education to work both independently and as a member of a cross-disciplinary team to critically examine and propose solutions to relevant public health issues impacting today's society. Students will partner with an organization to explore public health issues and develop a final product that can be used by the organization to improve the health of its members. Professionalism, cultural competence and ethics in public health practice are addressed. EL, SC.

Prerequisites: Senior standing and public health major.

Cross-listed with GTY 428 and KNH 428.

MBI 433. Field Ecology. (3)

Practical experience in the collection, analysis, and interpretation of ecological data, and communicating with other scientists. 1.5 Lec. 1.5 Lab.

Prerequisites: BIO 209 and STA 261 or equivalent.

Cross-listed with BIO.

MBI 435/MBI 535. Medical Mycology. (3)

Characteristics of fungi associated with disease. Includes discussion of epidemiology, pathology, and diagnosis of mycotic diseases. Laboratory focuses on identification and biochemical activities of pathogenic fungi.

2 Lec. 1 Lab.

Prerequisite: BIO/MBI 116 or MBI 201 or permission of instructor.

MBI 436. Principles in Fermentation. (3)

Through a combination of lectures from faculty and experts in the fermentation industry, hands-on laboratory experiences, and site visits, students will develop an understanding of the importance of fermentation in the food, beverage, and drug industry. Students will have the opportunity to learn how microbiology, biology, chemistry/biochemistry and engineering are interrelated in the fermentation industry.

Prerequisites: CHM 332 or CHM 432/CHM 532; or MBI 201; or CPB 204.

Cross-listed with CHM/CPB.

MBI 440. Research Problems. (1-4; maximum 4)

Library research. Open to senior majors. (MBI 440 (2 cr) combined with MBI 490 is a Miami Plan Capstone).

Prerequisite: 20 hours of microbiology and permission of instructor.

MBI 445/MBI 545. Microbial Genetics. (3)

Genetic changes that occur in bacteria and bacterial viruses and resulting changes in their biochemical and physiological activities.

Prerequisite: MBI 365.

MBI 450. Topics in Microbiology. (1-6; maximum 6)

Focuses on selected topics in microbiology.

Prerequisite: MBI 201 or equivalent.

Co-requisite: an MBI or BIO class at the 300-level or higher or equivalent.

MBI 461. Human Disease and Epidemiology. (3)

Serves as the culminating experience for Public Health majors concentrating in the Human Disease and Epidemiology track. Provides students with hands-on experience assessing and analyzing disease surveillance data and in communicating findings. SC.

Prerequisites: Core public health major requirements including:

MBI 131 or KNH 125, MBI 361, IES 441/IES 541, GTY 365 or KNH 321, Stat 261 or 301, KNH 218, KNH 221.

MBI 464/MBI 564. Human Viruses. (3)

Study of the physical and chemical characteristics of viruses, virus replication mechanisms, disease causation and host response, and tumor induction.

Prerequisites: MBI 365 or BIO 203 and BIO 342 or permission of instructor.

MBI 465. Bacteriophage Gene Expression Laboratory. (3)

Laboratory methodology associated with experimental aspects of microbial genetics and recombinant DNA techniques. Students will explore the functions of novel bacteriophage genes using classic recombinant DNA techniques and functional tests in host cells.

Prerequisite: MBI 445/MBI 545 or MBI 224 or BIO 342 or permission of instructor.

MBI 466/MBI 566. Bioinformatics Computing Skills. (3)

Study of the core computational and biological concepts in bioinformatics, with programming in Python, MySQL and Ubuntu OS. You will gain hands-on experience in popular bioinformatics applications, including BLAST, sequence alignment, genome browser, and gene annotation, among others.

Prerequisites: BIO 256; or CSE 174; or permission of instructor.

Cross-listed with BIO/CHM/CSE.

MBI 475/MBI 575. Microbial Ecology: Exploration of the Diverse Roles of Microorganisms in Earth's Ecology. (4)

Integrative examination of the evolution of life, distribution, and abundance of microorganisms, and biogeochemical cycles leading to the discovery of principles used for societal applications such as water quality management and bioremediation.

3 Lec. 1 Lab.

Prerequisites: MBI 201 and either CHM 231 or CHM 242; or permission of instructor.

MBI 477. Independent Studies. (0-6)

Research experience in the laboratory of a professor. Special attention given to the scientific method, literature searches, experimental design, and laboratory instrumentation and techniques. (MBI 477R combined with MBI 490 is a Miami Plan Capstone).

Prerequisite: MBI 201.

MBI 480. Departmental Honors. (1-6; maximum 6)

Departmental honors may be taken for a minimum of one semester hour and a maximum of six semester hours in two semesters of student's senior year. (MBI 480 combined with MBI 490 is a Miami Plan Capstone).

MBI 485/MBI 585. Bioinformatics Principles. (3)

Concepts and basic computational techniques for mainstream bioinformatics problems. Emphasis placed on transforming biological problems into computable ones and seeking solutions.

Prerequisite: (BIO/CSE/MBI 256 or CSE 174) and (BIO/MBI 116 or MBI 201 or BIO 342) or permission of instructor.

Cross-listed with BIO 485/BIO 585/585 and CSE 456/CSE 556/556.

MBI 487. Medical Laboratory Science Practicum. (8)

Off-campus, structured sequence of laboratory and lecture rotations through clinical chemistry, hematology, immunohematology, immunology, microbiology, molecular, and other emerging diagnostics laboratories. Structured lecture criteria accompany the corresponding laboratory rotations.

MBI 488. Medical Laboratory Science Practicum. (12)

Off-campus, structured sequence of laboratory and lecture rotations through clinical chemistry, hematology, immunohematology, immunology, microbiology, molecular, and other emerging diagnostics laboratories. Structured lecture criteria accompany the corresponding laboratory rotations.

MBI 489. Medical Laboratory Science Practicum. (12)

Off-campus, structured sequence of laboratory and lecture rotations through clinical chemistry, hematology, immunohematology, immunology, microbiology, molecular, and other emerging diagnostics laboratories. Structured lecture criteria accompany the corresponding laboratory rotations. SC.

MBI 490. Undergraduate Seminar. (1; maximum 4)

Discussion by undergraduate majors and staff of current topics in selected areas. (MBI 490 combined with 2 credits of with MBI 410 or MBI 440 or MBI 477 or MBI 480 is a Miami Plan Capstone). SC.

Prerequisite: 20 hours of microbiology and senior status.

MBI 495/MBI 595. Bacterial Cellular and Developmental Biology. (3)

Focuses on the biology of bacteria at the cellular level, including regulation of cell shape, cell division, motility, development and differentiation, and interactions with other cells, including life in a biofilm and in association with symbionts.

Prerequisite: MBI 201 or BIO 203; or permission of instructor.

Military Science (MSC)

MSC 121. Foundations of Officership. (3)

Introduces students to issues and competencies that are central to a commissioned officer's responsibilities. These initial lessons establish a framework for understanding officership, leadership, and Army values. Additionally, the semester addresses life skills including fitness and time management. (Open enrollment for all students, with no military obligation).

Co-requisite: MSC 121L.

MSC 121L. Leadership Lab. (1)

The leadership lab examines the challenges of leading tactical teams in the complex contemporary operating environment (COE). This course highlights dimensions of terrain analysis, patrolling, and operation orders. Continued study of the theoretical basis of the Army leadership framework explores the dynamics of adaptive leadership in the context of military operations. Cadets develop greater self awareness as they assess their own leadership styles and practice communication and team building skills. COE case studies give insight into the importance and practice of teamwork and tactics in real-world scenarios. Co-requisite MSC 121.

MSC 122. Introduction to Tactical Leadership. (1)

Overviews leadership fundamentals such as setting direction, problem-solving, listening, presenting briefs, providing feedback, and using effective writing skills. You will explore dimensions of leadership values, attributes, skills, and actions in the context of practical, hands-on, and interactive exercises. Open enrollment for all students, with no military obligation.

Prerequisites: MSC 121, MSC 121L.

Co-requisite: MSC 122L.

MSC 122L. Leadership Lab. (1)

An academically challenging course where you will study, practice, and apply the fundamentals of Army leadership, Officership, Army values and ethics, personal development, and small unit tactics at the team and squad level. At the conclusion of this course, you will be capable of planning, coordinating, navigating, motivating and leading a team or squad in the execution of a tactical mission during a classroom PE, a Leadership Lab, or during a Situational Training Exercise (STX) in a field environment. Successful completion of this course will help prepare you for success at the ROTC Leader Development and Assessment Course (LDAC). Open enrollment for all students, with no military obligation.

Prerequisites: MSC 121, MSC 121L.

Co-requisite: MSC 122.

MSC 221. Individual Leadership. (3)

Explores the dimensions of creative and innovative tactical leadership strategies and styles by examining team dynamics and two historical leadership theories that form the basis of the Army leadership framework. Aspects of personal motivation and team building are practiced planning, executing and assessing team exercises. The focus continues to build on developing knowledge of the leadership attributes and core leader competencies through the understanding of Army rank, structure, and duties as well as broadening knowledge of land navigation and squad tactics. Case studies will provide a tangible context for learning the Soldier's Creed and Warrior Ethos as they apply in the contemporary operating environment. (Open enrollment for all students, with no military obligation).

Co-requisite: MSC 221L.

MSC 221L. Leadership Lab. (1)

Examines the challenges of leading tactical teams in the complex contemporary operating environment (COE). This course highlights dimensions of terrain analysis, patrolling, and operation orders. Continued study of the theoretical basis of the Army leadership framework explores the dynamics of adaptive leadership in the context of military operations. MSC 221L provides a smooth transition into MSC 321. Cadets develop greater self awareness as they assess their own leadership styles and practice communication and team building skills. COE case studies give insight into the importance and practice of teamwork and tactics in real-world scenarios. (Open enrollment for all students with no military obligation)

Co-requisite: MSC 221.

MSC 222. Individual Leadership Part II. (3)

Second part of a two-semester introduction to organizational leadership. It is designed to help you understand how to build teams, influence others, communicate effectively, make decisions, engage in creative problem solving, and plan and organize. This semester's emphasis is on individual-level leadership. (Open enrollment for all students, with no military obligation).

MSC 222L. Leadership Lab. (1)

Emphasizes the functions, duties, and responsibilities of junior Army Officers with special attention focused on to developing advanced leadership potential, and developing personal communications (oral and written) skills, and to active participation in the planning and conduct of training.

MSC 321. Advanced Tactical Leadership Part I. (3)

This is an academically challenging course where you will study, practice, and apply the fundamentals of Army leadership, Officership, Army values and ethics, personal development, and small unit tactics at the team and squad level. At the conclusion of this course, you will be capable of planning, coordinating, navigating, motivating and leading a team or squad in the execution of a tactical mission during a classroom PE, a Leadership Lab, or during a Situational Training Exercise (STX) in a field environment. Successful completion of this course will help prepare you for success at the ROTC Leader Development and Assessment Course (LDAC).

Co-requisite: MSC 321L.

MSC 321L. Leadership Lab MS 301. (1)

This lab prepares you for attendance at the Leadership Development and Assessment Course (LDAC) during the summer following completion of NSC 322 and 322L. During the conduct of this lab you will be challenged to practice and hone your leadership technique. You will be evaluated on your leadership skills as you are presented with the demands of LDAC in a series of challenging scenarios related to small unit tactical operations are used to develop self awareness and critical thinking skills. You will receive systematic and specific feedback on your leadership abilities.

Co-requisite: MSC 321.

MSC 322. Advanced Tactical Leadership Part II. (3)

Part two of the required courses to prepare the student for attendance at the Leadership Development Assessment Course (LDAC). Students will be challenged to study, practice, and evaluate adaptive leadership skills as you are presented with the demands of LDAC. Challenging scenarios related to small unit tactical operations are used to develop self awareness and critical thinking skills. You will receive systematic and specific feedback on your leadership ability.

Co-requisite: MSC 322L.

MSC 322L. Leadership Lab. (1)

A continuation of MSC 321L that prepares you for attendance at the Leadership Development and Assessment Course (LDAC). The cadet will attend LDAC during the summer following the completion of this lab. During the conduct of this lab you will be challenged to practice and hone your leadership technique. You will be evaluated on your leadership skills as you are presented with the demands of LDAC in a series of challenging scenarios related to small unit tactical operations are used to develop self awareness and critical thinking skills. You will receive systematic and specific feedback on your leadership abilities.

Co-requisite: MSC 322.

MSC 377. Independent Studies. (0-6)**MSC 421. Adaptive Leadership. (3)**

A practical application of adaptive leadership. Throughout the semester, students are assigned the duties and responsibilities of an Army staff officer and must apply the fundamentals of principles of training, the training management, the Army writing style and military decision making to weekly training meetings. During these weekly training meetings, the student will plan, execute and assess ROTC training and recruiting events.

Co-requisite: MSC 421L.

MSC 421L. Leadership Lab. (1)

Prepares the future officer to take charge and perform duties as a small unit leader. Cadets will plan, supervise and execute the training for the underclassmen under the supervision of cadre. Cadets will also apply their experience gained from their attendance at the Leadership Development and Assessment Course and pass that unique knowledge on to underclassmen in order to prepare them for LDAC.

Co-requisite: MSC 421.

MSC 422. Leadership in a Complex World. (3)

Explores the dynamics of leading in the complex situations of current military operations in the contemporary operating environment (COE). You will examine differences in customs and courtesies, military law, principles of war, and rules of engagement in the face of international terrorism. You also explore aspects of interacting with non-government organizations, civilians on the battlefield, and host nation support. It uses case studies, scenarios, and "What Now, Lieutenant?" exercises to prepare you to face the complex ethical and practical demands of leading as a commissioned officer in the United States Army.

Co-requisite: MSC 422L.

MSC 422L. Leadership Lab. (1)

Continues to prepare the future officer to take charge and perform duties as a small unit leader. Cadets will plan, supervise and execute the training for the underclassmen under the supervision of cadre. Cadets will also apply their experience gained from their attendance at the Leadership Development and Assessment Course and pass that unique knowledge on to underclassmen in order to prepare them for LDAC.

Co-requisite: MSC 422.

MSC 477. Independent Studies. (0-6)

Music (MUS)

Note:

1. The following music history and literature courses require a reading knowledge of music: MUS 211-MUS 212, MUS 457/MUS 557-MUS 458/MUS 558, MUS 621, MUS 661.
2. Applied music courses are listed at the end of this section.

MUS 100. Ensemble. (0-2)**MUS 100A. Collegiate Choral. (1-2)**

Mixed chorus of 75 to 125 voices. May be repeated for credit.

MUS 100B. Men's Glee Club. (1-2)

Membership: 75. May be repeated for credit.

MUS 100C. Symphony Orchestra. (1-2)

Open to all students by audition only. Membership: 80 string, wind, and percussion players. Study and performance of main symphonic literature. May be repeated for credit.

MUS 100D. Choraliers. (1-2)

Treble chorus. Membership: 80. May be repeated for credit.

MUS 100E. Marching Band. (1-2)

Membership: 200 wind and percussion players. May be repeated for credit.

MUS 100F. Symphony Band. (1-2)

Membership: 72 wind and percussion players. May be repeated for credit.

MUS 100G. Wind Ensemble. (1-2)

Membership: 55 wind and percussion players. May be repeated for credit.

MUS 100H. Chamber Music Brass. (1)

Participation in the performance of brass chamber music with such groups as French horn quartet, trumpet trio and quartet, brass quintet, trombone quartet. May be repeated for credit.

MUS 100I. Chamber Music Strings. (0-1)

Study and performance of major chamber works for string quartets, string trios and string quartets, and compositions for strings with piano and other instruments. May be repeated for credit.

MUS 100J. Chamber Music - Piano. (1)**MUS 100K. Jazz Ensemble. (1-2)**

Open to all students by audition only. Contemporary jazz ensemble literature is covered in this performance group. Two sections are available: advanced and intermediate. May be repeated for credit.

MUS 100M. Miami University Percussion Ensemble. (1)

Open to all with necessary proficiency. Admittance determined by audition or instructor recommendation. Study and performance of literature for varied combinations of percussion instruments. Literature ranges from percussion ensemble classics to pop arrangements. May be repeated for credit.

MUS 100N. Steel Band. (1-2)

Open to all students by audition only. Two sections are available: advanced and beginner. Advanced ensemble focuses on performance of steel band literature; beginner ensemble is for students with little or no experience playing steel drum instruments. May be repeated for credit.

MUS 100Q. Chamber Singers. (1-2)

Chamber choir; 20-25 mixed voices. Auditions open to all students. May be repeated for credit.

MUS 100R. Chamber Music Winds. (1)**MUS 100T. Chamber Music - Jazz Combo. (1)****MUS 100U. Basketball/Hockey Band. (1-2)**

Open to all students. Ensemble performs for on-campus basketball activities.

MUS 100Z. Laptop Ensemble. (1; maximum 8)

The Miami University Laptop Ensemble (MULE) provides students the opportunity to perform electro-acoustic and digital music using laptops, tablets, various sensors, controllers, synths, and other electronic instruments. Students will gain an understanding of how to use computers and other emerging music technologies to create music in an ensemble environment. Additionally, they will develop music industry strategies for ensemble development, such as publicity, booking, and promoting music.

MUS 101. Theory of Music I. (3)

A study of music's structural elements and their usage, directed toward intelligent interpretation and informed performance. MUS 101 covers the fundamentals of musical construction, including scales, keys, chords, meter, and species counterpoint. Recommend taking concurrently with MUS 151. Required of music majors and open to all students with permission of instructor. Students must be able to read music fluently in at least one clef before enrolling in this course.

MUS 102. Theory of Music II. (3)

A study of music's structural elements and their usage, directed toward intelligent interpretation and informed performance. MUS 102 covers diatonic harmony, phrase and period structure, sequences, and applied dominants. Recommend taking concurrently with MUS 152.

Prerequisite: successful completion of MUS 101.

MUS 110. Vocal Accompanying. (1)

Practical experience in studio accompanying of voice students. Fulfills either accompanying requirement or large ensemble requirement in a single semester, but not both.

MUS 111. Lab Band. (0; maximum 0)

Laboratory ensemble for instrumental music education majors. Students reinforce and improve fundamentals of instrumental performance, expand technical and musical abilities, and develop and refine skills necessary for effective conducting and teaching. Prerequisite: junior students must have completed MUS 352.

MUS 112. Lab Choir. (0; maximum 0)

Introduction to the role of the choral conductor/teacher in middle and high school choral programs.

Prerequisite: junior students must have completed MUS 352.

MUS 113. Choral Practicum. (1; maximum 4)

113 Choral Practicum)1; maximum 4) Methods, materials, and techniques for teaching choral ensembles at the secondary level. Overview of choral literature appropriate for secondary level choirs.

MUS 115. Beginning Piano for Non-Majors. (2)

Beginning level group piano instruction for non-music majors. The course introduces and develops basic piano skills, music reading skills, as well as music theory fundamentals through repertoire, scale, and chord playing.

MUS 119. Introduction to Music Theory. (2)

An introductory course for students who are not yet familiar with the symbols and language of music literacy: this includes rhythm, melody, harmony, and basic keyboard skills. The students will learn how to read and write music through instruction, daily assignments, group and individual sight-singing and ear training exercises, and finally the practice of playing basic melodic and harmonic progressions on the keyboard.

MUS 120. Instrumental Accompanying. (1)

Practical experience in studio accompanying of solo instruments: woodwinds, brass, or strings. Fulfills either accompanying requirement or large ensemble requirement in a single semester, but not both.

MUS 135. Understanding Jazz, Its History and Context. (3)

History of jazz in the United States from its origins to the present. Emphasis placed on developing aural perceptions of stylistic differences between historical periods and significant performers. IIA, IIB, IIIB. PA-3A, PA-4C. Cross-listed with AMS.

MUS 139. Chamber Music Experience. (0)

Completion of a chamber music experience.

MUS 140. Recital Requirement. (0)

Required recital attendance as nonparticipant for undergraduate music majors consisting of seven semesters of verified attendance at minimum of 12 approved events per semester.

MUS 142. Applied Music. (2)

You must audition to qualify for studio lessons in applied music. Study in applied music consists of one-hour private lessons, given weekly, and periodic studio classes.

MUS 142A. Applied Music Voice- FR. (2)

Study of basic principles of singing, including posture, breath control, vocal freedom, resonance, and diction. First semester repertoire is at the discretion of the instructor. Second semester repertoire for 142. A is a minimum of three songs (memorized); for 144.A is a minimum of five songs (memorized).

MUS 142B. Applied Music Piano- FR. (2)

Introduction to piano technique and interpretation based on study of scales, arpeggios, and other standard pianistic patterns, as well as compositions from the standard repertoire, such as: Bach Inventions, and Preludes and Fugues from the Well-Tempered Clavier; Haydn, Mozart, and Beethoven sonatas; Chopin, Schumann, and Debussy character pieces; and Bartok Mikrokosmos.

MUS 142C. Applied Guitar- FR. (2)

Applied guitar is the study of the classical guitar, in which the student applies the study of technique and literature to music from all periods.

MUS 142D. Applied Music Flute- FR. (2)

Studies for development of tone and technique; major and minor scales and arpeggios. Drouet 25 Etudes Celebres; Donjon Etudes de Salon; Karg-Elert 24 Caprices. Sonatas of Blavet, Handel, C.P.E. Bach, Koechlin 14 pieces pour Flute et Piano; Bloch Suite Modale; and works of comparable difficulty.

MUS 142E. Applied Music Clarinet- FR. (2)

Technical studies as needed: embouchure, breath control, hand and finger position, articulation, intonation, phrasing. Scales Studies Baermann Bk. III, Etudes from Rose, Klose Celebrated Method. Works by Weber, Mozart, Stamitz, St-Sans, Tartini, Brahms, Hindemith, and others. Reed work. All scales.

MUS 142F. Applied Music Saxophone- FR. (2)

Technical studies as needed; embouchure, breath control, hand and finger position and articulation. Studies by Klose, Mule Etudes after Berbiguier and after Samie. All major and minor scales. Pieces by Bozza, Bach, Leclair, Creston, or works of comparable difficulty.

MUS 142G. Applied Music Oboe- FR. (2)

Focuses on basic elements of tone production: breathing embouchure and articulation. Musicality. Reedmaking. All major and minor (3 forms) scales, Triad arpeggios. Articulation and melodic Studies from Barret Oboe Method, Salviani Scale Studies, Book II. Pieces: Handel Sonatas, Telemann Sonata in A Minor, Sammartini Sonata in G, Albinoni Concerti, Cimarosa Concerto, Haydn Concerto.

MUS 142H. Applied Music Bassoon- FR. (2)

Basic technical studies; proper breath control, tongue placement, vibrato, embouchure, reed making. Weissenborn Studies, Ozi Caprices, solos of difficulty of the Galliard Sonatas.

MUS 142I. Applied Music Trumpet- FR. (2)

Emphasis on tone production, articulation, and lip flexibility. Introductory work in Schlossberg, Daily Drills; Arban, Complete Method for Trumpet. Introduction to transposition. Study of etudes from Hering, 32 Etudes for Trumpet; Concone, Legato Etudes; and others. Technique: all major scales and arpeggios; etudes from Clarke, Technical Studies; introduction to multiple tonguing as in Arban, Complete Method for Trumpet.

MUS 142J. Applied Music French Horn- FR. (2)

Emphasis on elements of basic technique: embouchure, breathing, tone production. Develop individual routine to address range extension, endurance, flexibility. All major and minor scales, transposition study. Etudes from Kopprasch 60 Studies, Kling 40 Studies, Pottag- Andraud Method Book 1, Shoemaker Legato Etudes for French Horn, bass clef studies. Solo literature by Mozart, Saint-Saens, and others.

MUS 142K. Applied Music Trombone- FR. (2)

Emphasis on tone production, articulation, and basic musicianship. Bordogni-Rochut Melodious Etudes Vol. I; Blazhevich Studies in Clefs. Solos by Guilmant, Barat, Galliard.

MUS 142L. Applied Music Euphonium- FR. (2)

Primary emphasis on tone production and advancement of technique: breath studies, range development, major and minor scales. Example: Stacy Scale Studies Bk. 3, Arban Bass Clef Studies, Pares Daily Exercises and Scales, solo works of the difficulty of Marcello Sonata in C Major, Muller Prelude, Chorale, Variations and Fugue, Presser Sonatina.

MUS 142M. Applied Music Tuba- FR. (2)

Primary emphasis on tone production and advancement of technique: breath studies, range development, major and minor scales. Example: Tyrrell Advanced Studies for Tuba, Arban Bass Clef Studies, Bell Daily Routines for Tuba, solo works of the difficulty of Bach-Bell Air and Bourree, Marcello Sonata in C Major.

MUS 142N. Applied Music Percussion- FR. (2)

Snare drum: development of rudimental and concert styles through study of rolls (double and triple stroke, multiple bounce); grace note rudiments (flams, drags, and ruffs); others from PASIC 40 International Rudiment list; and sight reading. Method books: Stick Control, George L. Stone; Modern School for Snare Drum, Morris Goldenberg; Standard Snare Drum Method, B. Podemski; others, Garwood Whaley; concert and rudimental solos from O.M.E.A. approved list for solos and ensemble contest. Keyboard instruments: major and minor scales played two octaves in all keys; major, minor, augmented, and diminished 7th broken chord patterns in all keys; selected warm ups; repertory appropriate to level; sight reading; introduction to four mallet techniques. Method books: Modern School of Xylophone, Marimba, and Vibraphone, Morris Goldenberg; Modern Mallet Methods, Phil Kraus; Mental and Manual Calisthenics, Elden Bailey; Instruction Course for Xylophone, George L. Green; Method for Movement for Marimba, Leigh H. Stevens; others, Garwood Whaley; solos from OMEA approved list. Tambourine, triangle, cymbals: basic performance techniques, ensemble repertoire.

MUS 142O. Applied Music Violin- FR. (2)

Technical facility in scales, arpeggios, and violin studies. Sonatas and concerti of the baroque, classical, or romantic repertoire.

MUS 142P. Applied Music Viola- FR. (2)

Scales: three octaves, arpeggios. Etudes: Sevicik (bowing), Mazas, Kayser, position studies. Repertoire level: Bach, Solo Suite, G Major, Hoffmeister, Telemann, Zelter, Concerto, Marcello, Sonatas.

MUS 142R. Applied Music Cello- FR. (2)

Technical facility in scales, arpeggios. Studies: sonatas, concerti, and solo pieces of the baroque, classical, and romantic repertoire. Orchestral repertoire.

MUS 142S. Applied Music String Bass- FR. (2)

Technical facility in scales, arpeggios. Studies: sonatas, concerti, and solo pieces of baroque, classical, and romantic repertoire. Orchestral repertoire.

MUS 142T. Applied Music Harp- FR. (2)

Technical studies and etudes such as Salzedo Conditioning Exercises, Bochsá Etudes Op. MUS 318, Pozzoli Studies. Grandjany Two French Folk Songs, Salzedo Chanson dans la Nuit, Handel Passacaglia and Concerto in Bb Major, Haydn Theme and Variations, Annie Louise David Album of Solo Pieces Vol. 1&2.

MUS 144. Applied Music. (3-4)**MUS 144A. Applied Music Voice- FR. (3-4)**

Study of basic principles of singing, including posture, breath control, vocal freedom, resonance, and diction. First semester repertoire is at the discretion of the instructor. Second semester repertoire for 142. A is a minimum of three songs (memorized); for 144A is a minimum of five songs (memorized).

MUS 144B. Applied Music Piano- FR. (3-4)

Introduction to piano technique and interpretation based on study of scales, arpeggios, and other standard pianistic patterns, as well as compositions from the standard repertoire, such as: Bach Inventions, and Preludes and Fugues from the Well-Tempered Clavier; Haydn, Mozart, and Beethoven sonatas; Chopin, Schumann, and Debussy character pieces; and Bartok Mikrokosmos.

MUS 144C. Applied Guitar- FR. (3)

Applied guitar is the study of the classical guitar, in which the student applies the study of technique and literature to music from all periods.

MUS 144D. Applied Music Flute- FR. (3-4)

Studies for development of tone and technique; major and minor scales and arpeggios. Drouet 25 Etudes Celebres; Donjon Etudes de Salon; Karg-Elert 24 Caprices. Sonatas of Blavet, Handel, C.P.E. Bach, Koechlin 14 pieces pour Flute et Piano; Bloch Suite Modale; and works of comparable difficulty.

MUS 144E. Applied Music Clarinet- FR. (3-4)

Technical studies as needed: embouchure, breath control, hand and finger position, articulation, intonation, phrasing. Scales Studies Baermann Bk. III, Etudes from Rose, Klose Celebrated Method. Works by Weber, Mozart, Stamitz, St-Sans, Tartini, Brahms, Hindemith, and others. Reed work. All scales.

MUS 144F. Applied Music Saxophone- FR. (3-4)

Technical studies as needed; embouchure, breath control, hand and finger position and articulation. Studies by Klose, Mule Etudes after Berbiguier and after Samie. All major and minor scales. Pieces by Bozza, Bach, Leclair, Creston, or works of comparable difficulty.

MUS 144G. Applied Music Oboe- FR. (3-4)

Focuses on basic elements of tone production: breathing embouchure and articulation. Musicality. Reedmaking. All major and minor (3 forms) scales, Triad arpeggios. Articulation and melodic Studies from Barret Oboe Method, Salviani Scale Studies, Book II. Pieces: Handel Sonatas, Telemann Sonata in A Minor, Sammartini Sonata in G, Albinoni Concerti, Cimarosa Concerto, Haydn Concerto.

MUS 144H. Applied Music Bassoon- FR. (3-4)

Basic technical studies; proper breath control, tongue placement, vibrato, embouchure, reed making. Weissenborn Studies, Ozi Caprices, solos of difficulty of the Galliard Sonatas.

MUS 144I. Applied Music Trumpet- FR. (3-4)

Emphasis on tone production, articulation, and lip flexibility. Introductory work in Schlossberg, Daily Drills; Arban, Complete Method for Trumpet. Introduction to transposition. Study of etudes from Hering, 32 Etudes for Trumpet; Concone, Legato Etudes; and others. Technique: all major scales and arpeggios; etudes from Clarke, Technical Studies; introduction to multiple tonguing as in Arban, Complete Method for Trumpet.

MUS 144J. Applied Music French Horn- FR. (3-4)

Emphasis on elements of basic technique: embouchure, breathing, tone production. Develop individual routine to address range extension, endurance, flexibility. All major and minor scales, transposition study. Etudes from Kopprasch 60 Studies, Kling 40 Studies, Pottag- Andraud Method Book 1, Shoemaker Legato Etudes for French Horn, bass clef studies. Solo literature by Mozart, Saint-Saens, and others.

MUS 144K. Applied Music Trombone- FR. (3-4)

Emphasis on tone production, articulation, and basic musicianship. Bordogni-Rochut Melodious Etudes Vol. I; Blazhevich Studies in Clefs. Solos by Guilmant, Barat, Galliard.

MUS 144L. Applied Music Euphonium- FR. (3-4)

Primary emphasis on tone production and advancement of technique: breath studies, range development, major and minor scales. Example: Stacy Scale Studies Bk. 3, Arban Bass Clef Studies, Pares Daily Exercises and Scales, solo works of the difficulty of Marcello Sonata in C Major, Muller Prelude, Chorale, Variations and Fugue, Presser Sonatina.

MUS 144M. Applied Music Tuba- FR. (3-4)

Primary emphasis on tone production and advancement of technique: breath studies, range development, major and minor scales. Example: Tyrrell Advanced Studies for Tuba, Arban Bass Clef Studies, Bell Daily Routines for Tuba, solo works of the difficulty of Bach-Bell Air and Bourree, Marcello Sonata in C Major.

MUS 144N. Applied Music Percussion- FR. (3-4)

Snare drum: development of rudimental and concert styles through study of rolls (double and triple stroke, multiple bounce); grace note rudiments (flams, drags, and ruffs); others from PASIC 40 International Rudiment list; and sight reading. Method books: Stick Control, George L. Stone; Modern School for Snare Drum, Morris Goldenberg; Standard Snare Drum Method, B. Podemski; others, Garwood Whaley; concert and rudimental solos from O.M.E.A. approved list for solos and ensemble contest. Keyboard instruments: major and minor scales played two octaves in all keys; major, minor, augmented, and diminished 7th broken chord patterns in all keys; selected warm ups; repertory appropriate to level; sight reading; introduction to four mallet techniques. Method books: Modern School of Xylophone, Marimba, and Vibraphone, Morris Goldenberg; Modern Mallet Methods, Phil Kraus; Mental and Manual Calisthenics, Elden Bailey; Instruction Course for Xylophone, George L. Green; Method for Movement for Marimba, Leigh H. Stevens; others, Garwood Whaley; solos from OMEA approved list. Tambourine, triangle, cymbals: basic performance techniques, ensemble repertoire.

MUS 144O. Applied Music Violin- FR. (3-4)

Technical facility in scales, arpeggios, and violin studies. Sonatas and concerti of the baroque, classical, or romantic repertoire.

MUS 144P. Applied Music Viola- FR. (3-4)

Scales: three octaves, arpeggios. Etudes: Sevicik (bowing), Mazas, Kayser, position studies. Repertoire level: Bach, Solo Suite, G Major, Hoffmeister, Telemann, Zelter, Concerto, Marcello, Sonatas.

MUS 144R. Applied Music Cello-FR. (3-4)

Technical facility in scales, arpeggios. Studies: sonatas, concerti, and solo pieces of the baroque, classical, and romantic repertoire. Orchestral repertoire.

MUS 144S. Applied Music String Bass- FR. (3-4)

Technical facility in scales, arpeggios. Studies: sonatas, concerti, and solo pieces of baroque, classical, and romantic repertoire. Orchestral repertoire.

MUS 144T. Applied Music Harp- FR. (3-4)

Technical studies and etudes such as Salzedo Conditioning Exercises, Bochs Etudes Op. MUS 318, Pozzoli Studies. Grandjany Two French Folk Songs, Salzedo Chanson dans la Nuit, Handel Passacaglia and Concerto in Bb Major, Haydn Theme and Variations, Annie Louise David Album of Solo Pieces Vol. 1&2.

MUS 151. Theory of Music: Aural Skills I. (1)

Practice in rhythmic and melodic reading of music and its reproduction through singing, dictation, and contextual listening of musical excerpts. Content is correlated with MUS 101. Required of all music majors. Recommend taking concurrently with MUS 101.

MUS 152. Theory of Music: Aural Skills II. (1)

Practice in rhythmic and melodic reading of music and its reproduction through singing, dictation, and contextual listening of musical excerpts. Content is correlated with MUS 102. Required of all music majors. Recommend taking concurrently with MUS 102. Prerequisite: MUS 151.

MUS 160. Functional Piano I. (1)

Beginning level group piano instruction for music majors preparing to meet the piano proficiency requirement. Open to music majors only.

MUS 161. Functional Piano II. (1)

Elementary level group piano instruction for music majors preparing to meet the piano proficiency requirement. Open to music majors only.

Prerequisite: MUS 160 or permission of instructor.

MUS 171. Composition Seminar. (3; maximum 6)

This course provides young composers with practical technical training in composition through direct work with Miami Composition Faculty and student performers. It is designed to allow Composition majors to advance to private lessons, and to set Composition minors and other interested students on the path to a productive independent composition practice. Composers will work directly with Miami University composition faculty and student performers to realize their compositions. Class content will include review of works in progress, discussion of relevant repertoire and current compositional trends, and preparation for a final concert.

Prerequisite: status as a Composition major or minor, or permission of instructor.

MUS 175. Introduction to Music Education. (3)

Scope of music education in early childhood, elementary, and secondary schools; licensure and degree requirements; assessment of personal and musical competencies/career counseling; foundations/philosophy of music education; introduction to computers in music education. Open to Music majors only.

MUS 177. Independent Studies. (0-6)**MUS 184. Opera: Passport to the Liberal Arts. (3)**

This course focuses on opera as the "total art work," encompassing aspects of Western European history and culture. From opera's roots in ancient Greek drama to the present day, opera is constantly being shaped by the society in which it has thrived. Art, literature, theatre, and business are also relevant to opera and will be included in our journey through operatic masterpieces. Framed in the context of Italy as the self-proclaimed birthplace of opera, the course addresses how the passion for this art form has spread through—and united—cultures around the globe. A focus is on the patrons who have supported opera from its inception to the present-day. Students will learn to appreciate the art form by studying selected operas, attending an opera at Miami University and watching videos of operas. IIA. PA-3A.

MUS 185. Multicultural Perspectives in Music. (3)

This course explores non-Western classical musical traditions and practices from around the world. By studying how music and society intersect, students develop skills for identifying and tracing musical differences and reflecting on factors such as history, culture, politics, economics, thought, and religion that shape their personal music-listening identities. Young scholars will think critically about music's power, not as a universal language but as an agent of unity, identity, war, propaganda, division, and faith. Students will develop cultural competency for their future professional and civic life by investigating disparate musical perspectives. An emphasis on self-reflection and intercultural learning is encouraged through a deeper understanding of self and others in a global context. This course will challenge students in scholarly areas beyond their primary studies and features authentic, active learning. Students can employ prior knowledge or skills from this course in other fields through interdisciplinary readings, media, writing, and cooperative projects. IIA, IIIB. PA-4B, SI-04. CAS-B.

MUS 186. Global Popular Music. (3)

This course is a survey of popular music throughout the world. Through the study of specific cultures and repertoires, students will explore and engage in popular music in various cultural contexts in the United States, Europe, Asia, Africa and Latin America. The goal is to give students a broad understanding of what exactly is popular music, how it can be defined, and the differences and similarities amongst diverse popular music traditions. IIA, IIB, IIIB. PA-3A, PA-4C. CAS-B.

MUS 189. Captivating Sounds: The Beauty of Western Music. (3)

Captivating Sounds: The Beauty of Western Music introduces students to musical genres, composers, and works representative of art music traditions in Western Europe and the United States from the Middle Ages to the twenty-first century. The course investigates the impact of political, cultural, philosophical, artistic, and social contexts on the composition, performance, and production of Western art music within original historical contexts, but also the relevance of Western art music composers, performers, and works today. IIA. PA-3A.

MUS 201. Theory of Music III. (3)

A study of music's structural elements and their usage, directed toward intelligent interpretation and informed performance. MUS 201 covers modulation, chromatic harmony, tonality in popular music, and traditional tonal forms. Recommend taking concurrently with MUS 251. Required of music majors and open to all students with permission of instructor.

Prerequisite: MUS 102.

MUS 202. Theory of Music IV. (3)

A study of music's structural elements and their usage, directed toward intelligent interpretation and informed performance. MUS 202 covers post-tonal techniques used in music of the twentieth century and beyond, including pitch-centricity, pitch-class sets, serialism, and sonic experimentalism. Final project is a researched analysis of a complete piece as part of Departmental Assessment Plan. Recommend taking concurrently with MUS 252. Required of music majors and open to all students with permission of instructor. Prerequisite: MUS 201.

MUS 204. Brazilian Culture Through Music and Film. (3)

Through music and film this course raises questions about national identity, history, social, religious, and ethnic diversity in Brazil. IIA, IIB, IIIB. PA-3A, PA-3B, PA-4C. CAS-B. Cross-listed with FST/LAS/POR 204.

MUS 206. Tracking Sounds: A History of Film Music. (3)

This course traces the technological developments, socio-political and economic trends, and musical styles that have shaped film music history from the end of the nineteenth century to today. The chronological trajectory of the course considers music in the silent film era (1895-1928), the early sound era (1928-1934), the Hollywood "Golden Age" (1935-1959), the New American Cinema (1960-1976), 1970s Eclecticism and Classicism, and postmodern film of the video and digital age since the 1980s. The course consistently engages film, animated features and film musicals produced in the United States, as well as international film from Germany, France, Russia, England and Japan. Students will watch and listen to clips of films in class and will periodically be expected to view and listen to entire films on their own. As an interdisciplinary course intended for students interested in both film and music studies, students do not need knowledge of music notation or theory. IIA, IIB. PA-3A.

MUS 211. History of Western Music. (3)

History of Western music from antiquity to the present placed in global context. Music and society; analysis of representative styles from scores. IIA. PA-3A. Prerequisite: MUS 201-202 or permission of instructor.

MUS 212. History of Western Music. (3)

History of Western music from antiquity to the present placed in global context. Music and society; analysis of representative styles from scores. Prerequisite: MUS 201-202 or permission of instructor.

MUS 215. Class Voice for Music Theatre. (2)

Study of basic principles of singing, including posture, breath control, vocal freedom, resonance, and diction designed to prepare for private study. Class approach combines lecture with group and individual singing. Semester repertoire is at the discretion of the instructor and includes a minimum of three songs (memorized). Students are required to give a jury for the voice faculty as a part of semester evaluation. Prerequisite: admission in the Music Theatre minor.

MUS 216. Applied Voice for Music Theatre. (1; maximum 2)

Study of principles of singing, including posture, breath control, vocal freedom, resonance, and diction. Semester repertoire is at the discretion of the instructor and includes a minimum of five songs (memorized). Students are required to give a jury for the voice faculty as a part of semester evaluation. Prerequisite: MUS 215.

MUS 218. Beginning Guitar. (1)

Covers basic technique for guitar as it applies to melodic playing and accompaniment of popular songs with different strumming techniques. Includes tablature reading, tuning the guitar, playing by ear, improvisation, and efficient practicing habits.

MUS 218A. Intermediate Guitar. (1)

Requires a solid base of technique. The course introduces note reading, finger-picking and bar chords.

MUS 221. Music Technologies. (3)

Introduces students to the fundamentals of music technology in the context of its historical and cultural use. Scientific foundations of acoustics, digital audio, and audio engineering as well as technical skills for music production and notation will be addressed. Participants will learn the skills-based foundations of music technology through hands-on projects. Critical discussion will consider the social impact of contemporary and historical systems of recording, notation, and dissemination. Applications in the fields of interaction design, music entertainment, game design, digital signal processing, electrical engineering, music education, acoustics, and mass communications will be explored. IIA, V. PA-1A, PA-3A. Cross-listed with IMS.

MUS 225. And the Beat Goes On. . . The History of Rock and Roll. (3)

This survey of Rock and Roll examines the roles the genre has played in the American imagination since the 1950s, and the perception and reception of the genre through time. It focuses on the ways that Rock fits into the narratives on American culture, gender and race, examining this music through the lens of politics, aesthetics, and society. The course progresses through the changing landscape of Rock from its roots in American popular culture in the early 20th century, continuing to the present day. The discussion continues through Metal and Hard Rock, to punk and disco, and much more. Students will learn to identify the formal, harmonic, rhythmic and textual characteristics that distinguish Rock subgenres. Through readings, films, demonstrations, class discussions and activities, and a great deal of music, this course explores the history of Rock and Roll, placing in context the musical, political and social forces that shaped its evolution and revolution. IIA. PA-3A.

MUS 226. Improving Reading through the Music Content Area. (3)

This course provides pre-service music teachers with reading and writing strategies to help solve problems encountered in grades K-12. Language Art skills and strategies are taught to help students communicate more effectively across the curriculum, addressing the Common Core. Required for all students in the Bachelor of Music curriculum in music education (Instrumental and Choral/General emphases).

MUS 231. Class Instruments (Brass). (1)

Class instruction in brass instruments of the symphony orchestra and band. Open to music majors only.

MUS 233. Class Instruments (Percussion). (1)

Class instruction in percussion instruments of the symphony orchestra and band. Open to music majors only.

MUS 235. Lyric Diction I. (2)

Study of the International Phonetic Alphabet, the phonetic structure of English, Latin, and Italian as applied to singing. Instruction and practice in pronunciation and articulation. Study and performance of examples from vocal literature.

MUS 236. Lyric Diction II. (2)

Study of phonetic structure of German and French as applied to singing. Instruction and practice in pronunciation and articulation. Study and performance of examples from vocal literature. Even-numbered Spring Semesters only.
Prerequisite: MUS 235.

MUS 237. Class Voice for Instrumental Music Education Majors. (1)

An exploration of the physiology and acoustics of the human singing voice. Class instruction focuses on the fundamentals of singing including breathing, tone production, and diction. Vocal techniques are taught in both group and individual formats.
Prerequisites: MUS 175, or permission of instructor.

MUS 239. Alexander Technique. (1)

Introduction to the Alexander Technique. Basic anatomy, body-mapping and principles of the Technique (coordination of the self with efficiency and ease) are explored in group lessons and in application to creative activity. Course is offered for credit/no-credit only. Open to theatre and music majors and dance minors only.
Cross-listed with THE 239.

MUS 242. Applied Music. (2)

You must audition to qualify for studio lessons in applied music. Study in applied music consists of one-hour private lessons, given weekly, and periodic studio classes.

MUS 242A. Applied Music Voice- SO. (2)

Continuation of study of principles of singing. Repertoire requirement for 242A is four songs in two languages (memorized) each semester; for 244A is six songs in two languages (memorized) each semester.
Prerequisite: two semesters of 142A or 144A and successful completion of the sophomore-standing examination.

MUS 242B. Applied Music Piano- SO. (2)

More advanced level study of materials, including technical exercises and repertory classifications in 142.B and 144.B; preparation for junior standing examination. Different repertoire assigned, learned, and performed each semester.
Prerequisite: passage of the sophomore standing examination.

MUS 242C. Applied Guitar- SO. (2)

Applied guitar is the study of the classical guitar, in which the student applies the study of technique and literature to music from all periods.

MUS 242D. Applied Music Flute- SO. (2)

Continuation of tone studies. Orchestral studies (memorized). Anderson op. 15, op. 30, and op. 63; Etudes of Boehm, Altes. Participation in two class recitals or equivalent. J.S. Bach Sonatas, Suite in B Minor; Hindemith Sonata; Henze Sonatina; Faure Fantasie; Mozart Concerto; Blavet Concerto in A minor; and works of comparable difficulty.

MUS 242E. Applied Music Clarinet- SO. (2)

Works by Mercadante, Arnold, Cahuzac, Finzi, Lutoslawski, or equivalent. French conservatory contest solos. Orchestral excerpts. All scales and additional technical work.

MUS 242F. Applied Music Saxophone- SO. (2)

Mule Etudes after Terschak and after Ferling. Pieces by Handel, Ibert, Glazounov, etc. Technical exercises.

MUS 242G. Applied Music Oboe- SO. (2)

Further refinement of tone and development of musicality. Reedmaking. All Major & Minor (3 forms) Scales in broken 3rds. 7th Arpeggios. Sonatas from Barret Oboe Method. Selected duets. Pieces: Hindemith Sonata, Britten Metamorphoses after Ovid, Handel Concerto in G Minor, Vivaldi Concerti, Marcello Concerto.

MUS 242H. Applied Music Bassoon- SO. (2)

Continuation of technical studies and basic elements of playing. Ferling 48 Famous Studies, Vivaldi Concerto in D, Handel Sonatas.

MUS 242I. Applied Music Trumpet- SO. (2)

Concentration upon embouchure development using Schlossberg, Daily Drills; Irons, 27 Groups of Exercises; and others. Study of transposition and applications of basic technical skills in Sasche, MUS 100 Etudes or Caffarelli, MUS 100 Studi Melodici; Hering 28 Etudes, or equivalent in difficulty. Solo repertoire. Technique: all major and minor scales and arpeggios; single, double, and triple articulations in Arban, Complete Method for Trumpet; and Schlossberg, Daily Drills.

MUS 242J. Applied Music French Horn- SO. (2)

Continuation of major-minor scales, transposition, and above basic studies. Begin orchestral excerpt studies. Etudes from Pottag-Andraud Method Book 2, Maxime-Alphonse Book 4, Gallay 12 Grand Caprices. Solos by Beethoven, Richard Strauss, Franz Strauss, others.

MUS 242K. Applied Music Trombone- SO. (2)

Continued emphasis on tone production, articulation, and basic musicianship. Blazhevich Studies in Clefs; Bordogni-Rochut Melodious Etudes Vol. I and II; Schroeder MUS 170 Foundation Studies for Cello Vol. I. Solos by Galliard, de la Nux, Blazhevich.

MUS 242L. Applied Music Euphonium- SO. (2)

Continuation of above studies. Example: Rochut Melodius Etudes, Kopprasch Sixty Selected Studies, solo works of difficulty of Galliard Sonatas One Through Six, Corelli Sonata VIII, Barat Andante and Allegro, Mozart Concerto No. 1.

MUS 242M. Applied Music Tuba- SO. (2)

Continuation of above studies. Example: Kopprasch Sixty Selected Studies, Cimera 73 Advanced Studies, solo works of the difficulty of Haddad Suite, Corelli Sonata in F Major, Mozart Horn Concerto No. 3, Beethoven-Bell Variations on a Theme by Handel.

MUS 242N. Applied Music Percussion- SO. (2)

Timpani: tone production, types of articulations, interval tuning, cross sticking, roll development, analysis of physical properties of drum sticks, sight reading. Method books: Modern Method for Timpani, Saul Goodman; Timpani Method, Alfred Frieze. Keyboard instruments: advanced techniques and repertoire for four mallet, vibraphone techniques (e.g., chord studies, muffling, improvisation studies). Method book: Vibraphone Technique, David Friedman.

MUS 242O. Applied Music Violin- SO. (2)

Violin studies. Baroque, classical, and romantic concerti and sonatas, and other solo compositions.

MUS 242P. Applied Music Viola- SO. (2)

Scales: double stops, broken thirds. Etudes: Kreutzer, Bruni, Schradieck. Repertoire level: J.C. Bach, Stamitz, Handel Concerto, Bach, Solo Suites in D Minor, C Major, Hummel Fantasy.

MUS 242R. Applied Music Cello- SO. (2)

Technical facility in scales, arpeggios. Studies: sonatas, concerti, and solo pieces of the baroque, classical, and romantic repertoire. Baroque solo suites. Orchestral repertoire.

MUS 242S. Applied Music String Bass- SO. (2)

Technical facility in scales, arpeggios. Studies: sonatas, concerti, and solo pieces of baroque, classical, and romantic repertoire. Baroque solo suites. Orchestral repertoire.

MUS 242T. Applied Music Harp- SO. (2)

Continued technical studies and etudes including Bach-Grandjany Etudes for Harp, Dizi 48 Etudes Vol. 1. Salzedo Suite of Eight Dances, Naderman Sonatinas, Debussy Premiere Arabesque, Salzedo Quietude and Introspection, A.L. David Album of Solo Pieces Vol. 1 & 2.

MUS 244. Applied Music. (3-4)

You must audition to qualify for studio lessons in applied music. Study in applied music consists of one-hour private lessons, given weekly, and periodic studio classes.

MUS 244A. Applied Music Voice- SO. (3-4)

Continuation of study of principles of singing. Repertoire requirement for 242.A is four songs in two languages (memorized) each semester; for 244.A is six songs in two languages (memorized) each semester. Prerequisite: two semesters of 142A or 144A and successful completion of the sophomore-standing examination.

MUS 244B. Applied Music Piano- SO. (3-4)

More advanced level study of materials, including technical exercises and repertory classifications in 142.B and 144.B; preparation for junior standing examination. Different repertoire assigned, learned, and performed each semester.

Prerequisite: passage of the sophomore standing examination.

MUS 244D. Flute - Soph. (3-4)

Continuation of tone studies. Orchestral studies (memorized). Anderson op. 15, op. 30, and op. 63; Etudes of Boehm, Altes. Participation in two class recitals or equivalent. J.S. Bach Sonatas, Suite in B Minor; Hindemith Sonata; Henze Sonatina; Faure Fantasie; Mozart Concerti; Blavet Concerto in A minor; and works of comparable difficulty.

MUS 244E. Clarinet - Soph. (3-4)

Works by Mercadante, Arnold, Cahuzac, Finzi, Lutoslawski, or equivalent. French conservatory contest solos. Orchestral excerpts. All scales and additional technical work.

MUS 244F. Applied Music Saxophone- SO. (3-4)

Mule Etudes after Terschak and after Ferling. Pieces by Handel, Ibert, Glazounov, etc. Technical exercises.

MUS 244G. Applied Music Oboe- SO. (3-4)

Further refinement of tone and development of musicality. Reedmaking. All Major & Minor (3 forms) Scales in broken 3rds. 7th Arpeggios. Sonatas from Barret Oboe Method. Selected duets. Pieces: Hindemith Sonata, Britten Metamorphoses after Ovid, Handel Concerto in G Minor, Vivaldi Concerti, Marcello Concerto.

MUS 244H. Applied Music Bassoon- SO. (3-4)

Continuation of technical studies and basic elements of playing. Ferling 48 Famous Studies, Vivaldi Concerto in D, Handel Sonatas.

MUS 244I. Applied Music Trumpet- SO. (3-4)

Concentration upon embouchure development using Schlossberg, Daily Drills; Irons, 27 Groups of Exercises; and others. Study of transposition and applications of basic technical skills in Sasche, MUS 100 Etudes or Caffarelli, MUS 100 Studi Melodici; Hering 28 Etudes, or equivalent in difficulty. Solo repertoire. Technique: all major and minor scales and arpeggios; single, double, and triple articulations in Arban, Complete Method for Trumpet; and Schlossberg, Daily Drills.

MUS 244J. Applied Music French Horn- SO. (3-4)

Continuation of major-minor scales, transposition, and above basic studies. Begin orchestral excerpt studies. Etudes from Pottag-Andraud Method Book 2, Maxime-Alphonse Book 4, Gallay 12 Grand Caprices. Solos by Beethoven, Richard Strauss, Franz Strauss, others.

MUS 244K. Applied Music Trombone- SO. (3-4)

244K Applied Music Trombone- SO (304 Continued emphasis on tone production, articulation, and basic musicianship. Blazhevich Studies in Clefs; Bordogni-Rochut Melodious Etudes Vol. I and II; Schroeder MUS 170 Foundation Studies for Cello Vol. I. Solos by Galliard, de la Nux, Blazhevich.

MUS 244M. Applied Music Tuba- SO. (3-4)

Continuation of above studies. Example: Kopprasch Sixty Selected Studies, Cimera 73 Advanced Studies, solo works of the difficulty of Haddad Suite, Corelli Sonata in F Major, Mozart Horn Concerto No. 3, Beethoven-Bell Variations on a Theme by Handel.

MUS 244N. Applied Music Percussion- SO. (3-4)

Timpani: tone production, types of articulations, interval tuning, cross sticking, roll development, analysis of physical properties of drum sticks, sight reading. Method books: Modern Method for Timpani, Saul Goodman; Timpani Method, Alfred Friese. Keyboard instruments: advanced techniques and repertoire for four mallet, vibraphone techniques (e.g., chord studies, muffling, improvisation studies). Method book: Vibraphone Technique, David Friedman.

MUS 244O. Applied Music Violin- SO. (3-4)

Violin studies. Baroque, classical, and romantic concerti and sonatas, and other solo compositions.

MUS 244P. Applied Music Viola- SO. (3-4)

Scales: double stops, broken thirds. Etudes: Kreutzer, Bruni, Schradieck. Repertoire level: J.C. Bach, Stamitz, Handel Concerto, Bach, Solo Suites in D Minor, C Major, Hummel Fantasy.

MUS 244R. Applied Music Cello- SO. (3-4)

Technical facility in scales, arpeggios. Studies: sonatas, concerti, and solo pieces of the baroque, classical, and romantic repertoire. Baroque solo suites. Orchestral repertoire.

MUS 244S. Applied Music String Bass- SO. (3-4)

Technical facility in scales, arpeggios. Studies: sonatas, concerti, and solo pieces of baroque, classical, and romantic repertoire. Baroque solo suites. Orchestral repertoire.

MUS 244Z. Applied Music-Composition. (3)

Composers will work directly with Miami University composition faculty and student performers to realize their compositions. Lesson content will include review of works in progress, discussion of relevant repertoire and current compositional trends, and preparation for upcoming performance opportunities.

MUS 249. Classroom Instruments: World Percussion. (1)

Development of necessary expertise to use percussion instruments in general music classrooms and choral settings. Even-numbered Spring Semesters only.

MUS 251. Theory of Music: Aural Skills III. (1)

Practice in rhythmic and melodic reading of music and its reproduction through singing, dictation, and contextual listening of musical excerpts. Content is correlated with MUS 201. Required of music majors in the BM in Music Education, BM in Performance, and BM in Composition. Recommend taking concurrently with MUS 201. Prerequisite: MUS 152.

MUS 252. Theory of Music: Aural Skills IV. (1)

Practice in rhythmic and melodic reading of music and its reproduction through singing, dictation, and contextual listening of musical excerpts. Content is correlated with MUS 202. Required of music majors in the BM in Music Education, BM in Performance, and BM in Composition. Recommend taking concurrently with MUS 202. Prerequisite: MUS 251.

MUS 260. Functional Piano III. (1)

Early intermediate level group piano instruction for music majors preparing to meet piano proficiency requirement. Open to music majors only.

Prerequisite: MUS 161 or permission of instructor.

MUS 261. Functional Piano IV. (1)

Intermediate level group piano instruction for music majors preparing to meet piano proficiency requirement. Students will fulfill the piano proficiency requirement by passing the final examination. Open to music majors only.

Prerequisite: MUS 260 or permission of instructor.

MUS 262. Jazz Improvisation I. (1)

Study of the basic principles of instrumental improvisation in jazz, including developing a melodic idea in real time, chord notation, chord/scale relationships, and solo transcription.

Prerequisite: MUS 101 or 119.

MUS 275. Sophomore Practicum in Music Education. (1)

An examination of music education school curricula, pre-K through 12; musicianship for music educators; planning for instruction; observation and participation in public school music classes; career counseling.

Prerequisite: completion of MUS 175 or permission of instructor.

MUS 277. Independent Studies. (0-6)**MUS 285. Introduction to African American Music. (3)**

This course is an overview of the musical practices of African Americans and how this array of musical sounds, performance practices, and modes of dissemination correlate with the evolving consciousness of Blackness. Emphasis is placed on the evolution of Black folk practices into specific forms of popular music and classical (concert) music. IC, IIA. PA-3A, PA-4A.

Cross-listed with AMS 285.

MUS 287. Enter the Diva: Women in Music. (3)

American women in music from 1900 to present. Women have made considerable contributions to the various genres and traditions that define American music. From popular forms to concert music there are numerous women who have constructed a musical discourse that chronicles their experiences in America and their conceptions of womanhood. This course is designed to chronicle the experiences of these women musicians and vocalists and discuss their musical approaches. Discussions include traditional music practices as well as contemporary popular music styles. IC, IIA, IIB. PA-3A, PA-3B, PA-4B.

Prerequisite: MUS 135, 185 or 189, or permission of instructor.

Cross-listed with WGS.

MUS 301. Counterpoint. (3)

Writing of species counterpoint and its application to common practice harmony. Project compositions in the style and smaller forms of 18th century polyphony.

Prerequisite: MUS 201.

MUS 304. Electronic Music. (3)

This second-level electronic music class emphasizes composition as well as technical skills. Students further develop skills and knowledge covered in MUS/IMS 221, such as the use of Digital Audio Workstations such as Ableton Live and Reaper, more advanced areas of acoustics, and issues of production, mixing, and mastering. A broad range of styles are covered. Students are granted access to the Miami University Electronic Music Studios.

Prerequisite: MUS/IMS 221 or permission of instructor.

Cross-listed with IMS 304.

MUS 306. Electroacoustic Music. (3)

This second-level electronic music class emphasizes composition and technical skills, with a focus on Electroacoustic music, a term used to describe a broad range of modern classical electronic music. Students further develop skills and knowledge covered in MUS/IMS 221, such as the use of Digital Audio Workstations such as Ableton Live and Reaper, more advanced areas of acoustics, and issues of production, mixing, and mastering. There is a particular focus on synthesis, explored through the use of our analog modular synthesizer and a music programming language called Max/MSP. Students are granted access to the Miami University Electronic Music Studios.

Prerequisites: MUS/IMS 221 or permission of instructor.

Cross-listed with IMS 306.

MUS 308. Audio Recording Techniques. (3)

This course will teach students the steps required to successfully complete a multi-track recording and mixing project. Students will learn microphone techniques, the signal flow of the recording console and patch bay, signal level management, proper creation of headphone (cue) mixes, and other tasks necessary for basic multi-track recording projects.

Prerequisites: MUS/IMS 304 or MUS/IMS 306.

Cross-listed with IMS 308.

MUS 313. Writing About Small Screen Sounds. (3)

MUS 313 is an advanced writing course intended for music majors and non-music majors who are interested in how the intersection of sound and image in screen media has been historicized, conceptualized, theorized, and analyzed in writing. This course explores how musicology and related fields have recently used writing in the study of audiovisual texts of small screen genres from television dramas to YouTube. Students examine the communicative potential and cultural meanings of what we see and what we hear in screen media through multiple modes of writing. AW. PA-1C.

MUS 340. Internship. (0-20)**MUS 342A. Applied Music Voice- JR. (2)**

Study of advanced singing technique; increased emphasis on literature and performance. Repertoire requirement for 342A is five songs in three languages (memorized) each semester; for 344A is literature for the junior recital.

Prerequisite: two semesters of 242A or 244A and successful completion of junior-standing examination.

MUS 342B. Applied Music Piano- JR. (2)

Increasing presumption of student responsibility for mastering notational details and technical exercises. Emphasizes study of qualities of expressive depth and variety. May include preparation of junior and Thematic Sequence recitals.

MUS 342C. Applied Guitar- JR. (2)

Applied guitar is the study of the classical guitar, in which the student applies the study of technique and literature to music from all periods.

MUS 342D. Applied Music Flute- JR. (2)

Tone studies, orchestral studies (memorized). Etudes of Genzmer, Jean, Boehm. Participation in two class recitals or equivalent; J.S. Bach Sonatas, Hue Fantasie, Griffes Poem, Burton Sonatina, Copland Duo, Hindemith Acht Stucke, Ibert Piece, Martin Ballade, and works of comparable difficulty.

MUS 342E. Applied Music Clarinet- JR. (2)

Jeanjean Etudes, Cavallini 30 Caprices. Works by Spohr, Stravinsky, Debussy, Rossini, Bernstein, Poulenc, or equivalent. Orchestral excerpts. Transposition.

MUS 342F. Applied Music Saxophone- JR. (2)

Mule Etudes after Boehm, Tershak et Fursteneau; Lang Altissimo Etudes. Pieces by Maurice, Heiden, Bozza, Debussy, Noda, etc. Jazz style studies. Chamber music.

MUS 342G. Applied Music Oboe- JR. (2)

Continuation of technical studies. Reedmaking. Study of English horn. Grand Studies from Barret Oboe Method. Pieces: J.S. Bach Sonata in G Minor, BWV MUS 1020, Hummel Adagio, Theme and Variations, Saint-Saens Sonata, Mozart Concert.

MUS 342H. Applied Music Bassoon- JR. (2)

Piard Arpeggio Studies, Stadio Orchestral Studies, Orefici Melodic Studies, Saint-Saens Sonata, Etler Sonata or works of comparable difficulty including some study of contemporary music for bassoon.

MUS 342I. Applied Music Trumpet- JR. (2)

Continuation of embouchure development in Schlossberg, Daily Drills; study of etudes by Sasche, Paudert, Concone, Bordogni, Vannetelbosch, Arban, Hering, Clarke, and others; continued study of solo literature; introduction of orchestral trumpet parts.

MUS 342J. Applied Music French Horn- JR. (2)

Continuation of orchestral studies, problems in basic technique. Etudes by Gallay, Mueller, Maxime-Alphonse Book 5. Solo literature by Steven, Porter, Schumann, Dukas, Haydn, unaccompanied solo studies.

MUS 342K. Applied Music Trombone- JR. (2)

Blazhevich Studies in Clefs; Schroeder MUS 170 Foundation Studies for Cello Vol. I; Bach Cello Suites. Solos by Handel, Marcello, Bozza, Hindemith. Orchestral excerpts.

MUS 342L. Applied Music Euphonium- JR. (2)

Continuation of above studies. Example: Handel aria con Variazioni, Schlossberg Daily Drills and Technical Studies, Cimera Concerto, Ropartz Andante and Allegro.

MUS 342M. Applied Music Tuba- JR. (2)

Continuation of above studies. Transposition studies. Solo works of the difficulty of Lebedev Concerto for Tuba, Presser Concerto, Mozart Horn Concerto, Hogg Sonatina, Benicriscutto Concertino.

MUS 342N. Applied Music Percussion- JR. (2)

Advanced studies and development of recital repertory keyboard instruments: contemporary repertory including concertos and unaccompanied works by Stout, Abe, Stevens, and others. Snare Drum: advanced repertory for concert and rudimental styles, works by Benson, Colgrass, and others. Timpani: repertory from works by Beck, Hinger, Carter, and others.

MUS 342O. Applied Music Violin- JR. (2)

Violin studies. Baroque, classical, romantic, and contemporary concerti, sonatas, and solo pieces. Preparation of a half recital required of performance majors.

MUS 342P. Applied Music Viola- JR. (2)

Scales. Etudes: Kreutzer, Sevcik, op. 8, Campagnoli. Repertoire level: Bloch, Suite Habraique, Bach, Gamba Sonatas, Reger, Suites.

MUS 342R. Applied Music Cello- JR. (2)

Advanced studies. Sonatas, concerti, and solo pieces of the baroque, classical, romantic, and early 20th century repertoire. Orchestral studies. Chamber music studies.

MUS 342S. Applied Music String Bass- JR. (2)

Advanced studies. Sonatas, concerti, and solo pieces of baroque, classical, romantic, and early 20th century repertoire. Orchestral studies. Chamber music studies.

MUS 342T. Applied Music Harp- JR. (2)

Continuation of technical studies and etudes. Dussek Sonata in C Minor, Handel-Salzedo Harmonious Blacksmith, Debussy Danses Sacree et Profane. Preparation for junior recital.

MUS 344. Applied Music. (3-4)

You must audition to qualify for studio lessons in applied music. Study in applied music consists of one-hour private lessons, given weekly, and periodic studio classes.

MUS 344A. Applied Music Voice- JR. (3-4)

Study of advanced singing technique; increased emphasis on literature and performance. Repertoire requirement for 342A is five songs in three languages (memorized) each semester; for 344A is literature for the junior recital.

Prerequisite: two semesters of 242A or 244A and successful completion of junior-standing examination.

MUS 344B. Applied Music Piano- JR. (3-4)

Increasing presumption of student responsibility for mastering notational details and technical exercises. Emphasizes study of qualities of expressive depth and variety. May include preparation of junior and Thematic Sequence recitals.

MUS 344C. Applied Guitar- JR. (3)

Applied guitar is the study of the classical guitar, in which the student applies the study of technique and literature to music from all periods.

MUS 344D. Applied Music Flute- JR. (3-4)

Tone studies, orchestral studies (memorized). Etudes of Genzmer, Jean, Boehm. Participation in two class recitals or equivalent; J.S. Bach Sonatas, Hue Fantasie, Griffes Poem, Burton Sonatina, Copland Duo, Hindemith Acht Stucke, Ibert Piece, Martin Ballade, and works of comparable difficulty.

MUS 344E. Applied Music Clarinet- JR. (3-4)

Jeanjean Etudes, Cavallini 30 Caprices. Works by Spohr, Stravinsky, Debussy, Rossini, Bernstein, Poulenc, or equivalent. Orchestral excerpts. Transposition.

MUS 344F. Applied Music Saxophone- JR. (3-4)

Mule Etudes after Boehm, Tershak et Fursteneau; Lang Altissimo Etudes. Pieces by Maurice, Heiden, Bozza, Debussy, Noda, etc. Jazz style studies. Chamber music.

MUS 344G. Applied Music Oboe- JR. (3-4)

Continuation of technical studies. Reedmaking. Study of English horn. Grand Studies from Barret Oboe Method. Pieces: J.S. Bach Sonata in G Minor, BWV MUS 1020, Hummel Adagio, Theme and Variations, Saint-Saens Sonata, Mozart Concert.

MUS 344H. Applied Music Bassoon- JR. (3-4)

Piard Arpeggio Studies, Stadio Orchestral Studies, Orefici Melodic Studies, Saint-Saens Sonata, Etler Sonata or works of comparable difficulty including some study of contemporary music for bassoon.

MUS 344I. Applied Music Trumpet- JR. (3-4)

Continuation of embouchure development in Schlossberg, Daily Drills; study of etudes by Sasche, Paudert, Concone, Bordogni, Vannetelbosch, Arban, Hering, Clarke, and others; continued study of solo literature; introduction of orchestral trumpet parts.

MUS 344J. Applied Music French Horn- JR. (3-4)

Continuation of orchestral studies, problems in basic technique. Etudes by Gallay, Mueller, Maxime-Alphonse Book 5. Solo literature by Steven, Porter, Schumann, Dukas, Haydn, unaccompanied solo studies.

MUS 344K. Applied Music Trombone- JR. (3-4)

Blazhevich Studies in Clefs; Schroeder MUS 170 Foundation Studies for Cello Vol. I; Bach Cello Suites. Solos by Handel, Marcello, Bozza, Hindemith. Orchestral excerpts.

MUS 344L. Applied Music Euphonium- JR. (3-4)

Continuation of above studies. Example: Handel aria con Variazioni, Schlossberg Daily Drills and Technical Studies, Cimera Concerto, Ropartz Andante and Allegro.

MUS 344M. Applied Music Tuba- JR. (3-4)

Continuation of above studies. Transposition studies. Solo works of the difficulty of Lebedev Concerto for Tuba, Presser Concerto, Mozart Horn Concerto, Hogg Sonatina, Bencriscutto Concertino.

MUS 344N. Applied Music Percussion- JR. (3-4)

Advanced studies and development of recital repertory keyboard instruments: contemporary repertory including concertos and unaccompanied works by Stout, Abe, Stevens, and others. Snare Drum: advanced repertory for concert and rudimental styles, works by Benson, Colgrass, and others. Timpani: repertory from works by Beck, Hinger, Carter, and others.

MUS 344O. Applied Music Violin- JR. (3-4)

Violin studies. Baroque, classical, romantic, and contemporary concerti, sonatas, and solo pieces. Preparation of a half recital required of performance majors.

MUS 344P. Applied Music Viola- JR. (3-4)

Scales. Etudes: Kreutzer, Sevcik, op. 8, Campagnoli. Repertoire level: Bloch, Suite Habraique, Bach, Gamba Sonatas, Reger, Suites.

MUS 344R. Applied Music Cello-JR. (3-4)

Advanced studies. Sonatas, concerti, and solo pieces of the baroque, classical, romantic, and early 20th century repertoire. Orchestral studies. Chamber music studies.

MUS 344S. Applied Music String Bass- JR. (3-4)

Advanced studies. Sonatas, concerti, and solo pieces of baroque, classical, romantic, and early 20th century repertoire. Orchestral studies. Chamber music studies.

MUS 344T. Applied Music Harp- JR. (3-4)

Continuation of technical studies and etudes. Dussek Sonata in C Minor, Handel-Salzedo Harmonious Blacksmith, Debussy Danses Sacree et Profane. Preparation for junior recital.

MUS 344Z. Applied Music-Composition. (3)

Composers will work directly with Miami University composition faculty and student performers to realize their compositions. Lesson content will include review of works in progress, discussion of relevant repertoire and current compositional trends, and preparation for upcoming performance opportunities.

MUS 345. Elementary General Music for Instrumental Music Education Majors. (1)

Introduction to music teaching techniques appropriate for effective teaching of general music at early childhood and elementary levels.

MUS 352. Conducting I. (2)

Principles of baton technique, instrumental transpositions, study of musical factors involved in leading instrumental and choral ensembles, and score study.

Prerequisite: completion of all first- and second-year music courses.

MUS 354. Conducting II. (2)

Continuation and refinement of conducting technique, score study, and rehearsal technique, utilizing repertoire appropriate to secondary school ensembles.

Prerequisite: MUS 352.

MUS 355. General Music Teaching Techniques: Early Childhood and Elementary. (3)

Music teaching techniques appropriate for effective teaching of general music at early childhood, elementary, and middle school levels.

Prerequisite: completion of MUS 175, 275.

MUS 356. Secondary General Music Techniques. (2)

Music education techniques appropriate for effective teaching of secondary-level general music courses.

Prerequisite: MUS 175, 275.

MUS 357. Beginning Instrumental Methods. (3)

The teaching of beginning instrumental music, including bands and orchestras. Includes foundation/organization of beginning programs; literature selection; rehearsal techniques; goals, program objectives, student perception and performance; classroom management; clinical experience.

Prerequisite: completion of all instrumental music education degree work through the first four semesters, or permission from the instructor.

MUS 358. Marching Band Techniques. (2)

Techniques of marching band procedure, materials, problems, and administration.

MUS 359. Secondary Instrumental Methods. (3)

The teaching of secondary instrumental music, including bands and orchestras. Includes foundation/organization of intermediate and advanced programs; literature selection; rehearsal techniques; goals, program objectives, student perception and performance; arranging for chamber groups; classroom management; clinical experience.

Prerequisite: completion of all instrumental music education degree work through first five semesters, or permission of instructor.

MUS 361. Choral Literature. (1)

This course presents a survey of historic and new choral literature in the practical context of concert programming suitable for middle school and school levels.

Prerequisites: MUS 113, or permission of instructor.

MUS 370. Orchestration. (3)

An introduction to the technique of scoring for a variety of instruments and instrumental combinations. Students will learn instrument ranges and transpositions, timbre qualities, idiomatic writing, and arranging for ensembles of varying sizes. Involves analyses of works from various eras of instrumental music and exercises in scoring technique for individual instruments and ensembles. The role of extended techniques in contemporary practice will be highlighted. These techniques will be presented during class discussions and incorporated in written exercises.

Prerequisite: MUS 202 or with permission of instructor.

MUS 377. Independent Studies. (0-6)**MUS 381. Music for Games. (3)**

Music for Games (a) examines the theory and traditions of background or incidental music in various media, (b) discusses how to put theory into practice within game design, and (c) places new music into new games. Students create their own music for their own games or for games of colleagues. Unity is the preferred software platform.

Prerequisite: IMS 221.

Cross-listed with IMS.

MUS 385. The Roots of Black Music: Blues, Gospel and Soul. (3)

Development of these music genres in America. In-depth analysis of stylistic differences and musical and cultural relationships between each. IC. PA-4B.

Prerequisite: MUS/AMS 285 or permission of instructor.

MUS 386. The History and Development of Hip Hop Culture in America. (3)

Surveys development of the Hip Hop culture (rapping, graffiti art, breaking, DJing) from black vernacular forms in Africa and America. IC. PA-4B.

Prerequisite: MUS/AMS 285, MUS 385 or permission of instructor.

Cross-listed with AMS.

MUS 404/MUS 504. Wind Band Ensemble Literature. (3)

A survey of wind/band ensemble literature from the Middle Ages to the present, with particular emphasis on the accepted masterworks of the genre.

MUS 406. Advanced Analysis. (3)

Study of advanced analytical methods, including an introduction to Schenkerian analysis, hypermeter, melodic forces, and narrative. The relationship between analysis and performance is emphasized. SC.

Prerequisites: MUS 301 or MUS 202 and permission of instructor.

MUS 412/MUS 512. Reed Making for Bassoon and Oboe. (1; maximum 8)

Study of construction and design of the double reed.

Prerequisite: Applied Music in Oboe and/or Bassoon or permission of instructor; open to majors/minors only.

MUS 415/MUS 515. You Say You Want a Revolution: Rock and Roll and the Cultural Revolution of the 1960s. (3)

This course focuses on the cultural revolution of the 1960s through the prism of Rock and Roll. It looks at the earliest history of Rock and the musical and cultural forces that led to its development, from the black-oriented R&B style of the 1950s to the many manifestations of Rock culture in the 1960s. It investigates at Rock as a force of change in the prevailing cultural paradigm, embracing the elements of a cultural revolution. Through readings, films, interviews, demonstrations, class discussions and activities, and lots and lots of music, this course explores Rock in the 1960s as a cultural phenomenon and a vehicle for social change, placing in context the musical, political and social forces that shaped its evolution and revolution.

MUS 419/MUS 519. Supervised Teaching in Music. (12)

Planned and supervised learning experience in which students demonstrate the knowledge, skills, abilities, and values appropriate to the teaching of students in educational settings. Frequent conferences with university supervisors and cooperating teachers. Completion of junior level courses work in music and music education with a cumulative GPA of 2.5 or a GPA of 2.80 in all music courses counting only one ensemble per semester.

MUS 420/MUS 520. Vocal Coaching. (1; maximum 2)

Preparation of solo vocal repertoire.

Prerequisite: Permission of instructor.

MUS 425/MUS 525. Great American Songbook Project. (1; maximum 4)

This course will explore the music of 20th century America through performance its popular songs, examining performance techniques made famous by the artists that performed music of the Great American Songbook. "The Great American Songbook" is a loosely-defined term used to describe the repertoire of music written for the theater, cinema, vaudeville and Tin Pan Alley between the years 1914 and 1960. With the advent of mass media, these songs were popularized in various arrangements by the great artist of the twentieth-century and became known as standards. These songs have been at the forefront of our social consciousness, easing the pain of devastating war, challenging stereotypes and shaping our opinions about race religion, life and death, power and politic. This music has helped shape our American experience and is a significant part of our vast cultural inheritance.

Prerequisite: Audition required.

MUS 426/MUS 526. Opera Production. (1; maximum 4)

The opera workshop is a select ensemble/class for moderate to advanced singers. Topics include the musical, linguistic, and dramatic preparation and performance of roles and scenes from the operatic, operetta, and musical theater repertory. In addition, the student will learn about the history and literature of opera, as well as the opera industry (auditioning, young artist programs, etc.). There will be assignments related directly to your role as well as additional assignments.

Prerequisite: Audition Required.

MUS 430/MUS 530. Piano Pedagogy. (2)

Study of contemporary methodologies for teaching beginning, elementary, and early intermediate level piano students. Assignments and lectures include critical analysis of teaching materials; considerations for literature selection; the business aspect of operating an independent studio; the use of piano lab and technology in teaching group classes. Observations of individual lessons and group piano classes are required. Open to piano majors or by permission of instructor.

MUS 433. String Instrument Pedagogy. (1)

Fundamental problems involved in teaching string instruments. Critical analysis of teaching materials. Observation and practice in private teaching required of all string majors. Even-numbered Spring Semesters only.

Prerequisite: senior standing in applied music.

MUS 442. Applied Music. (1-2)

You must audition to qualify for studio lessons in applied music. Study in applied music consists of one-hour private lessons, given weekly, and periodic studio classes.

MUS 442A. Applied Music Voice- SR. (2)

Continuation of advanced singing technique. Repertoire requirement is literature for the senior recital.

Prerequisite: two semesters of 342A or 344A.

MUS 442B. Applied Music Piano- SR. (2)

Most challenging undergraduate course of piano study. Emphasizes quick memorization of repertoire, physical ease in performance, and while respecting the composers' wishes, development of maximum variety and spontaneity of expressive style. Preparation of the senior recital as well as further polishing technical exercises.

MUS 442D. Applied Music Flute- SR. (2)

Tone studies, orchestral studies (memorized). Participation in one class recital, presentation of senior recital. Bozza 14 Arabesques, Anderson Virtuoso Studies, Jolivet Chant du Linos, Nielson Concerto, Prokofiev Sonata, Dutilleux Sonatina, J.S. Bach Partita in A Minor, Messiaen Le Merle Noir, Ibert Concerto, Schubert Introduction and Variations, and works of comparable difficulty.

MUS 442E. Applied Music Clarinet- SR. (2)

Applied Music Emphasis on repertoire. Works by Copland, Berg, Verdi, Manevich, Francaix, Nielsen, or equivalent. Contemporary techniques. Orchestral excerpts. Clarinet with electronics. Senior recital.

MUS 442F. Applied Music Saxophone- JR. (2)

Etudes by Lacour and Bozza. Pieces by Desenclos, Dubois, Bonneau, etc. Contemporary saxophone techniques. Chamber music. Orchestral excerpts. Preparation of senior recital.

MUS 442G. Applied Music Oboe- SR. (2)

Orchestral studies. Study of baroque ornamentation. Study of Oboe d'amore. Oboe pedagogy. Ferling 48 Famous Studies. Pieces: Schumann Romances, Poulenc Sonata, Dutilleux Sonata, Mozart Oboe Quartet, Strauss Concerto. Selected contemporary works. Preparation of recital program.

MUS 442H. Applied Music Bassoon- SR. (2)

Coverage of important orchestral literature and teaching materials, studies by Bozza, Bitsch, and Bianchi, Mozart and Weber Concerti, or works of comparable difficulty. Chamber music literature. Preparation of senior recital.

MUS 442I. Applied Music Trumpet- SR. (2)

Study of more advanced etudes including Charlier, 36 Etudes transcendentales; Brandt, Etudes for the Orchestral Trumpeter, Part II; and others. Solo literature by Barat, Bozza, Handel, Haydn, Hummel, Hindemith, Kennan, Latham, Riisager, Torelli, and others. Study of orchestral trumpet parts. Preparation of senior recital.

MUS 442J. Applied Music French Horn- SR. (2)

Further orchestral studies. Advanced etudes: Maxime-Alphonse Book 6, Reynolds 48 Etudes, Barboteu. Solo literature: Jacob, Strauss, Bozza, Reynolds, Gliere. Preparation of senior recital.

MUS 442K. Applied Music Trombone- SR. (2)

Couillaud 30 Modern Etudes; Bitsch 15 Rhythmical Etudes; Bach Cello Suites. Solos by Milhaud, Serocki, Tomasi, Creston. Orchestral excerpts. Preparation of senior recital.

MUS 442L. Applied Music Euphonium- SR. (2)

Preparation of recital. Solo works of the difficulty of Busser Variations in D Flat Major, Tuthill Concerto, Hindemith Sonata for Trombone, Corelli Sonata in D Minor.

MUS 442M. Applied Music Tuba- SR. (2)

Preparation of recital. Solo works of the difficulty of Persichetti Serenade No. 12, Vaughan Williams Concerto for Tuba, Vivaldi Concerto in A Minor, Wilder Sonata, orchestral excerpts. Preparation of senior recital.

MUS 442N. Applied Music Percussion- SR. (2)

Afro-Indo-Latin percussion methods: from books by Morales, Sabanovich, and Reed. Drum set: from books by Chapin, Reed, Latham, Soph, and Erskine. Orchestral excerpts. Repertoire for senior recital.

MUS 442O. Applied Music Violin- SR. (1-2)

Advanced technical studies. Preparation of senior recital including composition of all major styles.

MUS 442P. Applied Music Scales Viola- SR. (1-2)

Etudes: Rode, Kreutzer. Repertoire level: Weber, Andante and Rondo Ungarese, Hindemith, Der Schwanendreher, Bartok, Concerto, Walton, Concerto, Brahms, Sonatas, Schubert, 'Arpeggione' Sonata.

MUS 442R. Applied Music Cello- SR. (1-2)

Advanced studies. Compositions of all major periods. Contemporary performance practices. Orchestral and chamber music studies.

MUS 442S. Applied Music String Bass- SR. (1-2)

Advanced studies. Compositions of all major periods. Contemporary performance practices. Orchestral and chamber music studies.

MUS 442T. Applied Music Harp- SR. (2)

Etudes and technical studies. Mozart Concerto in C Major for Flute and Harp, Ravel Introduction and Allegro. Solos such as Pescetti Sonata in C Minor, Salzedo Whirlwind and Scintillation.

MUS 444. Applied Music. (3-4)

You must audition to qualify for studio lessons in applied music. Study in applied music consists of one-hour private lessons, given weekly, and periodic studio classes.

MUS 444A. Applied Music Voice- SR. (3-4)

Continuation of advanced singing technique. Repertoire requirement is literature for the senior recital.

Prerequisite: two semesters of 342A or 344A.

MUS 444B. Applied Music Piano- SR. (3-4)

Most challenging undergraduate course of piano study. Emphasizes quick memorization of repertoire, physical ease in performance, and while respecting the composers' wishes, development of maximum variety and spontaneity of expressive style. Preparation of the senior recital as well as further polishing technical exercises.

MUS 444C. Applied Guitar- SR. (3)

Applied guitar is the study of the classical guitar, in which the student applies the study of technique and literature to music from all periods.

MUS 444D. Applied Music Flute- SR. (3-4)

Tone studies, orchestral studies (memorized). Participation in one class recital, presentation of senior recital. Bozza 14 Arabesques, Anderson Virtuoso Studies, Jolivet Chant du Linos, Nielson Concerto, Prokofieff Sonata, Dutilleux Sonatina, J.S. Bach Partita in A Minor, Messiaen Le Merle Noir, Ibert Concerto, Schubert Introduction and Variations, and works of comparable difficulty.

MUS 444E. Applied Music Clarinet- SR. (3-4)

Emphasis on repertoire. Works by Copland, Berg, Verdi, Manevich, Francaix, Nielsen, or equivalent. Contemporary techniques. Orchestral excerpts. Clarinet with electronics. Senior recital.

MUS 444F. Applied Music Saxophone- SR. (3-4)

Etudes by Lacour and Bozza. Pieces by Desenclos, Dubois, Bonneau, etc. Contemporary saxophone techniques. Chamber music. Orchestral excerpts. Preparation of senior recital.

MUS 444G. Applied Music Oboe- SR. (3-4)

Orchestral studies. Study of baroque ornamentation. Study of Oboe d'amore. Oboe pedagogy. Ferling 48 Famous Studies. Pieces: Schumann Romances, Poulenc Sonata, Dutilleux Sonata, Mozart Oboe Quartet, Strauss Concerto. Selected contemporary works. Preparation of recital program.

MUS 444H. Applied Music Bassoon- SR. (3-4)

Coverage of important orchestral literature and teaching materials, studies by Bozza, Bitsch, and Bianchi, Mozart and Weber Concerti, or works of comparable difficulty. Chamber music literature. Preparation of senior recital.

MUS 444I. Applied Music Trumpet- SR. (3-4)

Study of more advanced etudes including Charlier, 36 Etudes transcendentales; Brandt, Etudes for the Orchestral Trumpeter, Part II; and others. Solo literature by Barat, Bozza, Handel, Haydn, Hummel, Hindemith, Kennan, Latham, Riisager, Torelli, and others. Study of orchestral trumpet parts. Preparation of senior recital.

MUS 444J. Applied Music French Horn- SR. (3-4)

Further orchestral studies. Advanced etudes: Maxime-Alphonse Book 6, Reynolds 48 Etudes, Barboteu. Solo literature: Jacob, Strauss, Bozza, Reynolds, Gliere. Preparation of senior recital.

MUS 444K. Applied Music Trombone- SR. (3-4)

Couillaud 30 Modern Etudes; Bitsch 15 Rhythmical Etudes; Bach Cello Suites. Solos by Milhaud, Serocki, Tomasi, Creston. Orchestral excerpts. Preparation of senior recital.

MUS 444L. Applied Music Euphonium- SR. (3-4)

Preparation of recital. Solo works of the difficulty of Busser Variations in D Flat Major, Tuthill Concerto, Hindemith Sonata for Trombone, Corelli Sonata in D Minor.

MUS 444M. Applied Music Tuba- SR. (3-4)

Preparation of recital. Solo works of the difficulty of Persichetti Serenade No. 12, Vaughan Williams Concerto for Tuba, Vivaldi Concerto in A Minor, Wilder Sonata, orchestral excerpts. Preparation of senior recital.

MUS 444N. Applied Music Percussion- SR. (3-4)

Afro-Indo-Latin percussion methods: from books by Morales, Sabanovich, and Reed. Drum set: from books by Chapin, Reed, Latham, Soph, and Erskine. Orchestral excerpts. Repertoire for senior recital.

MUS 444O. Applied Music Violin- SR. (3-4)

Advanced technical studies. Preparation of senior recital including composition of all major styles.

MUS 444P. Applied Music Scales Viola- SR. (3-4)

Etudes: Rode, Kreutzer. Repertoire level: Weber, Andante and Rondo Ungarese, Hindemith, Der Schwanendreher, Bartok, Concerto, Walton, Concerto, Brahms, Sonatas, Schubert, 'Arpeggione' Sonata.

MUS 444R. Applied Music Cello- SR. (3-4)

Advanced studies. Compositions of all major periods. Contemporary performance practices. Orchestral and chamber music studies.

MUS 444S. Applied Music String Bass- SR. (3-4)

Advanced studies. Compositions of all major periods. Contemporary performance practices. Orchestral and chamber music studies.

MUS 444T. Applied Music Harp- SR. (3-4)

Etudes and technical studies. Mozart Concerto in C Major for Flute and Harp, Ravel Introduction and Allegro. Solos such as Pescetti Sonata in C Minor, Salzedo Whirlwind and Scintillation.

MUS 444Z. Applied Music-Composition. (3)

Composers will work directly with Miami University composition faculty and student performers to realize their compositions. Lesson content will include review of works in progress, discussion of relevant repertoire and current compositional trends, and preparation for upcoming performance opportunities.

MUS 451/MUS 551. Advanced Aural Skills I. (1)

Required of all music performance majors. Continuation of MUS 251-252, with addition of atonal and jazz idioms. Prerequisite: MUS 251-252.

MUS 452/MUS 552. Advanced Aural Skills II. (1)

Required of all music performance majors. Continuation of MUS 251-252, with addition of atonal and jazz idioms. Prerequisite: MUS 251-252.

MUS 456/MUS 556. Vocal Pedagogy. (2)

Structure and function of the singing voice. Techniques for teaching voice. Overview of solo vocal materials for young singers. Prerequisite: MUS 235; two semesters of class or applied voice.

MUS 457/MUS 557. Piano Literature. (3)

This course will examine significant works of the piano literature written during the 17th to 19th centuries. Students will learn fundamental structures and key features of notable works, important compositional styles and approaches, and trends in the history of keyboard music and its influence on composers and their repertory.

MUS 458/MUS 558. Piano Literature. (3)

This course will examine significant works of piano literature written from the 19th century to present day. Students will learn fundamental structures and key features of notable works, important compositional styles and approaches, and trends in the history of keyboard music and its influence on composers and their repertory.

MUS 475. Senior Practicum in Music Education. (3)

Assessment, synthesis, critical analysis, and evaluation of undergraduate experiences relative to the following areas of music education: philosophy, ethics, and standards of the profession. SC. Prerequisite: completion of all third-year courses in music education degree program or permission of instructor.

MUS 477. Independent Studies. (0-6)**MUS 490/MUS 590. Special Topics in Music. (1-4; maximum 12)**

Focused study of topics relating to music history, music education, music literature, or music theory, including the study of genres, pedagogy, the history of styles, and the analysis of music. May be repeated for credit when content changes.

MUS 494. Senior Recital. (0)

Performance of senior degree recital.

MUS 501. Advanced Studies in Music Theory. (3)

Topics-oriented course in music theory. For the advanced undergraduate with a strong background in music theory or as an elective for the music graduate student. May be repeated providing the repetition covers a different subject area. Sample topics: History of Theory, Theory Pedagogy, 16th Century Vocal Counterpoint, Larger Contrapuntal Forms of the 18th Century. Prerequisite: MUS 252, 302.

MUS 610. Special Project. (1-12; maximum 12)

Conference course offering opportunity for work in specialized areas. Course may be repeated for credit.

MUS 620. Graduate Accompanying. (1; maximum 4)

This is a course for graduate piano students. The focus is on developing and improving skills in the art of accompanying. This includes sightreading, score reading, knowledge of style and musical language, communication, and collaboration with others.

MUS 621. Inquiries in Music Research. (3)

Inquiries in Music Research is a core course required of all entering graduate students in the Department of Music at Miami University, taken in the first semester of study. Its goal is to introduce students to primary databases and source types for the study of music, acquaint students with techniques of research across subdisciplines of music, and assist students with the development of both informal and formal writing skills necessary to advance professional goals unique to a student's trajectory of study.

MUS 622. Teaching Elementary Music: Theory and Practice. (3)

This course examines the nature of elementary general music (preK-6) with emphasis on curricular issues/approaches, child development, and learning theories as they affect teaching strategies and materials. The development of children's musicianship, creativity, and thinking skills.

MUS 623. Integrating Multiculturalism into Music Curriculum. (3)

Examines issues, approaches, and applications of teaching PreK-12th grade music classrooms utilizing music of diverse cultures. Emphasis on instructional models and hands-on experiences with selected world cultures (West African, Latin American, American Indian, Indonesian) will provide limited depth rather than breadth. Prerequisite: bachelor's degree in music education.

MUS 627. Recent Developments in Music Education. (3)

Intensive study of the scope and sequence of curricular offerings in music and impact on pedagogy in music classrooms. Survey of technology, music of other cultures, current issues in music education, and administrative aspects of school music programs.

MUS 628. Research Problems in Music Education. (3)

Research techniques applied to selected problems in vocal and instrumental teaching and supervision. Survey of research literature and procedures, use of library resources, and interpretation of results.

MUS 630. Advanced Ensemble. (0-2; maximum 8)

Participation in choral, orchestral, or chamber music groups, with emphasis on techniques of coaching. May be repeated for credit; maximum of 8 hours towards degree.

Prerequisite: bachelor's degree in music or equivalent and permission of instructor.

MUS 630A. Collegiate Chorale. (1-2)

Participation in choral, orchestra, or chamber music groups, with emphasis on techniques of coaching. May be repeated for credit, maximum of 8 hours towards degree.

Prerequisite: bachelor's degree in music or equivalent and permission of instructor.

MUS 630B. Men's Glee Club. (1-2)

Membership: 75. May be repeated for credit.

MUS 630C. Symphony Orchestra. (1-2)

Open to all students by audition only. Membership: 80 string, wind, and percussion players. Study and performance of main symphonic literature. May be repeated for credit.

MUS 630D. Choraliers. (1-2)

Women's chorus. Membership: 80. May be repeated for credit.

MUS 630E. Marching Band. (1-2)

Membership: 200 wind and percussion players. May be repeated for credit.

MUS 630F. Symphonic Band. (1-2)

Membership: 72 wind and percussion players. May be repeated for credit.

MUS 630G. Wind Ensemble. (1-2)

Membership: 55 wind and percussion players. May be repeated for credit.

MUS 630H. Chamber Music Brass. (1)

Participation in the performance of brass chamber music with such groups as French horn quartet, trumpet trio and quartet, brass quintet, trombone quartet. May be repeated for credit.

MUS 630I. Chamber Music Strings. (1)

Study and performance of major chamber works for string quartets, string trios and string quartets, and compositions for strings with piano and other instruments. May be repeated for credit.

MUS 630J. Chamber Music Piano. (1)

Open to all students by audition only. Contemporary jazz ensemble literature is covered in this performance group. Two sections are available: advanced and intermediate. May be repeated for credit.

MUS 630M. Miami University Percussion Ensemble. (1)

Open to all with necessary proficiency. Admittance determined by audition or instructor recommendation. Study and performance of literature for varied combinations of percussion instruments. Literature ranges from percussion ensemble classics to pop arrangements. May be repeated for credit.

MUS 630N. Steel Band. (1-2)

Open to all students by audition only. Two sections are available: advanced and beginner. Advanced ensemble focuses on performance of steel band literature; beginner ensemble is for students with little or no experience playing steel drum instruments. May be repeated for credit.

MUS 630Q. Chamber Singers. (1-2)

Chamber choir; 20-25 mixed voices. Auditions open to all students. May be repeated for credit.

MUS 630R. Chamber Winds. (1)**MUS 631. Scholarly Thresholds for Emerging Performers. (3)**

STEP is a core course required of all graduate students in the Department of Music at Miami University, usually taken in the fourth semester of study. Students will explore professional career pathways, submit their Signature Blueprint portfolios for review, and present their Threshold Performance to the public. Prerequisite: MUS 690 or permission of instructor.

MUS 640. Internship. (0-12; maximum 6)**MUS 642. Applied Music. (1-2)**

Individual instruction for graduate students in music in the major performing medium. May be repeated for credit. Prerequisite: approval of graduate music faculty.

MUS 644. Applied Music. (3; maximum 12)

Required of all applied music majors at the graduate level. Course may be repeated for credit.

MUS 661. Graduate Analysis. (3)

Investigation of music literature from analytic view. Pieces from 18th through 20th centuries studied with respect to structure and compositional technique. Prerequisite: successful completion of Music Theory Diagnostic Examination or permission of instructor.

MUS 677. Independent Studies. (0-6)**MUS 682. Repertory. (2; maximum 4)**

Preparation of extensive and balanced repertory of compositions. Piano majors should not enroll in MUS 682 (see MUS 557 and MUS 558). Prerequisite: Permission of instructor.

MUS 684. Repertory. (4)

Same as MUS 682.

MUS 690. Graduate Recital. (1-2)

Public performance of a solo recital of professional caliber. Required of all applied music majors at the graduate level. Prerequisite: approval of graduate music faculty.

Naval Science (NSC)

NSC 101. Introduction to Naval Science. (2)

Introduction to the naval profession and concepts of seapower. Emphasis on mission, organization, and warfare components of the Navy and Marine Corps. Covers naval courtesy and customs, military justice, and leadership. Note: Mandatory for incoming NROTC freshmen (except MECEP & STA-21). NROTC students that have satisfactorily completed at least three years of Naval Science course work in the NJROTC or MCJROTC may request exemption from NSC 101. Normally offered only in the fall semester.

NSC 110. Naval Science Laboratory. (1; maximum 2)

Provides orientation to the naval service and NROTC program from the perspective of a member of a structured battalion organization. Includes close order drill and guest speakers with discussion on various Navy-oriented topics. For midshipmen pursuing a commission in the naval service. Mandatory for NROTC students in their freshman year.

Prerequisite: admission to the NROTC program.

NSC 125. Marine Corps Intro to Tactical Leadership. (1; maximum 2)

Trains and educates first-year students on the basics of small unit leadership. There is no expectation of military or Reserve Officer Training Corps experience. During the conduct of this course you will be trained on officership foundations of military service, to include: Marine Corps history, physical fitness, uniform wear, land navigation, and small unit tactics. You will be evaluated based on academic performance and practical application.

Co-requisite: NSC 110.

NSC 177. Independent Studies. (0-6)**NSC 202. Sea Power and Maritime Affairs Seminar. (3)**

Investigates history, needs, and characteristics of seapower and its effect on the maritime affairs of our nation and the rest of the world. Fulfills requirements for NSC 1 and NSC 2 thematic sequences. Interested students not affiliated with the NROTC unit should contact the NSC 202 instructor as early as possible. Note: Normally offered only in the spring semester.

NSC 210. Naval Science Laboratory. (1; maximum 2)

Provides fundamental training and experience in management and leadership techniques. Provides instruction on close order drill and naval officer career areas and responsibilities. For midshipmen pursuing a commission in the naval service. Mandatory for NROTC students in their sophomore year.

Prerequisite: Admission to the NROTC program.

NSC 211. Leadership and Management. (3)

Introduction to the principles of leadership and management, with an emphasis on their application by a commissioned officer in the U.S. Navy or Marine Corps. Note: Limited seating for non-NROTC students. Normally offered only in the fall semester.

Prerequisite: Sophomore standing or greater.

NSC 225. Marine Corps Tactical Leadership I. (1; maximum 2)

Trains and educates second-year students on the basics of small unit leadership. There is no requirement for military or Reserve Officer Training Corps experience, however, familiarization of concepts from NSC 125 is recommended. During the conduct of this course you will learn the basics of the tactical planning process, patrolling operations, and land navigation. You will be evaluated based on academic performance and practical application of concepts from this course and NSC 125.

Co-requisite: NSC 210.

NSC 277. Independent Studies. (0-6)**NSC 301. Navigation. (3)**

Introduction to the art and science of navigation. Includes lectures and practical work on piloting, dead reckoning, electronic navigation, piloting procedures, associated equipment and publications, and knowledge of environmental factors affecting operations at sea. Note: Normally offered only in the spring semester.

NSC 302. Naval Operations and Seamanship. (3)

Naval Operations and Seamanship is an advanced naval science course which builds on NSC 301. The course material includes underway watchstanding, ship-handling, naval force composition, operations, and strategy. NSC 302 contains elements from the following Professional Core Competencies: Naval Orientation and Officership, Leadership and Ethics, Sea power and Naval History, Technical Foundations, and Naval Warfare. Note: Normally offered only in the fall semester.

Prerequisite: NSC 301.

NSC 303. Naval Ship Systems I. (3)

Study of theory and operation of steam turbine, gas turbine, diesel, and nuclear propulsion systems in the framework of engineering thermodynamics. Introduction to flotation and stability theory, ship compartmentation, interior communication, and damage control in modern naval ships. Note: Normally offered only in the spring semester.

NSC 310. Naval Science Laboratory. (1; maximum 2)

Provides intermediate level management training and leadership experience through practical application of management techniques. For midshipmen pursuing a commission in the naval service.

Mandatory for NROTC students in their junior year.

Prerequisite: Admission to the NROTC program.

NSC 311. Evolution of Warfare. (3)

Historical developments of the principles of war, strands of war, and variables of war from 500 B.C. to the present. This is not a dedicated history class however, the use of battlefield and historical studies is integral to understanding how warfare has developed throughout time. Note: Normally offered only in the fall semester of odd numbered years.

NSC 325. Marine Corps Tactical Leadership II. (1; maximum 2)

Trains and educates third-year students on the basics of small unit leadership. There is no requirement for military or Reserve Officer Training Corps experience, however, familiarization of concepts from NSC 125 and NSC 225 is highly recommended. During the conduct of this course, you will learn the basics of moral reasoning, fire support planning, operational terms and graphics, and fitness reports. You will be evaluated based on academic performance and practical application of concepts from this course, NSC 125, and NSC 225. Co-requisite: NSC 310.

NSC 377. Independent Studies. (0-6)**NSC 402. Leadership and Ethics. (3)**

This course focuses on ethical theory, Naval Law, and morality in warfare in order to provide future naval leaders with a sound moral leadership foundation for "real life" military decision making. Note: This course is normally offered in the spring semester. SC.

Prerequisite: Senior standing and prior completion of NSC 211.

NSC 403. Naval Ship Systems II. (3)

Investigation and evaluation of principles of weapons, mechanical and electronic systems used in delivery of ordinance, methods of fire control, and missile guidance theory. Note: Normally offered only in the fall semester.

NSC 410. Naval Science Laboratory. (1; maximum 2)

Provides upper level management training and leadership experience through practical application of management techniques. For midshipmen pursuing a commission in the naval service. Mandatory for NROTC students in their senior year and beyond. EL.

Prerequisite: Admission to the NROTC program.

NSC 411. Fundamentals of Maneuver Warfare. (3)

Prepares future military officers and other leaders for service by studying modern tactical principles, current military developments, and other aspects of warfare and their interactions with and influences on maneuver warfare doctrine. Specific focus on the United States Marine Corps as the premier maneuver warfighting organization. Study also includes historical influences on tactical, operational, and strategic levels of maneuver warfare practices in the current and future operating environments. Note: Normally offered only in the fall semester of even numbered years.

NSC 425. Marine Corps Tactical Leadership III. (1; maximum 2)

Concluding course trains and educates prospective military officers in the high standards of leadership and development required for commissioned service. During the conduct of this course, you will be challenged to practice and hone your leadership technique. You will be evaluated on your leadership skills as you are presented with a series of challenging scenarios related to small unit tactical operations and critical thinking. You will be evaluated based on academic performance and practical application of concepts from NSC 125, NSC 225, and NSC 325.

Co-requisite: NSC 410.

NSC 477. Independent Studies. (0-6)

Nonprofit and Community Studies (NCS)

NCS 177. Independent Studies. (0-6)**NCS 201. Theories of Civic Leadership and Democracy. (3)**

Critical introduction to the study of community, democracy, and civic leadership. Draws widely from several scholarly fields (including political science, philosophy, economics, international development and civic engagement), placing particular emphasis on the various ways that scholars and practitioners conceptualize "community" and "democracy" and the ways that theories of democratic citizenship can inform the actions and practices of individuals, leaders, and groups within communities.

NCS 202. Introduction to Nonprofits and NGOs. (3)

Overview of the history, organization, and functions of nonprofits and NGOs, one of the largest sectors of the United State workforce. Visiting professionals from community agencies provide local connections and context, and service-learning experience allows students to engage and learn in additional environments.

NCS 270. Special Topics in Community Studies. (1-6; maximum 9)

An examination of a contemporary problem/issue in community studies through some combination of research, readings, discussion, and experiential learning. Topics will vary according to need and interest. This class may be repeated for credit provided different topics are studied.

NCS 277. Independent Studies. (0-6)**NCS 301. Community-Based Practicum I. (3)**

Placement with an appropriate community or government agency where students apply their skills and learn new ones. Preparatory classroom component, regular reflection assignments, and community project required.

Prerequisite: NCS 202.

NCS 302. Community-Based Practicum II. (3)

Placement with an appropriate community or government agency where students apply their skills and learn new ones. Preparatory classroom component, regular reflection assignments, and community project required.
Prerequisite: NCS 301.

NCS 340. Internship. (0-20)**NCS 377. Independent Studies. (0-6)****NCS 401. Capstone in Nonprofit and Community Studies. (3)**

Focuses on the production of a senior project in collaboration with an appropriate community partner. As part of the Miami Plan, it emphasizes sharing of ideas, synthesis, and critical, informed action and reflection, and includes student initiative in defining and investigating problems or projects. Culminates in a public presentation for community and university members. SC.
Prerequisite: 96 hours registered or earned (senior standing).

NCS 477. Independent Studies. (0-6)

Nursing (NSG)

NSG 111. Introduction to Miami Nursing. (1)

This 1-credit course will serve to support first year nursing students during their transition into their program of study. Content introduced will orient students to the nursing profession, Miami requirements and will review available resources and opportunities in the nursing program. It will also provide an introduction to stress reduction techniques and cognitive-behavioral skills to help students succeed during their course of study at Miami University.
Prerequisite: Acceptance into Miami Nursing Program.

NSG 177. Independent Studies. (0-6)**NSG 251. Therapeutic Communication in Nursing. (2-3)**

Examines and develops skills in communication that the nurse uses in working with clients across the lifespan and with other health care professionals. Consideration is given to factors affecting the nurse-client relationship, including self-awareness and cultural awareness. Theory and evidence are examined as foundations for therapeutic communication in nursing practice (BSN program).
Prerequisite: sophomore standing as a baccalaureate nursing student.

NSG 252. Foundations of Professional Nursing. (3)

Introduces the student to the role of the nurse as a partner in health promotion with others within the health care system. Nursing is studied in light of its historical roots, educational trends, professional/political power, theory and research, and the profession's role in the changing health care delivery system. Major theories, concepts, trends, and issues that impact the nursing profession today are addressed. Applications of theories regarding socialization into the professional role are emphasized. (BSN program)

NSG 261. Health and Physical Assessment Theory. (3)

Designed to develop transcultural health assessment skills across the life span. Content and practice focuses on developing cognitive and psychomotor skills associated with obtaining a complete data base through history taking and physical assessments. Students will identify assessment findings that fall outside accepted parameters of normal for pediatric, adult, geriatric and pregnant populations (BSN program).

Prerequisite: BIO 171.

Co-requisite: NSG 261L.

NSG 261L. Health and Physical Assessment Lab. (1)

Designed to develop transcultural health assessment skills across the life span. Content and practice focuses on developing cognitive and psychomotor skills associated with obtaining a complete data base through history taking and physical assessments. Students will identify assessment findings that fall outside accepted parameters of normal for pediatric, adult, geriatric and pregnant populations. Lab. (BSN program).

Prerequisite: BIO 171.

Co-requisite: NSG 261.

NSG 262. Fundamentals of Professional Nursing Practice. (3)

Develops skills in nursing therapeutics and evidence based practice to promote holistic health. Through use of critical thinking skills, students will apply psychomotor skills and nursing therapeutic interventions. Theory.

Prerequisites: NSG 261 and NSG 261L.

Co-requisite: NSG 262L.

NSG 262L. Fundamentals of Professional Nursing Practice--Lab. (1)

Develops skills in nursing therapeutics and evidence based practice to promote holistic health. Through use of critical thinking skills, students will apply psychomotor skills and nursing therapeutic interventions. Lab.

Prerequisite: NSG 261 and NSG 261L.

Co-requisite: NSG 262.

NSG 263. Community Health Nursing. (3)

This course provides theoretical background in community health nursing. The course is based on the synthesis of nursing theory and the public health sciences. Emphasis is on the promotion, preservation, and maintenance of the health of populations. This course focuses on the professional role of the community/public health nurse working with aggregates, vulnerable populations, populations with health problems, community partners, and health officials to promote a healthier community. The student will use skills in community health assessment, program planning as well as interventions to help identified populations attain and maintain their optimum level of health. This course provides a foundation for designing nursing strategies for individuals, families, and population by integrating health-promotion and disease prevention concepts. (BSN program)

NSG 265. Fundamentals of Professional Nursing Practice--Clinical. (1)

Develops skills in nursing therapeutics and evidence based practice to promote holistic health. Through use of critical thinking skills, students will apply psychomotor skills and nursing therapeutic interventions. Lab.

Prerequisites or Co-requisites: NSG 262, NSG 262L.

NSG 277. Independent Studies. (0-6)**NSG 301. Theory-Based Nursing Practice. (3)**

Students are introduced to major theories, concepts, trends, and social policy issues that impact the nursing profession today as well as influence its future. Role socialization, application, and integration of theoretical concepts into the RN professional role are emphasized. The profession's historical roots, education trends, and role evolution, theory and research focus, health and social policy power issues are examined in light of the nation's changing health care delivery system. NSG 301 is specifically designed for the Miami University Advanced Writing requirement, with assignments speaking to various types of writing used by nurses (Elective for BSN), ADVW. PA-1C. Prerequisite: Miami Plan Foundation I English.

NSG 302. Intermediate Clinical Nursing Practicum. (3)

This course provides students with a concentrated clinical experience at a local health care facility that will focus on improving their skills to plan, implement, and evaluate the nursing care they provide. Students care for a group of clients over consecutive days and have a nurse mentor thus fostering collegial and interdisciplinary relationships. The faculty member will evaluate the student more in-depth in the application of knowledge, selection of priorities and consistency of care. (Elective for BSN). Prerequisite: NSG 261 and 262.

NSG 306. Healthcare Delivery in Central America: Belize. (3-6)

This Miami University Workshop (3 to 6 credit hours) will enable students interested in nursing and other health professions to work besides physicians and health care workers in Belize caring for residents in a local clinic. The students will participate in village triage; assess communities and issues that affect health in the Central American country of Belize. Students will practice the Spanish language with the assistance of interpreters. Residents identified that need medical assistance and education will be seen in a neighborhood clinic. Students will participate in caring for those individuals at various levels based on prior experiences and knowledge. Students will also experience the culture and people of Belize along with the beautiful scenery with the rich cultural tours planned. This is an experiential opportunity that will fulfill the Miami Plan Global Citizenship: Global Inquiry and Experiential Learning requirements and the required nursing major elective. EL, IC.

NSG 311. Health Promotion Across the Lifespan. (3)

Helps baccalaureate nursing students shift their focus from illness-oriented care to wellness and health promotion. Students are introduced to content about assessment for wellness and intervention for health promotion throughout the life span. Open to all majors. (Elective for BSN)

NSG 321. U. S. Health Care System and Culture. (3)

This course is designed to provide the student with an overview regarding factors that influence health care systems in the United States. A seminar/discussion format will be used to help students examine the culture of health care, various health care delivery systems, as well as roles of providers of care and key stakeholders. Students will also explore select contemporary and legal/ethical issues that arise in the evolving health care system. Open to all majors (Elective for BSN). Prerequisite: junior standing.

NSG 325. Problem-Based Approaches in Nursing. (1)

The course uses problem-based approaches to foster critical thinking skills for the provision of safe, effective nursing care. It incorporates strategies to analyze complex nursing applications. Prerequisites: NSG 251 and NSG 252 or permission of the Instructor.

NSG 331. Introduction to Nursing Research. (3)

Provides foundation for systematic study of nursing and health related problems using research process. Emphasis is placed on critiquing published studies, understanding the research process, using evidenced based literature and developing skills in research utilization in the practice setting. (RN-BSN program)

NSG 340. Internship. (0-20)**NSG 341. Caring and Terminal Illness. (3)**

Elective course that explores concepts of professional nursing care in relation to terminal illness. Foci include symptom control, family support, attitudes toward death and dying, and concept of biomedical ethics. (BSN and RN-BSN program)

NSG 349. Introduction to Principles of Pharmacology in Nursing Practice. (3)

Introduces the student to the nursing application of basic pharmacology throughout the lifespan. Emphasis is placed on the application of pharmacological knowledge through clinical decision making in nursing practice. (BSN program) Prerequisites: NSG 251, NSG 252, and NSG 261.

NSG 351. Nursing of Childbearing Family. (3)

Examines theory and evidence based practice as the basis for planning care for the childbearing family. Emphasis is placed on health promotion integration for families in transition, acknowledging physiological, sociocultural, political and economic forces within the health care system. (BSN program) Prerequisite: junior standing as a baccalaureate nursing student. Co-requisite: NSG 352.

NSG 352. Childbearing Family Clinical. (2)

Addresses the nursing role as provider of care for childbearing families. Theoretical principles and evidence based practice are applied to the planning of and providing care for the childbearing family. Emphasis is placed on health promotion integration for childbearing families (BSN program). Prerequisite: junior standing as a baccalaureate nursing student. Co-requisite: NSG 351.

NSG 353. Nursing Care of Adult Clients with Health Alterations I. (3)

Examines holistic nursing care of adults. Emphasis is on therapeutic nursing care to promote, maintain, and restore health in adults within the context of the family and community. Focus is on medical-surgical health alterations common to adults (BSN program). Prerequisite: NSG 262. Co-requisite: NSG 354.

NSG 354. Nursing Care of Adult Clients with Health Alterations I-Clinical. (3)

Addresses providing holistic nursing care to adults and their families in a variety of settings. Students will focus on health promotion, risk reduction, and health restoration activities in examining medical-surgical health alterations common to adults (BSN program). Prerequisite: NSG 262. Co-requisite: NSG 353.

NSG 361. Nursing Care of Adult Clients with Health Alterations II. (3)

Examines holistic nursing care of adults and their families. Emphasis is on therapeutic nursing care to promote, maintain, and restore health in adults within the context of the family and community. Focuses on medical-surgical health alterations common to adults (BSN program).

Prerequisites: NSG 353 and NSG 354.

Co-requisite: NSG 362.

NSG 362. Nursing Care of Adult Clients with Health Alterations II-Clinical. (3)

Addresses providing holistic nursing care to adults and their families in a variety of settings. Students will focus on health promotion, risk reduction, and health restoration activities in examining medical-surgical health alterations common to adults (BSN program).

Prerequisites: NSG 353 and NSG 354.

Co-requisite: NSG 361.

NSG 363. Nursing Care of Children. (3)

Examines theory and evidence based practice as the basis for planning nursing care for the child within the context of family and community. Emphasis is placed on health promotion, psychological and physiological needs as well as the dynamic interplay of culture, socioeconomic, ethical and legal issues, and spiritual beliefs.

Prerequisite: junior standing as a baccalaureate nursing student (BSN program).

Co-requisite: NSG 364.

NSG 364. Nursing Care of Children-Clinical. (2)

Addresses application of theory and evidence based practice in caring for the child within the context of family and community. Emphasis is placed on health promotion, psychological and physiological needs as well as the dynamic interplay of culture, socioeconomic, ethical and legal issues, and spiritual beliefs. (BSN program)

Prerequisite: junior standing as a baccalaureate nursing student.

NSG 365. Nursing Research. (3)

This course introduces the baccalaureate nursing student to the research process and its application in the discipline of nursing. Emphasis will be placed on critiquing published studies, understanding the research process, and developing skills to apply research findings in the practice setting (BSN program).

NSG 377. Independent Studies. (0-6)**NSG 402. The Professional Nurse Leader. (3)**

Synthesizes roles and responsibilities of the baccalaureate nurse by establishing a theoretical foundation for developing leadership skills applicable in all areas of the health care system (BSN program).

NSG 432. Population Focused Nursing Care- Clinical. (2)

The purpose of the clinical experience is for students to apply theory, engage in the principles of population-focused care, and demonstrate skills as an emerging leader in the nursing profession. For this clinical, students will examine public health issues relevant to a specified vulnerable or disenfranchised population. Students will use data, information technology, and input from community members to assess the health needs of populations. Based on assessment data, students will collaborate with community and organizational leaders to design, implement, and evaluate evidence-based nursing interventions. (BSN program)

NSG 435. Challenges in Health Care Delivery. (3)

Provides opportunity to synthesize and apply accumulated knowledge to a specific topic or project related to health care delivery. Students with varying academic and experiential backgrounds work in small groups to research and analyze a topic or situation from various perspectives. Each group develops one of the following: a position paper, a manuscript ready for submission for publication, or a plan for action relative to a specific situation or problem. Open to all majors. SC.

Prerequisite: senior standing.

NSG 441. Health and Aging: Current Perspectives and Issues. (3)

This elective course examines issues of health status and health care delivery for the older population. Topics include perceptions of health, major health problems in later life, strategies for working with older persons experiencing functional and sensory changes of aging, patterns of health-services utilization, projected health needs, and ethical issues related to health care for the elderly. (Elective for BSN)

NSG 451. Nursing Care of Clients Experiencing Mental Health Disorders and Their Families. (3)

Examines theory and evidence based practice in the nursing care of clients experiencing mental health disorders and their families. Emphasizes application of the nursing process and therapeutic communication skills in the promotion of mental health. Concepts of group dynamics and family systems are addressed. (BSN program)

Prerequisite: junior or senior standing as a baccalaureate nursing student.

Co-requisite: NSG 452.

NSG 452. Nursing Care of Clients Experiencing Mental Health Disorders and Their Families-Clinical. (2-3)

Addresses providing care to clients experiencing mental health disorders and their families in a variety of settings. Emphasis is on application of the nursing process and therapeutic communication skills. Promotion of mental health, concepts of group dynamics and family systems are addressed. (BSN program)

Prerequisite: junior or senior standing as a baccalaureate nursing student.

Co-requisite: NSG 451.

NSG 461. Nursing Care of Older Adults. (3)

Examines holistic nursing care of the aging client. Health and wellness needs of the older adult and the impact of aging on the individual, family, and community are evaluated. Focus is on promoting functional ability and quality of life of the older adult. (BSN program)

Prerequisite: junior or senior standing as a baccalaureate nursing student.

NSG 463. Nursing Care of Clients Experiencing Multi-System Health Alterations. (3)

Examines multi-system health alterations that affect individuals and families across the life span. Students will synthesize prior learning as they analyze the multiple factors contributing to major health alterations. Emphasizes the way in which individuals as members of families and other social groups adapt to the trajectory of the disease process and complex health alterations. The student is guided to examine the role of the nurse as a member of the interdisciplinary team that provides services for disease prevention, health restoration and rehabilitation (BSN program).

Prerequisites: NSG 361 and NSG 362.

Co-requisites: NSG 464 and NSG 465.

NSG 464. Nursing Care of Clients Experiencing Multi-System Health Alterations-Clinical. (5)

Addresses providing care to groups of clients with multi-system health alterations and their families. Focuses on refining clinical decision making skills, implementing evidence-based interventions, and measuring client outcomes in evaluating the therapeutic effectiveness of care provided. Facilitates the transition from student to graduate nurse through preceptored experiences and faculty guidance (BSN program).

Prerequisites: NSG 361 and NSG 362.

Co-requisites: NSG 463 and NSG 465.

NSG 465. Nursing Senior Seminar. (2)

Seminar course designed to assist the graduating senior nursing student to transition from student role to registered nurse (RN) role. The course utilizes a nationally normed standardized testing product in preparation for the RN licensure examination. This course focuses on assisting the student to evaluate his/her results and develop individualized remediation plans to foster success on the licensure examination. The course incorporates a comprehensive review.

Prerequisite: last semester of senior BSN program.

Co-requisites: NSG 463 and NSG 464.

NSG 477. Independent Studies. (0-6)**NSG 602. Advanced Pathophysiology for the APN. (3)**

This course focuses on pathophysiological processes across the lifespan. Emphasis is placed on safety and the development of clinical reasoning skills as they relate to specific diseases. Attention is given to etiology, pathogenesis, biological and environmental factors in clinical disease manifestation.

NSG 604. Advanced Pharmacology. (3)

This course focuses on prescriptive knowledge across the lifespan. Emphasis is placed on safety and the development of clinical reasoning skills as they relate to specific diseases and pharmacologic agents. Attention is given to etiology, pathogenesis, biological and environmental factors in clinical disease manifestation as well as correct dosing, toxicity, side effects, drug interactions, contraindications, and client education.

Prerequisite: NSG 602.

NSG 606. Advanced Health Assessment and Clinical Diagnostics. (3)

Provides advanced practice nurses with tools to perform advanced comprehensive health assessments on clients across the lifespan. It builds on existing knowledge and skills for advanced health assessment, history taking, physical exam and emphasizes diagnostic reasoning at an advanced practice level.

NSG 608. Coding, Reimbursement, and Practice Management. (3)

This course provides a comprehensive approach to medical coding and billing for reimbursement, and governmental regulations in primary care. Scope of practice and practice management approaches are considered, including emerging models of family practice.

NSG 610. Primary Care of Women Across the Lifespan. (3)

Examines foundational knowledge of women's health management. Screening, assessment, diagnosis, and standards of care for common gynecologic conditions will be discussed. Essential concepts for basic, well-woman prenatal, pregnancy, and postpartum care will also be examined. Health promotion and education will be explored as a means of managing care throughout the lifespan.

NSG 612. Primary Care of Children and Adolescents. (3)

Primary prevention, health maintenance, and common health problems in the children and adolescent populations are examined. The course reviews theory and evidence-based practice guidelines for safe and effective management of care. Special attention will be given to developmental needs within this population and to developing partnerships with families for person-centered care.

NSG 614. Primary Care of Adults I. (3)

Provides a comprehensive overview of primary prevention, common health problems, and health maintenance strategies in the adult and older adult population. The course reviews theory and evidence-based practice guidelines for safe, effective management of care. It also focuses on behavioral health strategies for person-centered primary care management.

Prerequisite or Co-requisite: NSG 604.

NSG 616. Primary Care of Adults II. (3)

Building on content learned in NSG 614 focusing on primary prevention, common health problems, and health maintenance strategies in the adult and older adult population. The course reviews theory and evidence-based practice guidelines for safe, effective management of care. It also focuses on behavioral health strategies for person-centered primary care management.

Prerequisite: NSG 614.

NSG 618. Primary Care Skills I: Diagnostics and Procedures. (1)

This on-campus two-day workshop will provide hands-on procedure training and evaluation for FNP students. Diagnostics and skills will focus on skills and procedures relevant to emerging practice.

NSG 620. Primary Care Skills II: Billing, Coding, and Care Management. (1)

This course provides training in billing/coding, and care management skills relevant to emerging practice for Family Nurse Practitioner students. Students will learn how to develop a complete plan of care, including billing, for patients presenting with acute and chronic diseases via in-person and telehealth formats.

NSG 622. Family Nurse Practitioner Clinical I. (2)

The first in a series of three, this clinical course allows the student to provide primary health care focused on patients across the lifespan, including pediatrics, adolescents, women, adults and older adults in a variety of settings. The student is guided and mentored by preceptors and faculty in activities expected of an advanced nurse practitioner.

Prerequisite or Co-requisite: NSG 614.

NSG 624. Family Nurse Practitioner Clinical II. (2)

The second in a series of two, this clinical course allows the student to provide primary health care focused on patients across the lifespan, including pediatrics, adolescents, women, adults and older adults in a variety of settings. The student is guided and mentored by preceptors and faculty in activities expected of an advanced nurse practitioner.

Prerequisite: NSG 622.

NSG 626. Family Nurse Practitioner Capstone Clinical III. (2)

The third in a series of three, this clinical course allows the student to provide primary health care focused on patients across the lifespan, including pediatrics, adolescents, women, adults and older adults in a variety of settings. The student is guided and mentored by preceptors and faculty in activities expected of an advanced nurse practitioner.

Prerequisite: NSG 624.

Co-requisite: NSG 630.

NSG 630. FNP Synthesis. (1)

Students will synthesize knowledge from the MSN Family Nurse Practitioner program with a comprehensive program assessment. They will also prepare for national certification and initiation of practice.

Co-requisite: NSG 626.

NSG 640. Internship. (0-6)**NSG 642. Individual and Organizational Leadership in Healthcare. (3)**

Provides an in depth exploration and application of individual and organizational leadership factors, theories, approaches and strategies as they occur in a range of healthcare and educational environments and situations. Students prepare to effectively take on leadership roles in organizations through self-examination and critical thinking regarding complex situations.

NSG 644. Informatics, Quality & Safety in Healthcare. (3)

This course provides a comprehensive survey of informatics, quality and safety in healthcare, including quality improvement methodologies focused on optimizing patient safety, eliminating waste, improving health outcomes, and enhancing the care experience. Students examine health care data dashboards using statistical techniques. The important role of informatics in supporting safe, effective and evidence-based care is considered.

NSG 646. Clinical Prevention and Population Health. (3)

Clinical prevention and population health will be explored across four domains: foundations of population health, clinical prevention services and health promotion, clinical practices and population health, and health systems and health policy. Emphasis is placed on health disparities of vulnerable populations, ethical implications, and the role of nurses in advanced practice roles in equitable distribution of resources.

NSG 648. Research and Evidence-based Practice. (3)

This course provides an in-depth consideration of qualitative and quantitative research designs in nursing and health care, including strategies for ensuring reliability and validity of results. Students examine the processes of evidence-based practice and quality improvement, including the use of organizational models for EBP. Students initiate work on their own major MSN project through the completion of a significant literature review and analysis.

NSG 670. Healthcare Budgeting and Economics. (3)

Comprehensively examines budgeting, economics, and financial aspects of healthcare delivery such as population health, reimbursement, healthcare finance, market drivers, and the role nurse leaders play in managing the production, consumption, and distribution of services within a variety of settings.

NSG 672. Data, Health Analytics and Forecasting in Healthcare. (3)

Provides an introduction to analytics and decision support in healthcare management using applied quantitative methods. Financial aspects of multiple areas of healthcare operations management is considered. Financial, budgetary, and strategic planning methods are included. This course includes a required 2-day on-campus workshop.

NSG 674. Healthcare Delivery Systems. (3)

This course provides an overview of the complex organizational and delivery aspects of many levels of health care, including primary care, mental health, long-term care, and hospital-based care. It explores the unique aspect of different systems and strategic planning within current and potential systems that affect health outcomes.

NSG 678. Human Resource Management in Healthcare. (3)

Provides an overview of personnel management in healthcare settings. Laws and practices for effective hiring, recruiting, training, and retaining employees are examined.

NSG 680. Diversity, Equity and Inclusion in Healthcare. (3)

This course explores strategic leadership for creating an inclusive organizational culture for patients, employees, business partners, and the community. Topics include workforce demographics, education, pipeline development, diversity initiatives, and cultural competence.

NSG 682. Professional Partnerships and Communication Strategies. (3)

Examines effective strategies for intra and inter professional partnerships, including leadership, communication, and collaboration. Professional partnerships for improved healthcare outcomes are explored.

NSG 684. Nurse Executive Leadership Practicum I. (1-3)

This leadership practicum provides students the opportunity to implement the nurse leader role in an organizational setting under the guidance of and in collaboration with an experienced nurse leader, conducting one or more projects relevant to the organizational setting. At least one credit is required for all Nurse Executive Leadership students. This course may be taken for 1-3 credits (105 hrs, 210 hrs, or 315 hrs) in order to earn hours towards DNP hour requirements.

Prerequisites: NSG 510, NSG 520, NSG 530, NSG 540.

NSG 686. Nurse Executive Leadership Capstone Practicum II. (1-3)

This culminating, capstone course provides students the opportunity to synthesize leadership skills under the guidance of and in collaboration with an experienced healthcare leader within a healthcare setting. Students will also complete a capstone project to demonstrate cumulative knowledge. At least one credit is required for all Nurse Executive Leadership students. This course may be taken for 1-3 credits (105 hrs, 210 hrs, or 315 hrs) in order to earn hours towards DNP hour requirements.

Prerequisite: NSG 684.

Co-requisite: NSG 688.

NSG 688. Nurse Executive Leadership Synthesis. (1)

Students will synthesize knowledge from the MSN Nurse Executive Leadership program with a comprehensive program assessment. They will also prepare for national certification and initiation of practice.

Co-requisite: NSG 686.

NSG 690. DNP Elective: Independent Study Evidence-based Practice Project. (1-3)

This independent study course provides an opportunity to participate in developing or implementing an evidence-based practice project within a complex organization. The student will complete 105 clinical hours per credit participating in an established evidence-based practice project. The student will develop specific objectives related to implementation of the practice scholar's role.

NSG 702. Evidence-based Scholarly Practice and Inquiry. (3)

Students will explore the advanced practice nurse's role with addressing population focused issues through scholarly inquiry. The focus will be on practice scholarship that aligns evidence-based practice research questions aligned with research designs, strategies for data collection and analysis. The student will explore research designs that facilitate data collection and analysis for data driven quality improvement.

NSG 704. Planning, Managing, and Evaluating Programs and Projects. (3)

Acquisition of knowledge and skills needed for assessment, design, development, implementation and evaluation of effective programs and projects is explored. Emphasis is placed on quality improvement to improve processes and outcomes within complex organizations.

NSG 706. Organizational Systems, Outcomes, and Quality Management. (3)

Explores the doctorally prepared nurse leaders' role in designing, implementing and evaluating evidence-based quality initiatives within complex organizations. The student will discuss strategies to collaborate with the inter-professional team to assess the organizational culture and develop processes for action-based learning within a complex organization to impact outcomes and a healthy work environment.

NSG 708. Health Policy in DNP Practice. (3)

This course explores the doctorally prepared nurse's role in the development, implementation and dissemination of health care policy. The focus is on health care policy that impacts access, delivery and regulation of health care. The student will discuss strategies used by nurse leaders to advocate for, evaluate and implement health care policy within complex organizations and communities at large.

NSG 710. Finance and Economics in DNP Practice. (3)

Analysis of principles and strategies of finance and economics needed by a nurse leader in a complex organization. Students will discuss the external and internal factors influencing financial planning and decision making for organizations. Emphasis will be on strategies that promote and sustain financial viability.

NSG 712. DNP Role Seminar I. (1)

This is the first of three sequential courses focusing on the transition to clinical scholar. This course is concurrent with the appropriate DNP Practicum and DNP Project courses to share learning experiences with colleagues to develop intra-professional collaboration.

NSG 714. DNP Role Seminar II. (1)

This is the second of three sequential courses focusing on the transition to clinical scholar. This course is concurrent with the appropriate DNP Practicum and DNP Project courses to share learning experiences with colleagues to develop intra-professional collaboration.

Prerequisite: NSG 712.

NSG 716. DNP Role Seminar III. (1)

This is the third of three sequential courses focusing on the transition to clinical scholar. This course is concurrent with the appropriate DNP Practicum and DNP Project courses to share learning experiences with colleagues to develop intra-professional collaboration.

Prerequisite: NSG 714.

NSG 718. DNP Practicum I. (2)

This is the first of two sequential courses focusing on exploring the nurse leader's role in designing evidence-based interventions for complex organizations. The student will complete 210 clinical hours collaborating with inter-professional leaders within the organization to design and implement evidence-based interventions for quality improvement.

NSG 720. DNP Practicum II. (3)

This is the second of two sequential courses focusing on exploring the nurse leader's role in designing evidence-based interventions for complex organizations. The student will complete 315 clinical hours collaborating with inter-professional leaders within the organization to design and implement evidence-based interventions for quality improvement. The student will explore economic and health care policy factors that impact the nurse leader's decision making. Special emphasis will be on the nurse leader's development of effective relationships within a complex organization.

Prerequisite: NSG 718.

NSG 722. DNP Project I. (3)

This is the first of three sequential courses focusing on the design, implementation and evaluation of the student's DNP project, a practice/change initiative for quality improvement. The focus of this course on the development the DNP Quality Improvement project proposal.

NSG 724. DNP Project II. (3)

This is the second of three sequential courses focusing on the design, implementation and evaluation of the student's DNP project, a practice/change initiative for quality improvement. The focus of this course is to implement the DNP Quality Improvement project approved in the DNP Project I course.

Prerequisite: NSG 722.

NSG 726. DNP Project III. (3)

This is the third of three sequential courses focusing on the design, implementation and evaluation of the student's DNP project, a practice/change initiative for quality improvement. The focus of this course is to evaluation and dissemination of the results of the DNP Quality Improvement Project.

Prerequisite: NSG 724.

Organizational Leadership (ORG)

ORG 177. Independent Studies. (0-6)**ORG 277. Independent Studies. (0-6)****ORG 340. Internship. (0-20)****ORG 354. The Social Dynamics of Strategy and Leadership. (3)**

Reviews classical and current sociological theories of organizational strategy and leadership, with an emphasis on practical application. The course focuses on four major areas: (a) relative firm performance; (b) the nature of competition and market interaction; (c) the beginnings of industries and firms; and (d) the diffusion or transfer of ideas and practices across firms.

Prerequisite: SOC 153.

ORG 360. Current Issues in Organizational Leadership. (3; maximum 6)

Covers special topics of importance to leaders in a variety of organizational types.

ORG 361. Innovation in Organizations. (3)

Organizations play an important role in introducing novelty and innovation in society. Through readings, case studies, and experiential activities, this course examines how organizations can effectively foster innovation, and the processes that lead to new products, services, and solutions to social problems. In addition, the course focuses on the importance of organizational adaptation and innovation in an increasingly dynamic global economy, and the ways the most effective organizations adapt and innovate. CAS-W. Prerequisite: SOC 153 or PSY 111.

ORG 471. Organizational Leadership Capstone. (3)

Integrates concepts from the Organizational Leadership major and applies them to real world issues. SC. Prerequisite: Senior standing.

ORG 477. Independent Studies. (0-6)

Philosophy (PHL)

Note: Except where specific prerequisites are stated, all 100-, 200-, and 300-level courses are open to any student. 300-level courses without prerequisites require a higher degree of sophistication than lower level courses, but do not presuppose prior course work.

Note: All PHL courses satisfy CAS-B-PHL except PHL 273 and PHL 373 (CAS-E).

PHL 103. Society and the Individual. (3)

A study of the relationship between human beings and the societies in which they live and of the implications different perspectives on this relationship have for a view of social justice. We investigate this relation in terms of its political, economic, social, ethical, and epistemological dimensions. Introduces fundamental questions of philosophy and basic reasoning skills, methodologies, and concepts used by philosophers. Students are prepared for further work in philosophy and develop skills in critical thinking, reading, and writing for any area of learning. IIB. PA-3B. CAS-B.

PHL 104. Purpose or Chance in the Universe. (3)

Is the present universe the result of purpose or chance? Positions and arguments on this question by scientists and philosophers at different points in Western history are studied. In this inquiry, special attention is paid to recent developments in scientific cosmology that throws important new light on the question. Whether the results of the inquiry support purpose or chance more strongly is considered. Introduces fundamental questions of philosophy and basic reasoning skills, methodologies, and concepts used by philosophers. Students are prepared for further work in philosophy and develop skills in critical thinking, reading, and writing for any area of learning. IIB. PA-3B. CAS-B.

PHL 105. Theories of Human Nature. (3)

There have been various ways that human beings have understood themselves and their place in nature. Every conception of the self embodies a conception of what can be known, of how we ought to live, of what values we ought to hold, and to what extent we are free. We consider various conceptions of the person in light of these questions. Introduces fundamental questions of philosophy and basic reasoning skills, methodologies, and concepts used by philosophers. Students are prepared for further work in philosophy and develop skills in critical thinking, reading, and writing for any area of learning. IIB. PA-3B. CAS-B.

PHL 131. Introduction to Ethics. (3)

Introduces students to, and cultivates, ethical reasoning. The course will foster students' capacity to recognize ethical issues and situations, to understand different ethical perspectives and concepts, and to engage in ethical deliberation. Students will have opportunities to analyze concrete situations and human conduct in relation to ethical principles, ideas, and frameworks and thereby to reflect more deeply on their own values and on the social context of ethical obligations and ethical dilemmas. Course topics may include the nature of our responsibilities to ourselves and to others, confrontations between the rights of an individual and those of society, and consideration of what it means to lead a good life. The course aims to enrich students' ability to see themselves as ethical actors in the world. IIB. PA-3B, SI-02. CAS-B.

PHL 177. Independent Studies. (0-6)**PHL 205. Science and Culture. (3)**

This course will examine philosophical questions that arise at the intersection of scientific understanding and everyday ways of living. Looking at the cultural, ethical, political, and social dimensions of various sciences, and reading across multiple genres, we will explore a variety of arenas where scientific knowledge and technological development have transformed human experience (including experience with the non-human world), and, conversely, arenas where reflection and insight are necessary to confront and navigate conundrums of meaning, value, and action presented by scientific endeavors. Potential topics might include: the roles of scientific, political, and ethical reasoning in considerations of public health; human/non-human animal relations; climate change and collective agency; the impact of new media and communication technologies on the boundary between public and private; the social transmission of (mis-)information; and the significance of social identity for scientific investigation. CAS-B.

PHL 241. Philosophy of Art. (3)

Introduction to basic notions of aesthetics, such as the definition of art, truth in the arts, characterization of aesthetic experience, etc. through examination of specific philosophies and problem areas. Readings may range from classical to contemporary thinkers.

PHL 245. Writing Philosophy. (3)

Provides philosophy majors with the reading, writing, and reasoning skills necessary for the successful presentation of philosophical ideas in written work, with writing oriented toward both specialized (philosophically experienced and disciplinarily appropriate) and non-specialized (non-philosophical) audiences. The course will have a rotating philosophical topic around which readings will be structured and will be writing intensive. ADVW. PA-1C.

PHL 263. Informal Logic. (3)

Informal analysis of discourse, especially argument, with the aim of improving understanding, criticism, evaluation, and construction of arguments in significant contexts.

PHL 265. Confronting Death. (3)

Explores philosophical approaches to death and dying. What does human mortality mean for how we should live? Topics might range from suicide, grief, and euthanasia to the immortality of the soul. Ideas will be taken up through a variety of sources, including history, literature, and film.

PHL 273. Formal Logic. (4)

Survey of elementary logical systems: Aristotelian, Boolean, sentential, quantified. Scientific method and issues in the philosophy of logic may be included. V. PA-1A. CAS-E.

PHL 277. Independent Studies. (0-6)**PHL 286. Data, Ethics, and Society. (3)**

A historical, cultural, and philosophical introduction to key ethical and political problems in a world increasingly saturated with data. Examines rapidly changing and disquieting issues such as privacy and surveillance, intellectual property, and identity. Addresses the ethical issues that may arise from data collection, production, management, and use in scientific study, policy development, social justice debates, and economic applications. Students will develop critical skills to reflect upon, evaluate, and navigate issues they may encounter in a variety of environments impacted by data. CAS-B.
Prerequisites: STA/ISA 125 or STA 261 or STA 301.
Cross-listed with HST 286/GIC 286.

PHL 301. Ancient Philosophy. (4)

Survey of ancient philosophical thought covering pre-Socratics, Socrates, Plato, Aristotle, and Hellenistic philosophy. Problems discussed include the nature of being and becoming, monism and pluralism, knowledge, value, and society. Emphasis given to philosophies of Plato and Aristotle. CAS-B.

PHL 302. Modern Philosophy. (4)

Philosophical study of the development of philosophy at the beginning of modern period, Descartes to Kant. Both the interrelationship of points within each philosopher's thought and the change of thought from earlier philosophers to later ones are emphasized. Specific issues for study include relation of thought and reality, knowledge and opinion, truth and appearance, value. CAS-B.

PHL 310. Special Topics. (1-4; maximum 8)

Treatment of selected topics or philosophers.

PHL 311. Ethical Theory. (4)

Topical and historical in-depth study of classical and contemporary ethical theories. Addresses such questions as the following: What are the fundamental principles of moral action? Can such principles be justified? What moral theories are most adequate and why? What constitutes the well-lived life? Are persons moral agents? What is the relationship between morality and happiness? What is the relationship between freedom and morality? Why be moral?
Prerequisite: PHL 131.

PHL 312. Contemporary Moral Problems. (4)

Moral argument and bases of moral decision. Discussion of such issues as sexuality, career and professional ethics, environmental responsibility, individual conscience and authority, abortion, suicide, and war. Prior completion of PHL 131 is recommended.

PHL 321. Problems of Metaphysics and Knowledge. (3)

Critical examination of the nature of reality and our knowledge of it. Sample topics include relation of mind to body, freedom and determinism, whether the world is fundamentally material or mental, nature and extent of our knowledge of the world.
Prerequisite: at least one prior class in philosophy or permission of the instructor.

PHL 331. Political Philosophy. (3)

Inquiry into values and principles of government, justice and law, rights and responsibilities, freedom and power, violence and revolution.

PHL 335. Philosophy of Law. (4)

Philosophical study of some problems arising in law. Problems discussed include: concept of law and its relation to morality; logic of legal reasoning; legal rights, duties, responsibility, punishment, fault, voluntariness, etc.

PHL 340. Internship. (0-20)**PHL 355. Feminist Theory. (3)**

Examination of major writing by contemporary feminist thinkers. Traditional philosophical questions, such as justice, freedom, nature of a person, and relationship of an individual to society, are raised in context relevant to both male and female students.
Cross-listed with WGS.

PHL 373. Symbolic Logic. (4)

Study of standard notation, principles of inference, formal systems, methods of proof. Chief attention given to first-order predicate logic. Some focus placed on the philosophy of logic. CAS-E.

PHL 375. Medical Ethics. (4)

Purpose of course is to think together in an informed and critical manner about selected issues in the field of health care. Attempt made with each issue addressed to consider distinctive interests and perspectives of physicians, nurses, patients, and the public. Issues considered include physician/patient relationships; lying, truth-telling, paternalism, and trust; death and dying, including suicide, euthanasia, and treatment of defective newborns; treatment of mental illness and patient rights; allocating scarce resources; nature of health and purposes of medicine.
Prerequisite: Prior completion of one course in philosophy; PHL 131 is recommended.

PHL 376. Environmental Philosophy. (4)

Critical study of metaphysical, epistemological, and moral problems associated with questions of ecology and humankind's relation to the natural environment. Considers such issues as conceptions of nature, character and impact of various forms of technology, relations of environment and economics, environmentalism and justice, and environmental ethics.

PHL 377. Independent Studies. (0-6)**PHL 394. Existentialism. (3)**

This course will explore the ways that the concept of human existence becomes a distinct theme for philosophical reflection in the late 19th and early 20th centuries. The central question of the school of thought that has come to be known as Existentialism, 'what it means to be,' will drive our own inquiry. The course will consider the philosophical, aesthetic, and political dimensions of existentialism and address core themes such as freedom, death, subjectivity, and self-creation. The course will cover 19th precursors to Existentialism (such as Kierkegaard and Nietzsche), and an array of 20th century thinkers (such as Camus, Heidegger, Sartre, and Beauvoir). CAS-B.

PHL 402/PHL 502. 19th Century Philosophy. (4)

Detailed study of advances in philosophy attempted by major philosophers of the 19th century. Emphasis on solutions they offered to problems of early modern thought and to foundations laid for important developments in 20th century thinking. Course may follow philosophical systems of leading philosophers (e.g., Hegel, Feuerbach, Marx) or it may proceed topically (e.g., dialectics, alienation in Hegel, Marx, Kierkegaard).
Prerequisite: PHL 302.

PHL 404. What is Philosophy?. (3)

Addresses the questions of the nature and ends of philosophy. The capstone course offers both a culmination of a philosophical education through a discussion of various philosophical views on the meta-question of the nature of philosophy, and a culmination of a liberal education through a comparison of philosophy with other fields of inquiry. SC.

Prerequisite: 9 hours of completed philosophy courses and senior status.

PHL 410/PHL 510. Special Topics. (1-4)

Seminar treatment of selected topics or philosophers. New topics at student initiative.

PHL 411/PHL 511. Advanced Ethical Theories. (4)

Critical discussion of recent works in ethics.

Prerequisite: PHL 131.

PHL 420/PHL 520. Seminar in Twentieth Century Philosophy. (4; maximum 8)

Examination of one or more twentieth century philosophical figure (e.g., Heidegger, Wittgenstein, Foucault) and/or study of key philosophical issues of the twentieth century (such as being, language, power, action).

PHL 430/PHL 530. Seminar in Ancient or Medieval Philosophy. (4)

Intensive study of a major topic (e.g., universals, knowledge and perception, the human soul, God, morality, language and reality) or work of a major philosopher (e.g., Socrates, Plato, Aristotle, Plotinus, Augustine, Anselm, Aquinas) of ancient or medieval period. Repeatable with different content up to two times.

PHL 440/PHL 540. Seminar in Modern Philosophy. (4)

Intensive study of philosophy of one major philosopher of early modern period, e.g., Spinoza, Descartes, Leibniz, Berkeley, Hume, Kant, or a topical study in the philosophy of the period. Repeatable with different content up to two times.

PHL 450/PHL 550. Seminar in Contemporary Philosophy. (4)

Examination of one or more contemporary philosophical figure or philosophical issue in any area of current philosophical research. Repeatable with different content up to three times.

PHL 459/PHL 559. Political Philosophy Seminar. (4)

Intensive study of a major political philosopher (e.g. Marx, Arendt, or Rawls) or intensive study of a focused theme in political philosophy (e.g., power, equality, freedom, or justice) and/or critical discussion of the texts and major work of a particular historical set of political philosophers.

PHL 470/PHL 570. Advanced Aesthetics. (4)

Selected topics in advanced study of philosophy of art. Topics may include film aesthetics, philosophy of tragedy, metaphysics of the novel, aesthetic formalism. Repeatable with different content up to three times. Prior completion of PHL 241 recommended.

PHL 477. Independent Studies. (0-6)**PHL 480. Independent Reading for Departmental Honors. (1-6)**

To earn departmental honors, a student must complete two semesters of independent reading courses.

PHL 494/PHL 594. Philosophy of Mind. (4)

Selected topics or authors, historical or contemporary. Topics include such problems as personal identity and individuation, the self, mind/body problems, the will, thought and cognition, perception, philosophy and psychology. Prior completion of PHL 321 is recommended.

PHL 496/PHL 596. Epistemology. (4)

Analysis of such concepts as knowledge, belief, certainty, evidence, truth, perception. Prior completion of PHL 321 recommended.

PHL 600. Independent Reading Philosophy. (0-6; maximum 12)

Intensive study of a group of problems in a limited field or of particular philosophers or of particular schools of philosophy.

PHL 601. Practicum in Teaching Philosophy. (2)

Introduces graduate students to the pedagogy of philosophy by practicing and reflecting upon the fundamentals of grading, teaching, giving a lecture, directing a discussion group and preparing a syllabus as these activities specifically apply to the discipline.

PHL 610. Research Seminar. (3-4)

Each student will take one paper written for a philosophy course and develop it into a length and quality suitable for publication in a scholarly journal. Members of the seminar will read each of these papers and suitable parts of its bibliography in order to critique the paper and assist its progress toward publication.

Physician Associate Studies (PAS)

PAS 601. Introduction to the Healthcare Professions (Physician Associate). (1)

A didactic year course that traces the history and development of the PA profession. Students will explore the role of team membership, healthcare systems, and policy at the local and federal levels that govern healthcare delivery models within individual and community health. Additional discussions will include clinician responsibilities, professionalism, licensure, and advocacy.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 602, PAS 603, PAS 611, PAS 612, PAS 613, PAS 621, PAS 622, PAS 623.

PAS 602. Patient Engagement and Documentation. (2)

A didactic year course designed to introduce the student to basic medical interviewing procedures and techniques necessary to accomplish an appropriate medical history. Students will learn the basics within the art of medical familiarity, glean appropriate information necessary to synthesize and apply within the broader framework of the patient encounter.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 601, PAS 603, PAS 611, PAS 612, PAS 613, PAS 621, PAS 622, PAS 623.

PAS 603. Evidence Based Medicine and Clinical Research. (3)

A didactic year course designed to help the student develop the necessary skills and knowledge to effectively cultivate a systematic review process of the medical literature that serves to support or change medical practice. The student will consider the ethics of scientific investigation, formulating clinical questions, evaluating the literature in light of their unique clinical question, contemporary healthcare law, and clinical practice, as well as how to apply their skill set into the standard of care in the healthcare industry- including the development of evidence-based medicine and practice defining models into practice guidelines.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 601, PAS 602, PAS 611, PAS 612, PAS 613, PAS 621, PAS 622, PAS 623.

PAS 604. Clinical Bioethics and Professional Conduct. (1)

This didactic year course is designed to help the student develop an appreciation of bioethics in clinical practice by exploring the role of human behavior, philosophical, religious, psychosocial, and legal impacts on medicine and practice. This course will provide examinations of impacts on the medical community by considering common clinical questions and challenges that risk complicating healthcare delivery. Particular consideration will be lent to patient and family impacts of privacy, clinical and patient integrity, decision making capacity, informed and implied consent, medical documentation, end of life and treatment of limited and complex patient, broadened and limited scope and responsibility, and advocacy of the patient and the healthcare teams.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 614, PAS 624, PAS 625, PAS 626, PAS 627.

PAS 611. Pharmacology. (2)

This didactic year course is a system-based approach to introduce the student to basic pharmacology concepts necessary for an understanding of clinical pharmacology and resource stewardship. This course includes concepts of pharmacokinetics, pharmacodynamics; including receptor physiology, and introduces pathophysiologic basis for selection of pharmacotherapeutic agents in disease states and prescriptive stewardship of agent selection to preserve efficacy, community health and reduced societal cost.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 601, PAS 602, PAS 603, PAS 612, PAS 613, PAS 621, PAS 622, PAS 623.

PAS 612. Introduction to the Human Body and Pathophysiology of Disease--Lecture. (4)

A didactic year course designed to help the student review normal human anatomy as a whole, then briefly consider each system and structure as a vital part within the entire human body. The course will explore the pathophysiology of unafflicted organ systems and introduce the general underlying process of human disease, including the role of genetics.

Prerequisite: Acceptance to the Physician Associate program or the Biomedical Science MMSc program.

Co-requisite: PAS 616 (for Physician Associate Studies students only).

PAS 613. Preventive Medicine and Nutrition. (2)

This didactic year course is designed to help the student develop an appreciation for the role of public health policy as an instrument of disease prevention. This course will explore a broad landscape of preventive health strategies by Non-Government and Government agencies, including the Centers of Disease Control and the US Preventive Services Task Force, as well as the role that such agencies have in formation of policy statements, law, and aims meant to serve societal trust. The role of foods and nutrition in preserving health and wellbeing, challenges and impacts on pharmacotherapy, and even herbal and alternative agents will also be considered.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 601, PAS 602, PAS 603, PAS 611, PAS 612, PAS 621, PAS 622, PAS 623.

PAS 614. Introduction to Clinical Point-of-Care Ultrasound I. (2)

A didactic year course designed to develop a student's knowledge and skills to navigate the roles, responsibilities, and limitations of the bedside ultrasound in clinical practice. Students will explore the clinical use and professional maintenance of ultrasound equipment, unique terminology, physics, limitations and benefits of various tissue density and transducers, variable image display methods, and appropriate use of doppler imaging.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 604, PAS 624, PAS 625, PAS 626, PAS 627.

PAS 616. Introduction to Human Body and Pathophysiology of Disease--Laboratory. (3)

A laboratory course designed to help Physician Associate Studies students understand the variances in human anatomy. Using state of the art cadaver and technology labs to lay the foundation of variances within normal human anatomy, the course will explore the pathophysiology of unafflicted organ systems. Manifestations of disease at the organ, tissue and cellular level will be illustrated.

Prerequisite: Acceptance to the Physician Associate Studies program.

Co-requisite: PAS 612.

PAS 621. Behavioral Health. (3)

A didactic course designed to help the student develop the necessary skills, knowledge and sensitivity in order to intervene effectively for a variety of psychiatric, emotional, and social concerns that are presented by patients, family members, bystanders and personnel in the community and health care settings. Students will gain skills in the evaluation, diagnosis, acute and chronic management, and pharmacotherapeutic stewardship and treatment of patients with a variety of mental health challenges.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 601, PAS 602, PAS 603, PAS 611, PAS 612, PAS 613, PAS 622, PAS 623.

PAS 622. Dermatology. (2)

A didactic clinical medicine module course designed to help the student develop the necessary skills and knowledge to recognize, confirm and treat common, uncommon and complex dermatologic conditions. The student will consider the role of pharmacologic, non-pharmacologic treatment and surgical management of various expressions of disease discussed within this course.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 601, PAS 602, PAS 603, PAS 611, PAS 612, PAS 613, PAS 621, PAS 623.

PAS 623. Immunology and Infectious Disease. (3)

This didactic clinical medicine module course is designed to help the student develop knowledge of the role of major problems in infectious diseases and the immune response. The student will develop skills to establish a framework for recognition, diagnosis and management of minor through major infectious disease complications; including differentiation of variable disease states within numerous patient populations. Students will explore evaluation, diagnostic criteria (including common decision rules) and studies (microbiology lab), as well as treatment within various disease continuums, including prevention and targeted treatment regimens, and the significance of antibiotic stewardship.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 601, PAS 602, PAS 603, PAS 611, PAS 612, PAS 613, PAS 621, PAS 622.

PAS 624. Hematology and Oncology. (3)

This didactic clinical medicine module course is designed to help the student increase knowledge of developmental and pathologic disease states within the circulatory and various organ systems. This course will explore the vital role of blood components, including uncomplicated development and the formation and progression of abnormalities. Discussions will also include organ system development, genetic factors and behavioral influences on uncomplicated and complicated disease states, benign versus malignant diseases, appropriate investigation/diagnostics and treatment measures for each.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 604, PAS 614, PAS 625, PAS 626, PAS 627.

PAS 625. Otolaryngology, Ophthalmology, and Dentition. (3)

A didactic clinical medicine module course designed to help the student develop the necessary skills and knowledge to recognize, evaluate and treat ocular, otolaryngologic and maxillofacial disease. This course will explore healthy embryologic development, anatomy, physiology and functions the eyes, ears, nose, mouth, teeth and throat. Discussions will include the role of genetic and social behaviors on the development and expressions of disease, common symptoms and physical examination findings, appropriate investigation/diagnostics, treatments, and the role of prevention on disease development and progression.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 604, PAS 614, PAS 624, PAS 626, PAS 627.

PAS 626. Cardiovascular Medicine. (9)

A didactic clinical medicine module course designed to help the student develop the necessary skills and knowledge to navigate the unique challenges of prevention, screening, examinations, and treatment of diseases of the cardiovascular system; including afflictions across a across all ages, genders and ethnicities. The course will explore normal anatomy, genetic and psychosocial factors that contribute to the development of disease risk, health screenings, common signs and symptoms of disease expression, appropriate diagnostic investigation, primary and secondary prevention, treatment across patient presentations, and prognosis of various disease states.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 604, PAS 614, PAS 624, PAS 625, PAS 627.

PAS 627. Endocrinology. (3)

A didactic clinical medicine module course designed to help the student develop the necessary skills and knowledge to navigate the impact of the endocrine system on the human body. This course will explore the role of neuroendocrine function throughout all age ranges, beginning with fetal development. Discussions will include the role of genetic and social behaviors on the development and expressions of disease, common symptoms and physical examination findings, appropriate investigation/diagnostics, treatments across patient presentations, and prognosis of various disease states.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 604, PAS 614, PAS 624, PAS 625, PAS 626.

PAS 628. Genitourinary/Nephrology. (3)

A didactic clinical medicine module course designed to help the student to develop the necessary skills and knowledge to navigate the impact of various manifestations of genitourinary and renal diseases. Students discuss normal anatomy and physiology, the role of genetic and social behaviors on the development and expressions of disease, common symptoms and physical examination findings, appropriate investigation/diagnostics, treatments across patient presentations and prognosis of various disease states.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 629, PAS 631, PAS 632, PAS 633.

PAS 629. Pulmonology. (4)

A didactic clinical medicine module course designed to help the student develop the necessary skills and knowledge to navigate the impact of various manifestations of acute and chronic afflictions of the lungs. Students discuss normal anatomy and physiology, the role of genetic and social behaviors on the development and expressions of disease, common symptoms and physical examination findings, appropriate investigation/diagnostics, treatments across patient presentations and prognosis of various disease states.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 628, PAS 631, PAS 632, PAS 633.

PAS 631. Gastroenterology. (5)

A didactic clinical medicine module course designed to help the student develop the necessary skills and knowledge to effectively evaluate and treat conditions of the gastrointestinal system. Students discuss normal anatomy and physiology, the role of genetic and social behaviors on the development and expressions of disease, appropriate health screening exams, common symptoms and physical examination findings, appropriate investigation/diagnostics, treatments across patient presentations and prognosis of various disease states.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 628, PAS 629, PAS 632, PAS 633.

PAS 632. Musculoskeletal System and Rheumatologic Diseases. (6)

A didactic clinical medicine module course designed to help the student develop the necessary skills and knowledge to effectively evaluate and treat conditions of the musculoskeletal structures and rheumatologic conditions. Students discuss normal anatomy and physiology, the role of genetics on the development of disease and/or injury, common symptoms and physical examination findings, appropriate investigation/diagnostics across patient presentations, treatment for acute and chronic disease states, the role of social factors on disease progression or delayed healing, and the prognosis of various disease and/or injury patterns.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 628, PAS 629, PAS 631, PAS 633.

PAS 633. Neurology. (4)

A didactic clinical medicine module course designed to help the student develop the necessary skills and knowledge to effectively evaluate and treat conditions of the central and peripheral nervous system. Students discuss normal anatomy and physiology, the role of genetic and social behaviors on the development and expressions of disease, common symptoms and physical examination findings, appropriate investigation/diagnostics, treatments across patient presentations and prognosis of various disease states.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 628, PAS 629, PAS 631, PAS 632.

PAS 640. Internship. (0-12; maximum 6)**PAS 641. Women's Health. (3)**

A didactic year course designed to help the student explore health topics unique to women throughout all phases of life, including adolescence through post-menopause. Students discuss normal anatomy and physiology of vaginal, uterine and breast health; the role of genetic and social behaviors on the development and expressions of disease; screening examinations; common symptoms and physical examination findings; appropriate investigation/diagnostics; treatments across patient presentations and prognosis of various disease states. Discussions will also include the role of invasive and non-invasive family planning, uncomplicated and complicated pregnancy, and early post-partum recovery.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 642, PAS 643, PAS 644, PAS 645, PAS 651, PAS 681.

PAS 642. Medical Emergencies and Trauma. (4)

A didactic year course that is designed to help the student develop an integrated approach to surgical trauma and emergency care. Students will explore common patient symptoms and physical examination findings within a continuum of early to late disease; appropriate diagnostics and treatment; principles of resuscitation for both the medical and trauma patients; interdisciplinary practices and logistics in variable healthcare systems, including urban and rural challenges in health.

Prerequisites: Acceptance to the Physician Associate Program.

Co-requisites: PAS 641, PAS 643, PAS 644, PAS 645, PAS 651, PAS 681.

PAS 643. Pediatrics. (3)

A didactic year course designed to introduce the student to well health, common disorders, and emergencies of the pediatric population. Discussion includes neonatal and child development; congenital abnormalities; screening with developmental benchmarks and milestones; disease prevention through nutrition and immunizations; examiner, parental, and patient interaction; recognition of health threats and emergencies; appropriate diagnostic examinations; various treatments and resuscitation and care in the pediatric emergency.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 641, PAS 642, PAS 644, PAS 645, PAS 651, PAS 681.

PAS 644. General Surgical Management. (1)

A didactic year course that will prepare the student for the unique demands and challenges within the clinical surgical experience. This course will explore pre-operative screening and preparation of the elective procedure; operating room etiquette, instruments and principles of infection control; intraoperative techniques of hemostasis and wound healing; and post-operative recovery, observation, and management of complications.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 641, PAS 642, PAS 643, PAS 645, PAS 651, PAS 681.

PAS 645. Geriatric Patients. (1)

A didactic year course that allows the student to apply knowledge gained over the didactic year to older patients. Discussion will include the unique physiology of the aging population and the role of comorbidities on quality of life and acute disease states. Students will also be challenged to consider the psychosocial effects of age, experience of loss, spiritual reflections, and functional activity within various physical, mental, spiritual needs and future planning, as well as the role of family and community dynamics affecting the geriatric patient.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 641, PAS 642, PAS 643, PAS 644, PAS 651, PAS 681.

PAS 651. Integrated Healthcare Systems: Law, Policy, and the Professional. (2)

This clinical year course will allow the student to explore various professional topics that affect practicing clinicians, including laws and regulations that govern practice, policy development, and professional advocacy. Discussions include the role of the provider in contemporary healthcare systems, advocacy of care, patient-centered medical homes, cost effectiveness, and access to healthcare across diverse populations. The student will develop the skills to navigate their role as a leader within complex healthcare systems, learning to professionally and compassionately articulate those goals to their patients, communities, colleagues and professional leadership. The course will culminate in an applied knowledge simulation involving interprofessional collaboration and require medical knowledge across patient populations and settings.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 641, PAS 642, PAS 643, PAS 644, PAS 645, PAS 681.

PAS 652. Professional Development Seminar I. (1)

This first level clinical semester course will develop student skills necessary for professional growth. In this first course, the student will learn what it means to be a medical professional, a steward of the public trust, and the need for continuing medical education. Discussions include continued professional discourse, personal time management, professional goals, and personal health risk reduction strategies along with professional and interprofessional collaboration. The course will consider the first-hand knowledge gained in clinical rotations and the impacts of coordinating care and for patients, logistical and health challenges, the vital role of the patient-centered medical home, cost effectiveness of services, and access to care across a broad patient populations.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 682, PAS 683, PAS 685, PAS 687.

PAS 662. Professional Development Seminar II. (1)

This second level clinical semester specific course will allow the student to begin to refine skills of continuing medical education and professional growth. Discussions include the role of professional agency, practice standards of care, law, policy, ethics and public health. In this course the student develops more inclusive roles in medical education and professional discourse by increasing their leadership demonstration, using assigned presentations and group membership in journal club. Students will continue to explore individual time management, personal and professional goals, and strategy implementation for the reduction of long term practice decline (i.e. burn out). Building on Professional Development Seminar I, students will continue to explore their role in clinical practice, personal research and leadership in peer education.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 684, PAS 686, PAS 689, PAS 691, PAS 693.

PAS 672. Professional Development Seminar III. (1)

This third level clinical semester specific course will allow the student to begin to master skills of continuing medical education and professional growth. This course creates platforms for mastery of key concepts in clinician knowledge and professionalism by creating more collaborative and inclusive roles in the leadership development and continued medical education. The student displays clinical expertise through individual presentations and peer mentorship and clinical discourse through group journal club. Discussions include regulations governing practice in the state and national levels, board preparation, licensing, and resume building as students near employment eligibility. The course will continue to explore time management, and strategies to reduce long term decline (i.e. burn out); building on Profession Development Seminars I, II emphasizing the patient-centered medical home, cost effectiveness and access to care across a broad patient population.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 695, PAS 673, PAS 688, PAS 692.

PAS 673. Clinical Point-of-Care Ultrasound II. (1)

A clinical year course designed to help the student develop the necessary understanding, clinical application, and skills of bedside ultrasound. Designed to build on knowledge from Clinical Ultrasound I, this clinical year course will confirm successful completion of required imaging that is both clinically appropriate and reliable. This course reviews images, but uses the clinical experience to encourage continued exploration of this essential clinical instrument.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 672, PAS 695, PAS 688, PAS 692.

PAS 677. Independent Studies. (0-6)**PAS 681. Clinical Medicine Rotation: Family Practice. (3)**

(Family Medicine): This clinical year course will enable the student to increase their knowledge and clinical skills in a focused clinical environment, Family Medicine. As a clinical practice course, it is designed to ensure students increase their medical knowledge of disease recognition, treatment and prevention through self-directed study. Clinical practice will be used to improve differential development, history taking, focused physical examinations, diagnostics, treatment, and procedures consistent with practice demands and within professional scope of care unique to family medicine.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 641, PAS 642, PAS 643, PAS 644, PAS 645, PAS 651.

PAS 682. Clinical Medicine Rotation: Structured General Medicine. (1)

(Structured General Med.): This clinical year course will enable the student to increase knowledge and clinical skill within General Medicine, within a focused clinical structure. Students will integrate themselves into medical practice rotations that complement understanding of general medicine, which may include: endocrinology, neurology, cardiology, rheumatology, critical care medicine, hematology/oncology, palliative care, dermatology, otolaryngology, allergy & immunology, sleep medicine, occupational medicine and pain management. Though each practice rotation will have a clinical focus, the study aim of this rotation is applied knowledge to General Medicine.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 652, PAS 683, PAS 685, PAS 687.

PAS 683. Clinical Medicine Rotation: Internal Medicine. (3)

(Internal Medicine): This clinical year course will enable the student to increase their knowledge and clinical skills in a focused clinical environment, Internal Medicine. As a clinical practice course, it is designed to ensure students increase their medical knowledge of disease recognition, treatment and prevention through self-directed study. Clinical practice will be used to improve differential development, history taking, focused physical examinations, diagnostics, treatment, and procedures consistent with practice demands and within professional scope of care unique to internal medicine.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 652, PAS 682, PAS 685, PAS 687.

PAS 685. Clinical Medicine Rotation: Emergency Medicine. (3)

Emergency Medicine: This clinical year course will enable the student to increase their knowledge and clinical skills in a focused clinical environment, Emergency Medicine. As a clinical practice course, it is designed to ensure students increase their medical knowledge of disease recognition and treatment through self-directed study. Clinical practice will be used to improve differential development, history taking, focused physical examinations, diagnostics, resuscitation treatment and procedures for both critical and non-critical patients consistent with practice demands and within professional scope of care unique to emergency medicine.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 652, PAS 682, PAS 683, PAS 687.

PAS 686. Clinical Medicine Rotation: Structured Emergency Medicine. (1)

(Structured EM): This clinical year course will enable the student to increase knowledge and clinical skill within Emergency Medicine, with in a focused clinical structure. Students will integrate themselves into medical practice rotations that complement understanding of principles or practices of Emergency Medicine, which may include: optometry/ophthalmology, urology, otolaryngology, and pulmonology and where possible trauma/surgical critical care, gastroenterology and radiology. Though each practice rotation will have a clinical focus, the study aim of this rotation is applied knowledge to Emergency Medicine.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 662, PAS 684, PAS 689, PAS 691, PAS 693.

PAS 687. Clinical Medicine Rotation: Obstetrics and Gynecology. (3)

(Ob-Gyn): This clinical year course will enable the student to increase their knowledge and clinical skills in a focused clinical environment, Obstetrics and Gynecology. As a clinical practice course, it is designed to ensure students increase their medical knowledge of disease recognition, prevention and treatments through self-directed study. Clinical practice will be used to improve differential development, history taking, focused physical examinations, screening, maternal fetal monitoring, diagnostic investigations, treatment, and surgical skills consistent with practice demands and within professional scope of care unique to obstetrics and gynecology.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 652, PAS 682, PAS 683, PAS 685.

PAS 688. Clinical Medicine Rotation: Pediatrics. (3)

(Pediatrics): This clinical year course will enable the student to increase their knowledge and clinical skills in a focused clinical environment, Pediatrics. As a clinical practice course, it is designed to ensure students increase their medical knowledge of disease prevention (including milestone, screening, nutrition and immunization schedules) and recognition through self-directed study. Clinical practice will be used to improve differential development, history taking, focused physical examinations, diagnostics, treatment, patient education and family dynamics consistent with practice demands and within professional scope of care unique to pediatrics.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 672, PAS 695, PAS 673, PAS 692.

PAS 689. Clinical Medicine Rotation: General Surgery. (3)

(General Surgery): This clinical year course will enable the student to increase their knowledge and clinical skills in a focused clinical environment, General Surgery. As a clinical practice course, it is designed to ensure students increase their medical knowledge of surgical etiquette, techniques, and patient candidacy for elective procedures through self-directed study. Clinical practice will be used to improve differential development, history taking, focused physical examinations, diagnostic investigations and accuracy, treatment, and surgical skills (including pre- and postoperative care) consistent with practice demands and within professional scope of care unique to general surgery.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 662, PAS 684, PAS 686, PAS 691, PAS 693.

PAS 691. Clinical Medicine Rotation: Behavioral Health. (3)

(Behavioral Health): This clinical year course will enable the student to increase their knowledge and clinical skills in a focused clinical environment, Behavioral Health. As a clinical practice course, it is designed to ensure students increase their medical knowledge of disease recognition and treatment through self-directed study. Clinical practice will be used to improve differential development (including metabolic and mental health disorders), history taking, appropriate examinations, diagnostics, therapeutics appropriate for this rotation, consistent with practice demands and within professional scope of care unique to behavioral health.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 662, PAS 684, PAS 686, PAS 689, PAS 693.

PAS 692. Clinical Medicine Rotation: Orthopedics. (3)

(Orthopedics): This clinical year course will enable the student to increase their knowledge and clinical skills in a focused clinical environment, Orthopedic Surgery. As a clinical practice course, it is designed to ensure students increase their medical knowledge of surgical etiquette, techniques, and patient candidacy for elective procedures through self-directed study. Clinical practice will be used to improve differential development, history taking, appropriate musculoskeletal physical examinations, appropriate diagnostic studies, alternative treatments, and surgical skills (including pre- and postoperative care) consistent with practice demands and within professional scope of care unique to orthopedic practice.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 672, PAS 695, PAS 673, PAS 688.

PAS 693. Elective Clinical Medicine Rotation. (1)

(Elective): This clinical year course will enable the student to increase knowledge and clinical skill within their chosen elective clinical practice. Students will integrate themselves into a medical practice that complements their chosen clinical interest. As a clinical practice course, it is designed to ensure students increase their medical knowledge of disease recognition and rotation specific treatment methods through self-directed study and the clinical immersion.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 662, PAS 684, PAS 686, PAS 689, PAS 691.

PAS 695. Capstone Graduate Project. (1)

This final clinical year course requires the student review their own professional leadership, research, and clinical growth during clinical rotation year, using guided retrospective analysis and prospective planning. Discussions includes planning for future clinical and professional growth within the students practice goals, development of professional public health poster presentation, leadership displayed within clinical topic presentations, and finalized research manuscript submission.

Prerequisite: Acceptance to the Physician Associate Program.

Co-requisites: PAS 672, PAS 673, PAS 688, PAS 692.

Physics (PHY)

Notes:

1. Consult the physics placement guide for assistance in selecting beginning courses.
2. Contact the department chair or chief departmental advisor for appropriate physics course selection if you receive Advanced Placement credit in physics.
3. A student who receives credit for a higher level lecture or laboratory sequence, e.g., PHY 191 or PHY 192, may not receive credit concurrently or subsequently for a lower level sequence except that, with departmental permission, a student may concurrently or subsequently receive credit for courses numbered PHY 111 through PHY 141. A student may transfer from an introductory physics sequence to a lower numbered sequence at the end of the first semester, i.e., PHY 191 to PHY 111 through PHY 141.

PHY 101. Physics and Society. (3)

Introduction of fundamental principles of physics and discussion of the interaction of science and society, both today and in the past. Provides skills in thinking critically about societal problems which have a scientific or technological component. IVB. PA-2B. CAS-D.

PHY 103. Concepts in Physics Laboratory. (1)

Laboratory course illustrating the basic concepts of physics. For the general student; complements physics lecture offerings at the nonspecialist level. IVB, LAB. PA-2B. CAS-D/LAB.

Prerequisite: registration in or prior completion of PHY 101, 111, 118, 121, 131, or 141.

PHY 111. Astronomy and Space Physics. (3)

Study of space exploration, astrophysics, astronomy, and cosmology. IVB. PA-2B. CAS-D.

PHY 121. Energy and Environment. (3)

Application of physics principles and models to societal uses of energy. Includes mechanics, electricity and magnetism, thermodynamics, and atomic and nuclear physics. Energy topics include resources, environmental problems, global atmospheric challenges, nuclear power, solar energy, alternative energy systems, and energy conservation. Algebraic skills are required but no previous course in physics is needed. IVB. PA-2B. CAS-D.

PHY 131. Physics for Music. (3)

Introduction to the basic physics of sound within the context of music. Production, transmission, and reception of sound waves; traditional and electronic musical instruments; physics of sound reproduction. IVB. PA-2B. CAS-D.

PHY 141. Physics in Sports. (3)

Various aspects of a dozen or more sports are treated using the laws of physics. Provides the non-science student with insight into principles governing motion, dynamics, and other elements of physics in sports. IVB. PA-2B. CAS-D.

PHY 161. Physics for the Life Sciences with Laboratory I. (4)

This is a quantitative introduction to the basic physical laws of nature. Classical mechanics and thermal physics are emphasized. Concepts are developed through lectures, demonstrations, computer simulations, laboratory activities, and problem solving. Qualitative reasoning is emphasized and quantitative problem-solving skills are developed. Algebra and trigonometry are used. No previous physics course is required. IVB. PA-2B. CAS-D-LAB.

Prerequisite: ACT Math sub score 26 or SAT Math sub score 610 or Math Placement Test score of 16 or MTH 125.

PHY 162. Physics for the Life Sciences with Laboratory II. (4)

A quantitative introduction to the basic physical laws of nature. Oscillations, waves, electromagnetism, and quantum physics are emphasized. Concepts are developed through lectures, demonstrations, computer simulations, laboratory activities, and problem solving. Qualitative reasoning is emphasized and quantitative problem-solving skills are developed. Algebra and trigonometry are used. IVB. PA-2B. CAS-D-LAB.

Prerequisite: PHY 161 or equivalent.

PHY 177. Independent Studies. (0-6)**PHY 181. General Physics I. (4)**

The course is a quantitative introduction to the basic physical laws of nature. Kinematics, Newtonian dynamics, energy and momentum, gravity, oscillations, waves, and quantum physics are emphasized. Concepts are developed through lectures, demonstrations, computer simulations, and problem solving. Qualitative reasoning is emphasized, and quantitative problem-solving skills are developed. Concepts from differential and integral calculus are developed and used. IV. PA-2B. CAS-D.

Co-requisite: MTH 151 or equivalent.

PHY 182. General Physics II. (4)

The course is a quantitative introduction to the basic physical laws of nature. Thermodynamics, electricity and magnetism, circuits, Maxwell's Equations, and special relativity are emphasized. Concepts are developed through lectures, demonstrations, computer simulations, and problem solving. Qualitative reasoning is emphasized, and quantitative problem-solving skills are developed. Concepts from differential and integral calculus are developed and used. IVB. PA-2B. CAS-D.

Prerequisite: MTH 151 or equivalent, PHY 181 or equivalent.

Co-requisite: MTH 249, MTH 251 or equivalent.

PHY 183. General Physics Laboratory I. (1)

Laboratory course for students enrolled in PHY 181. Laboratory experiments in mechanics, energy, waves, and quantum phenomena are performed. IVB. PA-2B. CAS-D.

Co-requisite: PHY 181.

PHY 184. General Physics Laboratory II. (1)

Laboratory course for students enrolled in PHY 182. Laboratory experiments in thermal physics, electricity, magnetism, and circuits are performed. IVB. PA-2B. CAS-D.

Co-requisite: PHY 182.

PHY 185. Experiencing The Physical World. (1)

An optional demonstration/ experiment/ modeling course designed to provide enrichment for students enrolled in PHY 191 or PHY 192.

PHY 191. General Physics with Laboratory I. (5)

This is a quantitative introduction to the basic physical laws of nature. Classical mechanics and quantum physics are emphasized. Concepts are developed through lectures, demonstrations, computer simulations, laboratory activities, and problem solving. Qualitative reasoning is emphasized and quantitative problem-solving skills are developed. Concepts from differential and integral calculus are developed and used. No previous physics course is required. IVB. PA-2B. CAS-D-LAB.

4 Lec. 1 Lab.

Co-requisite: MTH 151 or equivalent.

PHY 192. General Physics with Laboratory II. (5)

This is a quantitative introduction to the basic physical laws of nature. Thermal physics, electromagnetism, and relativity are emphasized. Concepts are developed through lectures, demonstrations, computer simulations, laboratory activities, and problem solving. Qualitative reasoning is emphasized and quantitative problem-solving skills are developed. Concepts from differential and integral calculus are developed and used. PA-2B. CAS-D-LAB.

4 Lec. 1 Lab.

Prerequisite: MTH 151 or equivalent, PHY 191 or equivalent.

Co-requisite: MTH 249, MTH 251 or equivalent.

PHY 215. Physics by Inquiry. (3)

For middle and adolescent level education majors seeking licensure in science. Emphasizes scientific inquiry in an activity-based, cooperative-learning approach. Goals are to develop basic physical concepts and the scientific reasoning skills necessary to apply them to the natural world and to serve as a model for the transfer of the methods of inquiry-based instruction and authentic assessment to the precollege classroom. Topics selected from properties of matter, thermodynamics, electricity, optics, kinematics, and astronomy. Assessments include laboratory notebook and journal writing, discussion, and developing and teaching inquiry lessons.

Prerequisite: one year of physical science or permission of instructor.

PHY 277. Independent Studies. (0-6)**PHY 281. Contemporary Physics I: Foundations. (3)**

Third course in a sequence that begins with two semesters expounding the visions of Newton, Schrodinger, Boltzmann, Maxwell, and Einstein. Incorporates a focus approach that emphasizes Nobel prize-winning physics occurring within the lifetime of the student. Presently, the foci are the scanning tunneling microscope, high-Tc superconductivity, and the "standard model" for particle physics. Topics include quantum mechanics in three dimensions, solid state physics, quantum optics, and particle physics.

Prerequisite: PHY 192.

Co-requisite: MTH 252 (or permission of instructor).

PHY 282. Contemporary Physics II: Frontiers. (3)

Designed for students in physics, engineering physics, and biological physics at the sophomore level; topics may be of interest to students in related disciplines. Explores and explains scientific principles and technological advances making quantum science and resulting technologies qualitatively and quantitatively different from the large scale. Covers enabling tools and techniques from atomic, molecular, condensed matter, and particle physics, as well as advances in nanotechnology, quantum optics, and biophysics.

Prerequisite: PHY 281.

PHY 286. Introduction to Computational Physics. (3)

Lecture-laboratory course on use of computers in analyzing physical systems. Topics of study come from classical mechanics, electromagnetism, statistical physics, and quantum mechanics.

Prerequisite: PHY 192, MTH 251.

PHY 292. Electronic Instrumentation. (2)

Theory and application of electronic instrumentation for scientists with emphasis on data acquisition and analysis with microcomputers.

Prerequisite: PHY 192.

Co-requisite: PHY 294.

PHY 293. Contemporary Physics Laboratory. (2)

Designed for students majoring in physics. Focuses on Nobel prize-winning physics research occurring within the lifetime of the student. Topics may include Balmer series of hydrogen, high-Tc superconductivity, x-ray diffraction, and magnetism. Communication skills are developed through report writing, presentations, and manuscript writing. CAS-D/LAB. CAS-W.

Prerequisite: PHY 192.

Co-requisite: PHY 282.

PHY 294. Laboratory in Electronic Instrumentation. (2)

Laboratory experience in the use of electrical and electronic instruments, application of transducers and data acquisition equipment. Use of computer in analyzing data and interfacing computer with experiments.

Co-requisite: PHY 292.

PHY 340. Internship. (0-20)**PHY 377. Independent Studies. (0-6)****PHY 400/PHY 500. Physics Seminar. (1; maximum 4)**

Weekly physics colloquium series presenting guest speakers on topics of interest to scientific community. Required of all graduate students in residence. Offered for credit/no-credit only.

Prerequisite: PHY 192 or equivalent or permission of faculty in charge.

PHY 401. Physics Assessment Examination. (0)

Standardized assessment examination for physics majors.

Prerequisites: PHY282 and senior standing.

PHY 410. Topics in Physics Seminar. (1-3; maximum 12)

Directed study in selected topics in physics. Includes reading, research, writing, reporting, and discussion.

PHY 421/PHY 521. Molecular and Cellular Biophysics. (4)

Introduction to physical phenomena acting on molecular and cellular size scales, including transport properties; thermodynamics and statistical mechanics of reactions; self-assembly; and fluctuations. Development of physical models for biological systems and phenomena, including cooperative behavior in macromolecules; enzyme activity; molecular motors and machines; energy transduction; and nerve transmission.

Prerequisite: PHY 162 or PHY 192, MTH 252, or permission of instructor.

PHY 422/PHY 522. Physics for Medicine and Biology. (4)

Introduction to biophysical phenomena, especially on the cellular and tissue size scales, including materials and fluid mechanics; transport phenomena; and electromagnetic phenomena. Introduction to physical methods used in medicine and biology, including methods of signal and image analysis; use of tissue-light interactions; ultrasound, x-ray, and NMR imaging; and nuclear medicine.

Prerequisites: (PHY162 or PHY192) and (STA261, STA368, MTH151, or MTH153).

PHY 430/PHY 530. Topics in Physics. (1-4; maximum 12)

Study of topics of current interest in physics beyond the coverage in other course offerings.

Prerequisite: senior or graduate standing in physics or permission of instructor.

PHY 431/PHY 531. Elementary Particle Physics. (3)

Summary of Summarizes known particles and their properties, and uses relativistic and non-relativistic quantum mechanics to describe their interaction. Quantum field theory and Feynman diagrams are discussed with emphasis on quantum electrodynamics.

Prerequisite: instructor permission.

PHY 437/PHY 537. Intermediate Thermodynamics and Introduction to Statistical Physics. (4)

Development of formal thermodynamics including first, second, and third laws, thermodynamic potentials, Maxwell's relations, phase transitions, and illustrative applications of thermodynamics.

Introduction to kinetic theory approach to behavior of systems not in equilibrium, Boltzmann Equation, and transport processes.

Development of statistical mechanics and ensemble approach to equilibrium statistical thermodynamics. Pre- or co-requisite: PHY 483/PHY 583 or permission of instructor.

Prerequisite: PHY 281.

PHY 440. Research. (1-4; maximum 12)

Undergraduate research projects with direction of faculty member.

Prerequisite: permission of instructor.

PHY 441/PHY 541. Optics and Laser Physics. (4)

Lecture and laboratory course covering all aspects of lasers and their applications. Teaches basics of physical and geometrical optics and atomic physics in detail to understand the design, operation, and application of lasers. Topics include gaussian beams, cavity design, rate equation models of laser gain media, different types of lasers, and nonlinear optics.

Prerequisite: PHY 281, PHY 293, or permission of instructor.

PHY 442/PHY 542. Spectroscopy of Atoms and Molecules. (4)

Survey of the structure of atoms and molecules, using optical spectroscopy as a tool. Lecture reviews the quantum theory of atoms and molecules, including solutions to the Schrodinger equation, spectroscopic notation, transition rates, and selection rules. Laboratory examines a variety of light sources, with increasing resolution. Zeeman, fine structure, and hyperfine structure, in particular, are considered. Emphasis on laboratory investigation. Pre- or co-requisite: PHY 483/PHY 583.

Prerequisite: PHY 281, PHY 293, or permission of instructor.

PHY 451/PHY 551. Classical Mechanics. (4)

Mechanics, nonrelativistic and relativistic, of particles, systems of particles, and rigid bodies treated by Newtonian, Lagrangian, and Hamiltonian methods using vector and matrix analysis and calculus of variations. Pre- or co-requisite: PHY 483/PHY 583 or permission of instructor.

PHY 461/PHY 561. Electromagnetic Theory. (4)

Mathematically quantitative lecture and problem course in theory of electromagnetism. Topics include multipole fields, electromagnetic field equations, electromagnetic waves, reflection and refraction, radiating systems, classical electron theory, spherical waves, interference phenomena, and diffraction theory.

Prerequisite or Co-requisite: PHY 483/PHY 583 or permission of instructor.

PHY 467. Seismology. (3)

Active learning course on seismology covering theory and application. Topics will include elastic wave propagation, reflection/refraction seismology, waveform modeling, tomography plate kinematics, and time series analysis. Applications will focus on earthquakes and large-scale tectonics.

Prerequisites: MTH 151 or MTH 153; PHY 161 or PHY 162 or PHY 191 PHY 192; or consent of instructor.

Cross-listed with GLG.

PHY 471/PHY 571. Advanced Electronics. (3)

Applications of solid state electronic devices and circuits. Includes laboratory experience with discrete devices, integrated circuits, and transducers, and their application to measurements in research situations.

Prerequisite: PHY 281, PHY 292, PHY 294.

PHY 477. Independent Studies. (0-6)**PHY 480. Departmental Honors. (1-6; maximum 6)**

Departmental honors may be taken for a minimum of four semester hours and a maximum total of six semester hours, in one or more semesters of the student's senior year.

PHY 481/PHY 581. Gravitation and Spacetime. (3)

Beginning with the Lorentz invariance of Maxwell's equations, a relativistic theory of motion is described for inertial reference frames. This forms a framework for discussing Einstein's theory of gravitation. Prerequisite: PHY 483/PHY 583 or instructor permission.

PHY 483/PHY 583. Mathematical Methods in Physics. (4)

Discusses mathematical methods applicable to classical mechanics, quantum mechanics, and electromagnetism. Develops problem-solving skills by applying material from introductory math and physics classes along with new mathematical techniques. Allows for modeling of systems at a deeper level. Emphasizes the use of mathematics to model physical systems and methods of solutions to the differential equations of physics.

Prerequisite: PHY 281; MTH 222, MTH 252.

PHY 486/PHY 586. Advanced Computational Physics. (3)

Develops computational skills necessary to apply mathematics and physics to the investigation and solution of non-analytic problems of physical interest. Topics will include, but are not limited to, celestial mechanics, fluid mechanics, and quantum mechanics. The physical basis of these topics can often be understood at the undergraduate level, but require sophisticated computational methods for their actual solution. This course will develop and apply those methods.

Prerequisite: PHY 286 and PHY 483/PHY 583.

PHY 488A. Research Capstone in Physics. (3)

Research experience in physics. SC.

PHY 491/PHY 591. Introduction to Quantum Mechanics I. (4)

Introduction to the quantum theory and its application to physical systems. Pre- or co-requisite: PHY 483/PHY 583, or permission of instructor.

Prerequisite: PHY 281.

PHY 610. Research. (1-10; maximum 10)

Independent research projects in theoretical or experimental physics.

PHY 620. Topics in Modern Physics. (1-4; maximum 10)

Study of various topics of interest in physics not covered in formal course offerings.

Prerequisite: Permission of instructor.

PHY 623. Solid State Physics. (3)

Introduction to advanced concepts of solid state physics. Discussions center on the motion of electrons in more or less periodic structures, and the resulting properties. Topics include phonons, semiconductors, magnetism, superconductors, and nuclear methods.

Prerequisite: PHY 691 or permission of instructor.

PHY 642. Advanced Kinetic Theory and Statistical Mechanics. (4)

Transport theory of gases; Chapman-Enskog development. Classical and quantum statistical mechanics with applications to many-particle systems.

PHY 651. Quantum and Nonlinear Optics. (3)

The basics of electromagnetic interactions with matter are covered, including quantum and semiclassical theories of the laser, cavity quantum-electrodynamics, harmonic generation and down-conversion, the cooling and trapping of atoms, and quantum information theory.

Prerequisite: PHY 691 or instructor permission.

PHY 671. Electromagnetism. (4)

Electromagnetic theory and applications.

Prerequisite: PHY 461/PHY 561 or permission of instructor.

PHY 677. Independent Studies. (0-6)**PHY 691. Modern Quantum Physics. (4)**

Fundamental concepts of quantum mechanics and the mathematical techniques of Schrodinger and Heisenberg. Computer solution of quantum mechanical problems.

Prerequisite: PHY 491/PHY 591 or permission of instructor.

PHY 692. Modern Quantum Physics. (4)

Fundamental concepts of quantum mechanics and the mathematical techniques of Schrodinger and Heisenberg. Computer solution of quantum mechanical problems.

Prerequisite: PHY 691.

PHY 700. Research for Master's Thesis. (1-12; maximum 12)

Political Science (POL)

Note: All POL courses satisfy CAS-C-POL.

POL 140. Topics: Contemporary Politics. (1-3; maximum 4)

Examination of contemporary political events, with focus on national or state elections, major national or international events, or important themes in current public affairs. Emphasis on illuminating current events through insights from scholarship. Credit cannot be applied to majors or minors in Department of Political Science.

POL 142. American Politics and Diversity. (3)

Foundations and operations of the American political system, with emphasis on "the people" and how they belong to, challenge, and change the system. How the competing values of unity and diversity influence American politics. IC, IIC. PA-2A, PA-4B. CAS-C.

POL 177. Independent Studies. (0-6)**POL 201. Political Thinking. (3)**

Examination of ideas that justify or challenge political orders, such as nationalism, totalitarianism, militarism, anarchism, capitalism, socialism, communism, liberalism, conservatism, feminism, elitism, and democracy.

POL 221. Comparative Politics. (3)

Comparative introduction to the development, governmental structures, and political processes of societies in modern world. Case studies used to relate theories to actual problems and governing strategies in contemporary political systems. IIC, IIIB. PA-2A, PA-4C. CAS-C.

POL 241. American Political System. (3)

Theories and methods of political analysis applied to the American political system. Political beliefs, behavior, institutions, and public policies in the American case will be examined. IIC. PA-2A. CAS-C. CAS-QL.

POL 254. Introduction to Russian and Eurasian Studies. (3)

Examines the major developments that have shaped Russian and Eurasian Culture, society and politics over the last millennium. The course incorporates perspectives from the social sciences, humanities and the fine arts. IIB. PA-3B. CAS-B.
Cross-listed with ATH 254, CLS 254, HST 254, REL 254, and RUS 254.

POL 261. Public Administration. (3)

Introduction to public administration as a field of study and a major component of government; bureaucratic behavior and bureaucracy as formal organization; structures, settings, functions, and personnel of bureaucratic organizations and their effects on public policy and public service delivery.

POL 268. State and Local Government and Politics. (3)

Introduction to the study of state and local government and politics with special emphasis on Ohio government and politics. Topics include state/local government fiscal relations, issues of service delivery among state, county, city, village, and township governments, and the political economy of state and local revenues and expenditures. Examines American federalism as it impacts sub-national government and politics including inter-state and substate regionalism and political actors--legislative, gubernatorial, and judicial - that affect state and local politics, as well as specific policy issues (e.g., education, economic development, and public safety).

POL 270. Current World Problems. (1; maximum 6)

Examination of major international problems, with special attention to basic forces in world politics and relationship of these forces to present international problems.

POL 271. World Politics. (3)

Introduction to international politics, with emphasis on factors and processes producing harmony and conflict in interactions within the international system. IIC, IIIB. PA-2A, PA-4C. CAS-C.

POL 277. Independent Studies. (0-6)**POL 303. Modern Political Thought. (3)**

Study of influential ideas and selected key texts in modern Western political thought, starting with Machiavelli and ending in the twentieth century. Special attention is given to the political theory of liberalism as well as to its critics. CAS-C.
Prerequisite: POL 201.

POL 306. Applied Research Methods. (3)

Use of quantitative analysis in the public sector; consideration of the methodology of applied research. Special emphasis on research design and data-gathering techniques, including survey research, aggregate data analysis, cost-benefit analysis, and planning. CAS-QL.
Prerequisite: POL 241 or POL 261.

POL 307. Public Opinion Laboratory. (0-4; maximum 6)

Practice in the execution of survey research with attention to questionnaire construction, sampling, interviewing, data coding, and data analysis. Discussion of ethical issues surrounding polls and the role of polling in a democratic polity.

POL 308. Introduction to Programming and Scripting for Data Analytics. (3)

Introduction to computer programming concepts used for solving mathematical problems and manipulating data. Control structures, functions, formatted input/output, character and string processing, arrays, procedural and functional programming, basic elements of object-oriented programming. Emphasis on programming languages in high demand for data analytics.

Prerequisites: STA 261 or STA 301 or ISA 225 or POL 306.

Cross-listed with STA.

POL 321L. Comparative European Pol:Lux. (3)**POL 330. Topics in Comparative Politics. (3; maximum 9)**

Topics course in comparative politics. The topics course may cover institutions, processes, policy, leaders and governments, in a comparative context. CAS-C.

Prerequisite: POL 221.

POL 331. Communism and Soviet Politics, 1917-1991. (3)

Origin and development of Russian model, evolution of Russian political and revolutionary cultures, contribution of Marxism and Leninism to Russian and international revolutionary politics.

Prerequisite: POL 221.

POL 332. Post-Soviet Russian Politics. (3)

Analysis of Soviet political system with special attention to its development, roles of the Communist Party and Soviet government, emphasizing decision-making process, legal system, and civil rights.

Prerequisite: POL 221.

POL 333. Politics of Western Europe. (3)

Comparative survey of social and cultural bases of politics, organization of political interests, style of political leadership, decision-making processes, governmental bureaucracies, and political strategies of social and economic change in major political systems of Western Europe. CAS-C.

Prerequisite: POL 221.

POL 334. Politics of Eastern Europe. (3)

Survey of political systems in the nations of Eastern Europe in the period since World War II. Focus on the cultural, social and historical peculiarities of the region, as well as the processes that reshaped the region in the post-communist era.

Prerequisite: POL 221.

POL 336. Politics of the Middle East. (3)

Comparative survey and analysis of political systems and politics in the Middle East. Includes examination of selected states, non-states actors, international organizations, and key events in the region.

Prerequisite: POL 221.

POL 337. Politics of Latin America. (3)

Diachronic analysis of Latin American political, social, and economic structures and processes, with special emphasis on the study of how the interrelationship between them crystallizes into democratic and authoritarian regimes and how tensions underlying these regimes produce further changes.

Prerequisite: POL 221.

POL 340. Internship. (0-20)**POL 343. American Presidency. (3)**

Evolution of the presidency, its powers and restraints; organizing and using White House staff; executive decision-making; contemporary views of the office. CAS-C.

Prerequisite: POL 241.

POL 344. U.S. Congress. (3)

Sociology and politics of legislative process; legislative recruitment, structure and influence of the committee system, impact of party leadership, and nature of legislative decision-making.

Prerequisite: POL 241.

POL 345. National Issues. (3)

Examination of major contemporary domestic national issues, especially pollution, health care, inflation and recession, crime, income distribution, poverty, federal budget.

Prerequisite: POL 241 or POL 241H or POL 241W or POL 261 or POL 261W.

POL 346. Global Gender Politics. (3)

Examination of the role of women in political participation, political protest, and political and economic development worldwide. Explores the usefulness of gender as a conceptual tool for comparative analysis, and uses case study material from the developed and developing world to examine how women's involvement in politics both shapes and is shaped by various political contexts.

Prerequisite: POL 221.

Cross-listed with WGS.

POL 348. Gender Politics & Policy in the United States. (3)

Addresses the role of gender in American politics. Topics include the history of women's rights in American politics, differences between the political behavior of men and women, the role of gender in elections and in leadership, and current policies that affect women.

Prerequisite: POL 241 or WGS 201.

Cross-listed with WGS 348.

POL 349. Voice & Power in U.S. Politics. (3)

The first part of the course focuses on the various ways that citizens can participate in the political process, from voting to protesting to joining political parties and advocacy organizations. The second part of the course looks at how different component of identity – age, ability, class, and race – are represented in American politics. Finally, we examine what happens in political institutions: how election rules translate into legislative representation, how elected officials represent their constituents, and the role of unelected bureaucrats in providing a voice for citizens. The course will draw on both current political environment and U.S. political history to frame our discussions. CAS-C, CAS-W.

Prerequisite: POL 241.

POL 351. Criminal Justice. (3)

Survey and analysis of major components of the system of criminal justice with emphasis on law enforcement, judicial process, and corrections.

Prerequisite: POL 241.

POL 352. Constitutional Law and Politics. (3)

Supreme Court as a legal and political institution; leading judicial decisions with respect to separation of powers and federalism.

Prerequisite: POL 241.

POL 353. Constitutional Rights and Liberties. (3)

Leading cases and related materials on the Bill of Rights and 14th Amendment.

Prerequisite: POL 241.

POL 356. Mass Media and Politics. (3)

Mass media, especially television, in politics in the United States, with comparisons to nature, roles, and impacts on politics of the mass media in other countries. Emphasis given to mass media as instruments of political communication and opinion leadership, and as tools of political influence and control.

Prerequisite: POL 241.

POL 357. Politics of Organized Interests. (3)

Nature, functions, organizations, and activities of interest groups in the American political system with a comparative analysis of interest groups in other political systems.

Prerequisite: POL 241.

POL 358. Political Parties in American Politics. (3)

Political parties are integral to democracy. Without parties in government, chaotic voting would prevail within Congress, extreme interest groups would enjoy disproportionate influence, and accountability for failed public policies would be almost impossible to establish. Without parties in the electoral arena, many citizens would have little information about political candidates or issues, voter turnout would be lower, incumbency advantage would be greater than it already is, and there would be no clear framework for debates concerning different public policy proposals. In short, parties are essential to the health of democracy. That being said, at times parties also impede representation, stall political change, and adversely impact minority groups in society. In this course, we will evaluate the benefits and costs associated with party-based politics in the United States, examine how parties have evolved overtime, and assess how changes in the party system may impact the health of democracy in the future.

Prerequisite: POL 241.

POL 359. U.S. Campaigns and Elections. (3)

This course is an introduction to the processes and impact of political campaigns. Our primary goal over the next several weeks is to systematically examine elections in the United States. We will act as social science researchers to answer some interesting questions: What is the role of voters, campaigns and elections in a democracy? Why are campaigns and elections important in a democracy? We will examine in detail how voters decide to choose a representative. We will examine election campaigns, focusing specifically on whether campaigns matter, how they can be studied systematically, and how candidates strategize in modern elections.

Prerequisite: POL 241.

POL 361. Nonprofits: Politics & Policy. (3)

Introduction to the Nonprofit Sector and Nonprofit Organizations in the United States. This course will examine theories and issues about the existence, form, and function of the Nonprofit Sector, focusing on policies, politics, public service delivery, and management of Nonprofit Organizations.

Prerequisite: POL 261.

POL 362. Public Management, Leadership, and Administrative Politics. (3)

Study of contemporary public management and leadership in government, and the political economy of public sector agencies. Emphasis on the politics and economics of administrative reform, innovation, and policy management in public sector organizations including the dynamics of bureaucratic decision making and administrative behavior at the micro and macro levels of analysis. Prerequisite: POL 241 or POL 261.

POL 363. Administrative Law. (3)

Administrative law and procedures; legislative delegation of power; administrative rule making, promulgation and enforcement; scope and constraints; appeals; controlling administrative discretion; public participation and access to information. Prerequisite: POL 241 or POL 261.

POL 364. Federalism and Intergovernmental Relations. (3)

Power and policymaking in the American federal system. Problems in managing, coordinating, and administering intergovernmental system, with case studies on fiscal federalism and grants management, intergovernmental coordination, interstate relations, and federal reorganization. CAS-C. Prerequisite: POL 241 or POL 261.

POL 365. Decision-Making in Public Affairs. (3)

Public affairs decisions are made in the context of imperfect information; uncertain events, conditions, and outcomes; and conflicts over values. Yet despite these challenges, decisions must be made in order to meet a wide range of societal objectives. A diverse set of models and methods can be used to analyze and guide decisions in operational, managerial, and policy settings. CAS-C. Prerequisite: POL 241 or POL 261.

POL 366. Policy Evaluation. (3)

This course introduces students to public policy and the professional practice of policy analysis. CAS-C, CAS-W. Prerequisite: POL 241 or POL 261.

POL 370. Topics in International Relations. (3; maximum 9)

Topics course in international relations. CAS-C. Prerequisite: POL 271.

POL 372. Terrorism & Counterterrorism. (3)

Introduction to terrorism, both international and domestic, covering the definition, origins, and evolution of this violent phenomenon. Includes a discussion of the origins of modern terrorism, the different types of terrorism, and the influence of religion, ethnicity, and politics. Surveys a wide range of terrorist groups, examines high-profile themes (e.g., WMD terrorism, suicide terrorism, state-sponsored terrorism), and assesses the nature of the threat terrorists pose to global security today with an emphasis on those groups that threaten U.S. citizens and interests. CAS-C. Prerequisite: POL 271 or POL 271H or POL 271W.

POL 373. American Foreign Policy. (3)

Theoretical and case studies in the formulation and conduct of American foreign policy; analysis of the role of personality, intelligence gathering, decision making, and diplomacy in the execution of foreign policy. Prerequisite: POL 271.

POL 374. Foreign Policy Analysis. (3)

Study of foreign policy analysis as a subdiscipline of political science, including the study of foreign policy making and implementation at the individual, domestic and international system levels of analysis. CAS-C. Prerequisite: POL 271.

POL 376. U.S. National Security Policy. (3)

Examination of U.S. national security and defense requirements, the defense policymaking process, U.S. national security interests in the post-Cold War era, the roles for nuclear weapons, new security issues, and the continuing tensions of searching for security in a democratic polity. Prerequisite: POL 271.

POL 377. Independent Studies. (0-6)**POL 381. Global Governance. (3)**

Examines different approaches and institutional arrangements for promoting international cooperation and managing conflict, with special emphasis on developments within the United Nations system, the growth of transgovernmental cooperation, and the grassroots activities of nongovernmental organizations. CAS-C. Prerequisite: POL 271.

POL 382. International Law. (3)

Nature and principles of international law, with special emphasis on changing concepts and conflicting claims in the development of rules for the world community. CAS-C. Prerequisite: POL 271.

POL 385. Russian Foreign Policy. (3)

This course explores Russian foreign policy in the contemporary world, with an eye on the deep historical context that informs the relationships between Russia and the rest of the world. Students will develop an understanding of the theoretical basis for analyzing foreign policy and will apply these tools to the study of Russian foreign policy. CAS-C. Prerequisite: POL 271 or POL 271H or POL 271W.

POL 387. International Security Issues. (3)

Comparative analysis of international security issues, with emphasis on military security concerns and international peacekeeping, and nontraditional security concerns such as human security, food security and resource security. Prerequisite: POL 271.

POL 388. Politics of Cybersecurity. (3)

This course covers the international politics of cybersecurity with a focus of international security. The course utilizes case studies such as China and Russia to learn about the challenges to U.S. cybersecurity. The course engages with major questions of cybersecurity including: does cyber fundamentally reshape the balance of power? Does cyber favor the attacker or defender? What is cyberwar and will it take place? Can offensive cyber operations be deterred? And what kinds of effects does cyber have on international security issues? The course then goes on to explore the role of private and non-governmental actors in cyber, and their role in U.S. cybersecurity policy. Prerequisite: POL 271.

POL 406. Public Policy Analysis Laboratory. (2)

Practice in organizing a policy research team, preparing and presenting an applied policy research project. Practice in the application of program evaluation design, document analysis, interviewing, primary and secondary data collection, data analysis, legislative research, implementation analysis, organizational analysis, benefit-cost analysis, cost effectiveness analysis, and other applied policy research techniques and issues covered in POL 466/POL 566. Required for public administration majors, POL 466/POL 566 Capstone. CAS-C.

Prerequisites: POL 261 or POL 261W, POL 306 or STA 261, and senior standing or permission of instructor.

POL 411/POL 511. American Political Thought. (3)

Examines how traditions of liberalism, republicanism, and religion have shaped American political ideas and culture. Attention to the thought of the Founding, Lincoln's refounding, feminism, and African-American political thought. SC.

Prerequisites: POL 201.

POL 419/POL 519. Civil Society and Modern Politics. (3)

Capstone that discusses the nature of modern civil society, including a discussion of its nature, its historical origins, the problems that threaten its continued existence, and the possible solutions that might be used to preserve and maintain it. SC.

Prerequisite: POL 201 or POL 241.

POL 423/POL 523. European Union: Politics and Policies. (3)

Exploration of the development, structure, and operation of the EC as well as its main policies and their effects on governments, business organizations, and other interests operating in the EC. Examines the interface between politics and economic activity within the EC and its role as a principal economic partner of the U.S., an emerging security actor, and the world's most developed example of regional integration. SC.

Prerequisite: POL 221.

POL 426. Inside Washington. (8)

Engages students in an intensive study of the contemporary Washington, D.C. - government institutions, public officials, journalists, consultants, staff, and interest groups - through reading, lecture, on-site observations, expert presentations, discussion, research, writing, and internships. Program conducted in Washington, DC.

Prerequisite: permission of instructor.

Cross-listed with JRN/MAC.

POL 427. Inside Washington Semester Experience. (4; maximum 4)

Intensive study of the contemporary Washington community-government institutions, public officials, journalists, consultants, staff, and interest groups-through reading, lecture, onsite observations, expert presentations, discussion, research, and writing. Program conducted in Washington.

Prerequisites: permission of instructor.

Co-requisites: JRN/MAC/POL 454; JRN/MAC/POL 377 or 477; JRN/MAC/POL 340.

Cross-listed with JRN/MAC.

POL 430/POL 530. Seminar on Comparative Political Systems. (3; maximum 6)

Students will examine various issues related to the functioning of modern political systems through readings, oral presentations and discussions. They will also write about the relevant literatures and compare specific cases, regions and historical periods. Topics will vary but will include The Rule of Law, modes of governance in authoritarian and hybrid regimes, the empirical and conceptual dimensions of democratic consolidation and democratic collapse, the impact of leadership on domestic and international politics, and the institutional design of different types of political systems.

Prerequisite: POL 221 and POL 241.

POL 437. Cyberlaw. (3)

Introduces the student to the legal issues surrounding e-commerce and cyberspace. Will develop awareness as to how the internet functions; the legal restrictions and limitations placed upon providers of internet service and those who do business on the internet; also explores issues raised in the area of intellectual property and information privacy.

POL 440/POL 540. Havighurst Colloquium. (3)

Exploration of significant issues related to Russian and post communist affairs. Each semester focuses on a central theme or topic that is examined through presentations, readings, research, discussion, and writing. May be repeated once for credit with only 3 hours counting towards the history major.

Cross-listed with CLS 436; ATH 436/536; HST 436/HST 536/536; REL 470A; and RUS 436/536.

POL 454. The Washington Community. (3-4; maximum 4)

This course focuses on the Washington, D.C., as a complex political-social system that is both the seat of American democracy and a metropolis plagued with typical urban problems. In this class, students will complement their study of the formal political and media systems in the "Inside Washington" course by focusing on the development and behavior of constituent communities within the city of Washington.

Cross-listed with JRN/MAC.

POL 459/POL 559. Capstone Seminar on the American Political System. (3)

Examination of broad themes on the American political system through readings, research, writing, presentations, and discussions. Topics vary. SC.

Prerequisite: POL 241.

POL 459G. US Energy Policy. (3)**POL 460/POL 560. Seminar on Public Administration and Policy Analysis. (3)**

Readings, research, reports, and discussion on selected topics and problems.

Prerequisite: POL 261.

POL 466/POL 566. Public Policy Analysis. (3)

Final course in the public administration required core. Study of the stages of policy process including problem definition, policy formulation, implementation, impact, evaluation, and termination, and the role of the policy analyst in these processes. SC. CAS-C.

Prerequisites: POL 261 or POL 261W, POL 306 or STA 261, and senior standing or permission of instructor.

POL 467/POL 567. Public Budgeting. (3)

Theories and techniques of the role of the modern budget in determination of public policy, in administrative planning, control of government operations, and intergovernmental relations.

Prerequisite: POL 261.

POL 468/POL 568. Public Personnel Administration. (3)

Influence of social and political values on public service concepts and institutions. Analysis of the decline of the spoils system and development of civil service. Problems, challenges, and prospects in managing human resources in the public sector at national, state, and local levels, including public service unions, civil liberties of public employees, equal opportunity, affirmative action, health and safety and public productivity.

Prerequisite: POL 261.

POL 471/POL 571. The International System. (3)

Provides opportunity to think critically about the meaning and implications of theories and concepts that have been introduced in their prior course work. Students encouraged to think carefully about how one might conduct research that is designed to test and assess the applicability of these theories and concepts to the international system, past and present. One basic focal point of the class is to think carefully about how well some of the traditional theories about international relations apply to the contemporary international arena.

SC.

Prerequisite: POL 271 and open to senior political science and diplomacy and foreign affairs/diplomacy and global politics majors and to those who have completed an appropriate Thematic Sequence, or permission of instructor.

POL 474/POL 574. Using Large Datasets in the Social Sciences. (3)

This course will address issues unique to conducting statistical analyses on large datasets. Students will learn about common challenges inherent to most large datasets, including locating data of interest, learning how to work with a new large dataset, efficient data processing and management, applying complex sample elements, and working in a research team. How to become familiar with and communicate research findings in a new topic area will also be discussed. Students will work in teams to develop a research question of interest, identify a large dataset with relevant variables, analyze data, and communicate their findings.

Prerequisite: STA 363 or ISA 291 or POL 306 or SOC 262 or GTY 362.

Cross-listed with GTY 474/GTY 574/574.

POL 477. Independent Studies. (0-6)**POL 487. Individual Lives and International Politics. (3)**

Students consider the ways in which personal lives are interwoven into the political lives of nations and the world. Through the use of autobiographies, political histories of 20th century world affairs, and primary documents, students explore the interaction of individual lives and international politics. Students construct their own political autobiographies in partial fulfillment of Capstone requirements. SC. Prerequisite: POL 271 and senior standing and at least one course in international or comparative politics in the Department of Political Science.

POL 489/POL 589. Conflict Management in a Divided World. (3)

Focuses on devising ways to manage contemporary conflicts. Possible areas for investigation include international trade and investment, arms proliferation, ethnic strife, refugees, and immigration. Partners with senior capstone and designed as an exercise in collaborative learning to examine the underlying causes of a particular conflict, explore the different alternatives for managing and/or resolving it, and develop a set of constructive recommendations and a plan for implementation. SC.

Prerequisite: POL 271.

POL 491/POL 591. Social Network Analysis. (3)

The course on social network analysis focuses on applications to social phenomena. This includes topics such as the types of networks, network centrality, network clustering, associativity, community detection, random graph models, models of diffusion, and network visualization. The course allows students to investigate social networks, explain and examine their important characteristics, and relate these features back to social theories. CAS-C.

Prerequisite: POL 306 or STA 363 or ISA 291.

Cross-listed with GTY 491/GTY 591/591.

POL 601. Foundations of Political Analysis. (3)

Study of the history, development and public contributions of the discipline of political science with a focus on key research themes that cut across sub-fields.

POL 603. Introduction to Quantitative Methods. (2)

Introduction to statistical techniques in quantitative methods.

Prerequisite: graduate standing in Political Science.

Co-requisite: POL 604.

POL 604. Public Policy Research. (2)

Introduction to the practice of public policy research. Exploration of the political economy of public policy.

Prerequisite: graduate standing in Political Science.

Co-requisite: POL 603.

POL 605. Writing Workshop for Final Project for Master's Degree. (1)**POL 606. Final Project for Master's Degree. (3)**

Directed research and writing of professional report on a subject to be determined in consultation with student's faculty supervisor.

POL 630. Seminar: Comparative Political Systems. (4; maximum 8)

Specific problems and topics in each seminar will vary.

POL 640. Internship. (0-12; maximum 6)**POL 677. Independent Studies. (0-6)****POL 700. Research for Master's Thesis. (1-12; maximum 12)****POL 710. Research on Political Theory and Methodology. (4; maximum 12)**

Advanced research on selected topics and problems in political theory and methodology.

POL 730. Research on Comparative Political Systems. (4; maximum 12)

Advanced research on selected topics and problems on comparative political systems.

POL 750. Research on the American Political System. (4; maximum 12)

Advanced research on selected topics and problems on the American political system. 750A The Presidency and Congress 750B State and Urban Politics 750C Law and Judicial Politics 750D Political Parties, Interest Groups, and Behavior.

POL 760. Research on Public Administration and Policy Analysis. (4; maximum 12)

Advanced research on selected topics and problems on public administration and policy analysis. Offered infrequently.

POL 770. Research on International Relations. (4; maximum 12)

Advanced research on selected topics and problems on international relations. 770A International Politics 770B Foreign Policy.

POL 780. Readings in Political Science. (1-4; maximum 4)

Directed readings on selected topics in political science.

POL 790. Directed Study in Political Science. (1-16; maximum 24)

Directed and supervised study in doctoral student's major and minor fields of comprehensive examination preparation, including tutorials and reports.

Prerequisite: completion of field course credits for doctoral degree.

Portuguese (POR)

POR 111. Accelerated Introduction to Portuguese. (4)

Intensive language course that allows students to complete the equivalent of first-year Portuguese in one semester. For those with background in Spanish or another Romance language, this course concentrates on basic skills and prepares students for POR 211.

Prerequisite: SPN 101, 102 or 111 or FRE 101, 102 or ITL 101, 102; or three years of a high school Romance language.

POR 177. Independent Studies. (0-6)**POR 204. Brazilian Culture Through Music and Film. (3)**

Through music and film this course raises questions about national identity, history, social, religious, and ethnic diversity in Brazil. IIA, IIB, IIIB. PA-3A, PA-3B, PA-4C. CAS-B.

Cross-listed with FST/LAS/MUS 204.

POR 211. Intermediate Portuguese. (4)

Intensive language course that allows students to complete the equivalent of Portuguese in one semester. CAS-A.

Prerequisite: POR 111.

POR 277. Independent Studies. (0-6)**POR 377. Independent Studies. (0-6)****POR 381. Afro-Brazilian Diaspora Through Film and Arts. (3)**

A focus on questions of gender, race, class and stereotypes in the African Lusophone countries. Taught in English. CAS-B-LIT.

Prerequisite: any literature course.

Cross-listed with ENG/CRE/FST.

POR 383. Brazilian Women through Literature and Film. (3)

Addresses questions about gender, race, class and stereotype of women's bodies in 20th-century Brazil. IIB, IIIB. PA-3B, PA-4C. CAS-B-LIT.

Cross-listed with ENG/WGS/FST.

POR 477. Independent Studies. (0-6)

Pre-Law Studies (PLW)

PLW 101. Exploring Careers in Law I. (1)

Explores the various areas of legal practice through guest legal practitioners and helps students considering a career in the legal profession develop an appreciation for the diversity of the legal field, the various career options available upon graduation from law school, what is required to prepare for admission to law school, and the core competencies required for law school success.

PLW 201. Exploring Careers in Law II. (1)

This one hour per week course will expose students to the skills and experiences used by lawyers in practice. Exploration of these skills will embrace a variety of disciplines and use a combination of case studies and guest speakers to both discuss and engage with these skills. Topics include: issue spotting, persuasion, advocacy, strategy, human behavior, mediation/ADR, negotiation and ethics.

PLW 230. Mock Trial. (2; maximum 6)

Practical experience in intercollegiate mock trial competition; requires travel to intercollegiate mock trial tournaments.

Prerequisite: only members of mock trial team may enroll.

PLW 301. Professionalism and Ethics in Legal Practice. (3)

Exposes pre-professional students to current legal ethics and professionalism issues that impact law and policy careers. This course will use a combination of case studies, personal reflections, and class discussions to allow students to understand current and future legal career issues and formulate a personal ethical framework to navigate them. Topics include: Professionalism, Client/Constituency Representation, Best Practices, and Individual/Collective Policy.

PLW 401. Preparing for a Career in Law. (1)

Prepares students to navigate the law school admissions process. Students reflect on their motivation for becoming a lawyer through preparing resumes and personal statements for their applications, and learn how to research law schools, prepare a law school list, and complete on-line applications.

Premedical Studies (PMD)

PMD 101. Explorations in Healthcare Careers. (1)

Explores the various career pathways in healthcare and helps students considering a career in a healthcare field develop a comprehensive plan of preparation for admission to medical school or other healthcare profession school. This professional development course is for all students considering a career in healthcare. Credit/no-credit only.

PMD 177. Independent Studies. (0-6)**PMD 277. Independent Studies. (0-6)****PMD 301. Navigating Healthcare Professional School Admissions. (1)**

Prepares students to navigate the healthcare professional school admissions process. Students reflect on their motivation for becoming a healthcare provider and develop personal statements and descriptions of activities for their applications. The final product will be completion of a mock application to a healthcare professional school and mock interview. This professional development course will be of interest to students applying to medical or other health profession school. Credit/no-credit only.

PMD 320. Topics in Healthcare. (1-3; maximum 6)

Focuses on selected topics in healthcare.

PMD 340. Internship. (0-20)**PMD 377. Independent Studies. (0-6)****PMD 410. Issues in Healthcare. (1-3; maximum 6)**

Focuses on selected topics in healthcare.

Prerequisites: BIO/MBI 116, CHM 142, junior status.

PMD 477. Independent Studies. (0-6)

Psychological Science (PSS)

PSS 177. Independent Studies. (0-6)

PSS 211. College and Career Development in Psychological Science. (3)

What can you do with a major or minor in Psychological Science? Whether you plan to enter directly into the workforce or continue to graduate or professional school, this course will help you to develop the skills you need to stay on track in college, and to explore careers, design a vocational plan, set goals, and develop strategies to make you ready for your professional life after graduation. It is recommended that students take this course prior to the junior year.

PSS 277. Independent Studies. (0-6)

PSS 302. Introduction to Research Design and Analysis. (4)

Introduction to the process and skills required to conceive, design, conduct, analyze, interpret, visualize, and report results from social science research. Students will learn how to formulate research questions, construct research hypotheses based on relevant theories, employ sound methodological research, and conduct and interpret statistical analyses.

Prerequisite: STA 261.

PSS 310. Introduction to Industrial and Organizational Psychology. (3)

Introduction to basic topics in industrial and organizational psychology, including human resources, worker productivity and satisfaction, motivation, leadership, organizations, and job analysis.

Prerequisites: PSY 111 or equivalent, PSY 294 or PSS 302.

PSS 312. Drugs and Behavior. (3)

This course covers the principles of drug actions in the nervous system and describes the effects of drugs on behavior. Focus is given to drugs that are commonly used in recreational and clinical settings.

Prerequisites: PSY 111, PSY 251 AND PSY 294 OR PSS 302.

PSS 315. Learning, Memory, and Behavior. (3)

This course is an empirical and theoretical examination of the processes of learning, memory, and behavior, including the origin and history of concepts and theories in learning and memory. For learning, the focus will be on habituation, classical and operant conditioning, and behaviorist approaches. Although most of the research findings will come from animal experiments, the relevance of these findings and concepts to understanding human behavior will be discussed. For memory, the focus will be on human memory, cognition, and attention. Students will be introduced to artificial intelligence, neural networks, and processes of attention. Special attention will be paid throughout to neuroanatomical and neurophysiological substrates of learning, memory, and behavior.

Prerequisites: PSY 111, PSY 271 and PSY 294 OR PSS 302.

PSS 320. Special Topics in Psychological Science. (3; maximum 6)

Examination of selected topics, emphasizing the application of psychological theories, principles, research, and methods to focused phenomena, including contemporary issues.

Prerequisite: PSY 294 OR PSS 302.

PSS 340. Internship. (0-20)

PSS 350. Introduction to Counseling Methods. (3)

Introduction to Counseling will emphasize the scientific, experimental character of psychology in exploring how we perceive and respond to the world and how we are shaped by internal and external influences. We will look at historical theories and new research findings. By the end of the course, you should be able to better understand the professional roles, skills, and responsibilities of clinical and counseling psychologists, licensed professional counselors, and clinical social workers in American society and the current challenges/issues surrounding the mental health profession.

Prerequisites: PSY 111 or equivalent, PSY 294 OR PSS 302.

PSS 377. Independent Studies. (0-6)

PSS 401. Capstone in Psychological Science. (3; maximum 6)

As a culminating experience in the major, students will view a topic in psychological science from a variety of lenses (for example, individual/identity level, psychosocial/group level, sociocultural, neurobiology/physiology, evolutionary/ethological). Seminar style sessions will include students on the planning and coordination of class activities, which will include writing and presenting research or research summaries for both professional and non-professional audiences. SC.

Prerequisites: PSY 111 or equivalent, PSY 294 or PSS 302.

PSS 402. Advanced Research Design and Analysis Capstone. (3)

Extends the foundation for research skill developed in PSS 302, with an emphasis on using current issues and methodologies to design, analyze, and report the results of applied research collected through multiple qualitative and/or quantitative research methodologies, such as the experimental method, observation, etc. Emphasis is placed on communicating the results of original research to scientific and lay audiences. SC.

Prerequisite: PSS 302.

PSS 420. Advanced Topics in Psychological Science. (3-4)

Advanced consideration of selected topics in psychological science emphasizing the application of theories, principles, research, and methods to focused phenomena, including contemporary issues.

Prerequisites: PSY 111 or equivalent, and ([PSY 293 and PSY 294] or PSS 302).

PSS 477. Independent Studies. (0-6)

Psychology (PSY)

PSY 111. Introduction to Psychology. (3)

Introduction to content, methods, issues, and theories of psychology. Credit not granted to students who have earned credit in EDP 101. IIC. PA-2A. CAS-C.

Prerequisite or Co-requisite: PSY 112 or PSY 112M.

PSY 112. Foundational Experiences in Psychology. (1)

Introduction to fundamental early experiences in psychological research and practice. Students will become familiar with important features of psychological research and how core skills of psychological science relate to academic and non-academic careers.

Prerequisite or Co-requisite: PSY 111.

PSY 112M. Foundational Experiences for Majors. (1)

Introduction to fundamental early experiences in psychological research and practice. Students will become familiar with important features of psychological research and how core skills of psychological science relate to academic and non-academic careers.

Prerequisite: PSY 111.

PSY 159. Seminar in Neuroscience. (1)

Provides an introduction to the field of neuroscience and includes discussions of experimental techniques and methodology and career opportunities in neuroscience, the interdisciplinary nature of the field, and the scientific method and the development and testing of hypotheses; will expose students to the synthesis of scientific literature in the field of neuroscience and to ways to effectively communicate this information to a broad audience.

Cross-listed with BIO 159.

PSY 177. Independent Studies. (0-6)**PSY 200. Selected Topics of Psychological Inquiry. (1-3; maximum 4)**

Selected topics emphasizing application of psychological principles and methods to contemporary issues. Information on topics to be offered each term is available in department office.

PSY 210. Psychology Across Cultures. (3)

A topics course, focused on the examination of culture and cultural perspectives, within the United States and globally, as frameworks through which theories and findings of the field of psychology may be critically evaluated. IC, IIC, IIIB. PA-2A, PA-4B. CAS-C.

Prerequisite: PSY 111.

Cross-listed with AAA 210.

PSY 211. Psychological Perspectives on Leadership and Pedagogy in the College Classroom. (2)

Prepares students to serve as discussion leaders in PSY 111. Students will learn about good pedagogical practices; resources offered by the university to support student learning; and intellectual development in college students.

Prerequisites: PSY 111 and permission of instructor.

PSY 212. Practicum in Leadership and Pedagogy. (3)

Students will lead a 50-minute discussion section connected to PSY 111. Course participants will be provided ongoing supervision to facilitate their development as discussion leaders and leaders in the undergraduate community in supporting student learning; and intellectual development.

Prerequisites: PSY 111 and PSY 211.

PSY 221. Social Psychology. (3)

Theories and research findings of social psychology including social cognition, intergroup relations, social perception and judgment, social relationships, social influence and persuasion, and group processes.

Prerequisite: PSY 111.

PSY 231. Developmental Psychology. (3)

Psychological development over the lifespan; research and theory in physical, perceptual, cognitive, language, and socio-emotional development.

Prerequisite: PSY 111 or EDP 101.

PSY 241. Personality. (3)

Bases and acquisition of personality, emphasizing principles, theories, and research.

Prerequisite: PSY 111.

PSY 242. Abnormal Psychology. (3)

In-depth survey of symptoms, causes, diagnosis, and treatment of major psychological disorders including functional and organic psychoses, neuroses, personality disorders, psychophysiological disorders, affective disorders and suicide, alcoholism and other drug use disorders, psychosexual deviations, mental retardation, and abnormal behaviors associated with childhood, adolescence, family, and old age.

Prerequisite: PSY 111.

PSY 251. Introduction to Biopsychology. (3)

Introduction to basic research and theory in physiological psychology: brain mechanisms and consciousness, memory, thought, emotion, and stress. Basic neurophysiology and neuroanatomy, as well as nervous system-endocrine system integration are included.

PSY 271. Survey of Perception, Action, and Cognition. (3)

Introductory survey of topics in vision, audition, haptics, attention, memory, reasoning, written and spoken discourse, concepts, reasoning, decisions, and motor control.

PSY 277. Independent Studies. (0-6)**PSY 293. Introduction to Psychological Statistics. (4)**

Provides an introduction to analyzing, interpreting, and reporting results in psychological research. It prepares students to analyze data. Topics include descriptive and inferential statistics. CAS-C. CAS-Q.

Prerequisite: STA 261.

PSY 294. Writing and Research Methods in Psychology. (4)

Extends the foundation for research skill developed in PSY293, with an emphasis on the experimental method and other methodologies (survey, observation, etc.), as well as on scientific writing according to disciplinary conventions (APA style). The completion of this two-course sequence will prepare students for independent research and thorough understanding of upper-level course content. ADVW. PA-1C. CAS-C, CAS-Q, CAS-W.

Prerequisite: PSY 293.

PSY 313. Advancing in Leadership and Pedagogy. (1-3)

Students who have already led a discussion group as part of PSY 111 will have the opportunity to lead another discussion group and pursue a project of their own choosing that addresses a problem in which they have developed a significant interest as a result of previous work as a discussion leader.

Prerequisites: PSY 111, PSY 211, PSY 212 and permission of instructor.

PSY 320. Advanced Topics In Psychology. (1-4; maximum 8)

Advanced consideration of selected topics, emphasizing the application of psychological theories, principles, research and methods to focused phenomena, including contemporary issues.

Prerequisite: PSY 294.

PSY 324. Advanced Social Psychology. (3)

Advanced topics in contemporary social psychology.

Prerequisites: PSY 221 and PSY 294 or permission of instructor.

PSY 325. Psychology of Prejudice and Minority Experience. (3)

Consideration of psychological factors underlying prejudice toward racial, ethnic, and other minorities. Impact of prejudice and discrimination on members of minority groups. IC. PA-4B.

Prerequisite: PSY 221 and PSY 294.

PSY 326. Psychology of Gender. (3)

Review and integration of emerging theory and research about women and their behavior, with particular attention to uniquely female experiences throughout the life cycle and to the influences that affect women in contemporary society.

Prerequisites: PSY 221 and PSY 294.

Cross-listed with WGS.

PSY 327. Intro to Social Cognition. (3)

Consideration of cognitive factors underlying social interaction and thought. Discussions of how we encode, interpret, process, recall and respond to social stimuli.

Prerequisites: PSY 221 and PSY 294.

PSY 331. Infant Development. (3)

A survey of research and theory on physical, cognitive and social development in infancy.

Prerequisite: PSY 231 and PSY 294.

PSY 332. Child Development. (3)

A survey of research and theory on physical, cognitive and social development in infancy and childhood.

Prerequisites: PSY 231 and PSY 294.

PSY 333. Adolescent Development. (3)

Survey of research and theory on physical, cognitive, and social development in adolescence.

Prerequisites: PSY 231 and PSY 294.

PSY 334. Adulthood and Aging. (3)

Psycho-social functioning across adulthood with a focus on middle and old age. Changes in and determinants of body structures and functions, motor skills, intelligence and cognition, personality, and social behavior.

Prerequisites: PSY 231 and PSY 294.

PSY 340. Internship. (0-20)**PSY 343. Psychopathology. (3)**

Physical, developmental, and social sources, symptoms, treatment, and prevention of abnormal behavior; emphasis on current research and theory.

Prerequisite: PSY 242.

Prerequisite or Co-requisite: PSY 294.

PSY 345. Childhood Psychopathology and Developmental Disabilities. (3)

Study of children considered biologically, psychologically, and/or socio-culturally deviant. Psychological theory and practice are emphasized. Recommended: PSY 231.

Prerequisite or Co-requisite: PSY 294.

PSY 351. Advanced Biopsychology. (4)

Current theories and research in motivation, emotion, learning and memory, and/or sensation and perception. Laboratory includes anatomical dissections of sheep brains and experimentation in biopsychology, including behavioral research with rodents and analysis of prepared tissue samples.

3 Lec. 1 Lab.

Prerequisite: BIO 305 or (PSY 251 and PSY 294) or permission of instructor.

PSY 352. Structured Research Experience in Behavioral Neuroscience. (3)

This course is part of a year-long focused research experience for junior- and senior-level undergraduates. This course teaches students to engage with, interpret, and present findings from behavioral neuroscience experiments. Students will learn to interpret empirical literature related to a focused problem in behavioral neuroscience, develop a testable hypothesis based on that literature, design an ethical study to test the hypothesis, and learn the skills necessary to conduct the proposed research.

PSY 356. Psychopharmacology. (3)

Survey of the major classes of psychoactive drugs. In addition to behavioral and psychological effects, emphasis is placed on sites and mechanisms of drug action.

Prerequisite: PSY 251 or BIO 305 or permission of instructor.

PSY 372. Learning & Cognition. (3)

Explores key concepts and empirical findings from the study of human learning, memory, cognition, and knowledge representation and their ramifications for developing expertise and designing learning environments and experiences.

Prerequisite: PSY 294, PSY 271.

PSY 374. Psychology of Language and Thought. (3)

Provides an acquaintance with research and theory in thinking, communication, psycholinguistics, and relation of language to thought processes.

Prerequisite: PSY 271 and PSY 294.

PSY 375. Laboratory in Perception, Action, and Cognition. (4)

Students will conduct research projects inspired by current theories in perception, action, and/or cognition. This course will allow students to learn advanced laboratory techniques and methodologies, and further develop communication skills through oral and written presentations of their research.

3 Lec. 1 Lab.

Prerequisite: PSY 294.

PSY 376. Psychology of Judgment, Decision Making, and Reasoning. (3)

An exploration of the psychology of human judgment and decision making (JDM) and reasoning: what it means to interpret, evaluate, make inferences about and otherwise judge aspects of our world to make decisions and solve problems from the momentous to the mundane. Students participating in this seminar will develop a deep appreciation of central questions that have driven the field (e.g., the nature of rationality); the theories and methods used to tackle these questions; and the role of internal and external influences on how we make decisions and act upon them to achieve our goals.

PSY 377. Independent Studies. (0-6)**PSY 394. Editorial and Publishing Processes in Psychology. (2)**

Introduces students to the editorial and publication processes in psychology. Students will gain skills such as manuscript preparation, peer review, drafting professional cover letters, responding to reviewer criticism, and making editorial decisions. The course is intended to prepare students for membership on the board of the department's undergraduate research journal.

Prerequisites: PSY 293 and PSY 294.

PSY 400. Senior Honors in Psychology. (3)

Focus on developing scientific writing and methodological skills for students pursuing an honors thesis within psychology.

Prerequisite: permission of instructor required.

PSY 410. Capstone Seminar in Psychology: The Multiple Determinants of Behavior. (3)

Promotes the integration of the student's knowledge of psychology to a particular topic within psychology. SC.

Prerequisite: PSY 294.

PSY 420. Seminar in Social Psychology. (3; maximum 6)

Intensive study of a major topic in the general area of social psychology. Topic may be from among the following areas: socialization, social cognition, person perception, attributions, attitudes and stereotyping, small group, intergroup and organizational process, prejudice and victimization.

Prerequisite: PSY 221 and PSY 294.

PSY 430. Seminar in Developmental Psychology. (3; maximum 6)

Current research and theory on topics in developmental psychology.

Prerequisites: PSY 231 and PSY 294.

PSY 433/PSY 533. Advanced Developmental Psychology. (3)

This course is an advanced examination of contemporary life span issues in human development.

Prerequisite: graduate level for graduate students and completion of PSY 293 and PSY 294 and one of the 400-level developmental courses.

PSY 440/PSY 540. Special Topics in Psychopathology. (3; maximum 9)

This course will offer students the opportunity to examine advanced topics in the study of child or adult psychopathology. Students will investigate in depth current research on the origins, developmental course, and outcomes associated with specific mental health problems in children or adults.

Prerequisites: PSY 242 and PSY 294.

PSY 451/PSY 551. Cognitive Neuroscience. (3)

Presents the modern science of understanding mechanisms of the mind in which cognitive theory is integrated with neuropsychological and neuroscientific evidence. Topics include the cognitive and biological bases of perception, attention, memory, language, hemispheric specialization, executive function, imagery, and consciousness. Techniques of cognitive science such as brain imaging (MRI, PET, ERP), the study of patient populations, and computational analyses will be integrated with content of the course.

Prerequisites: BIO 305 or PSY 294 and one of the following: PSY 251, PSY 271.

PSY 452. Structured Research Experience in Behavioral Neuroscience II. (3)

This is the final course in a year-long course-based undergraduate research experience (CURE) in behavioral neuroscience targeting juniors and seniors. This course guides teams of students through conducting their novel research study previously proposed. Activities include data collection, statistical analysis, interpretation, and scientific writing. Student teams present their work in oral and written forms at the end of the semester.

Prerequisite: PSY 352.

PSY 456/PSY 556. Advanced Biological Bases of Behavior. (3)

In depth discussion of the structure and function of the vertebrate nervous system, ranging from the cellular basis of neuronal activities to the physiological bases of motor control, sensory systems, motivated behaviors, higher mental processes, and disorders. This course is intended for graduate students and advanced neuroscience-focused undergraduates, with interests ranging from animal behavior to clinical disorders.

Prerequisites: (PSY 294 and (PSY 351 or PSY 356 or PSY 352 or PSY 451/PSY 551) and senior standing) or (BIO 305 and PSY 251 and senior standing) or permission of the instructor.

PSY 458. Capstone Seminar in Neuroscience. (3)

Intensive study of a major topic in the field of Neuroscience, with the aim of the integration of the student's knowledge of Neuroscience to a particular topic within Neuroscience. SC.

Prerequisites: PSY 251 and one of the following: PSY 294 OR BIO 305 OR (BOTH BIO 161 AND BIO 203).

PSY 470. Seminar in Cognition. (3)

Intensive study of a major topic within the general area of human cognition. Topic may be drawn from the areas of perception, memory, decision making, psycholinguistics, intelligence, or learning.

Prerequisites: PSY 271 and PSY 294.

PSY 473/PSY 573. Human Factors/Ergonomics. (4)

Introduction to the field of human factors. Application of principles of experimental psychology toward the goal of optimizing relations between the individual and technological products and environments.

Prerequisite: PSY 271 and PSY 294.

PSY 474/PSY 574. Advanced Cognitive Processes. (3)

Advanced introduction to central concepts in cognitive psychology. Primary topics include perception, attention, memory, categorization, skill acquisition and expertise, automaticity, decision making, visual imagery, and language. The neuroanatomical and neurophysiological implementation of basic cognitive processes will also be addressed.

Prerequisites: PSY 271 and PSY 294 or instructor approval.

PSY 477. Independent Studies. (0-6)**PSY 480. Independent Reading for Department Honors. (1-6; maximum 6)**

Prerequisite: PSY 294, senior standing and permission of instructor.

PSY 485. History and Systems of Psychology. (3)

History of psychology from its early philosophical forbearers, through its development within various sciences, to a stage of quasi-maturity in the systems of late 19th and 20th centuries.

PSY 490. Capstone Experience in Psychology: Research Apprenticeship in Psychology. (1-3; maximum 6)

Allows students to integrate their work in psychology by participating in a specific faculty-directed research project. Minimum of three semester hours must be earned to meet the Capstone requirement. SC.

Prerequisite: PSY 294 and permission of instructor.

PSY 601. Statistics and Methods I. (3)

Introduction to methodological issues and data analyses for applications in psychology. Topics include philosophy of science, the role of statistics, probability, sampling distributions and estimation, hypothesis testing, ways of collecting categorical data, shortcomings of and alternatives to hypothesis testing, Bayesian inference, correlation and causation, effect size and power, threats to internal validity, alternatives to quantitative analysis, ethical issues in research methodology, and computational methods of analysis. This is the first course in a two course sequence to be followed by PSY 602.

Prerequisite: graduate standing in Psychology or permission of instructor.

PSY 602. Statistics and Methods II. (3)

A second course in the introduction to methodological design and analysis for applications in psychology. Topics include statistical assumptions and methodological consequences, one-way ANOVA, contrasts and trend analysis, factorial ANOVA, repeated measures designs, linear regression, causal modeling, ethics and alternatives to quantitative analysis. This is the second course in a two course sequence following PSY 601.

Prerequisite: graduate standing in Psychology and PSY 601, or permission of instructor.

PSY 603. Proseminar in Psychology I. (1)

Overview of contemporary psychology.

PSY 604. Proseminar in Psychology II. (1)

Overview of contemporary psychology.

PSY 605. Multicultural Topics in Clinical Psychology. (3)

Provides an exploration of issues related to culture and diversity in clinical research, theory, and practice with the aim of facilitating students' cultural competence.

Prerequisites: Enrollment in a graduate program in the Department of Psychology and permission of instructor.

PSY 620. Seminar in Experimental Psychology. (1-3; maximum 9)

Current research and theory in topics from experimental psychology.

PSY 630. Seminar in Social Psychology. (3; maximum 12)

Current research and theory in topics from social psychology.

PSY 640. Internship. (0-12; maximum 6)**PSY 6450. Clinical Supervision I. (1)**

First course of a two course sequence designed to introduce doctoral students to clinical supervision. Course covers topics such as supervision theory, models, and implementation.

Prerequisite: permission of instructor.

PSY 6451. Clinical Supervision II. (1)

Second course of a two course sequence designed to introduce doctoral students to clinical supervision. Course covers topics such as advanced supervision theory, models, and implementation.

Prerequisite: permission of instructor.

PSY 646. Psychological Assessment I. (3)

First course of a two course sequence designed to introduce doctoral students to psychological assessment. Course covers topics such as principles of psychological measurement, assessment issues with multi-cultural populations and the ethics of assessment. Contemporary theories of intelligence and use of the Wechsler Scales are also taught.

Prerequisite: admission to clinical psychology program.

PSY 647. Psychological Assessment II. (3)

Second course of a two course sequence designed to introduce doctoral students to psychological assessment. Course covers topics such the diagnosis/assessment interface and specific assessment techniques such as interviewing, behavioral observations and measures such as personality, adaptive behavior and academic achievement are taught.

Prerequisite: admission to clinical psychology program and PSY 646.

PSY 648. Developmental Psychopathology across the Lifespan. (3)

Overview of etiology, phenomenology, course, diagnosis and correlates of psychopathology, with an emphasis on processes across the lifespan.

Prerequisite: either admission to the clinical program or approval by the clinical faculty and permission of the instructor.

PSY 649. Ethics in Clinical Psychology. (3)

Introduction to ethical theory and standards for the profession. Introduction to law and psychology. Issues in clinical and professional development.

Prerequisite: completion of PSY 648 or approval of the clinical faculty and permission of the instructor.

PSY 650. Independent Reading. (1-5; maximum 20)

Supervised, in-depth study of circumscribed area of psychology.

Prerequisite: permission of instructor.

PSY 653. Adult Evidence-Based Clinical Intervention. (3)

This course is intended to prepare students to utilize evidence-based principles in the practice of clinical psychology. This class blends theoretical and empirical readings with the practice of psychology.

Prerequisite: admission in the psychology department graduate program in clinical psychology or permission of the instructor.

PSY 654. Affective Development. (3)

Provides foundational and contemporary perspectives on the science of emotion and the science of lifespan development. For each of these separate literatures, a focus on evolutionary, biological, cognitive, social and cultural influence on both emotion and development will be incorporated. The course then provides an integrated perspective on understanding emotion from a developmental perspective.

Prerequisites: Graduate standing in Department of Psychology or permission of the instructor.

PSY 660. Child/Adolescent Evidence-Based Clinical Intervention. (3)

This course will cover both theory and technical skills to prepare students to implement evidence-based approaches with children/adolescents/families for common clinical problems (e.g., emotion regulation, conduct problems) and diagnoses (e.g., ADHD, anxiety, depression, autism) with a focus on cognitive-behavioral theory and developmental psychopathology framework.

PSY 670. Graduate Clinical Psych Traineeship. (1-4; maximum 12)

Supervised experience in psychological interventions in public and private agencies or settings. Includes both seminar meetings and on-site conferences.

Prerequisite: admission to clinical program, approval by clinical faculty, and permission of instructor.

PSY 670A. Initial Clinical Psychology Traineeship. (1-4; maximum 12)

Supervised experience in psychological interventions in public and private agencies or settings. Includes both seminar meetings and on-site conferences.

Prerequisite: admission to clinical program, approval by clinical faculty, and permission of instructor.

PSY 670B. Advanced Clinical Psych Traineeship. (1-4; maximum 12)

Supervised experience in psychological interventions in public and private agencies or settings.

Prerequisite: admission to clinical program, approval by clinical faculty, and permission of instructor.

PSY 677. Independent Studies. (0-6)**PSY 680. Advanced Topics in Research Methods and Analysis for the Behavioral Scientist. (1-6; maximum 9)**

Current topics in statistical analysis and research methods in contemporary psychological research. Topics may include statistical modeling procedures, meta-analysis, program evaluation, non-parametric analysis, Bayesian analysis, mathematical modeling, and other advanced issues in quantitative research design and analysis.

PSY 685. Practicum in the Teaching of Psychology. (3)

Supervised experience in preparation and presentation of lectures, demonstrations, and evaluation in undergraduate psychology courses. Credit/no-credit only.

PSY 694. Advanced Regression Analysis for Psychological Research. (3)

Covers mediation, moderation, and multilevel modeling within the multiple regression framework with a focus on the relevance to applications within psychology.

PSY 696. Structural Equation Modeling for the Behavioral Scientist. (3)

An introduction to a set of multivariate techniques collectively known as structural equation modeling. Topics include review of correlation and multiple regression, as well as an introduction to path analysis, factor analysis, structural causal modeling, growth modeling, and person-centered statistical approaches.

PSY 697. Theory and Practice of Narrative Research. (4)

Provides an introduction to the application of social constructionist epistemology and narrative methodologies in psychological research. Also provides an overview of conceptual frameworks and an opportunity for students to apply knowledge.

Prerequisites: Graduate status and at least one previous graduate-level course in social science methodology.

PSY 700. Research for Master's Thesis. (1-12; maximum 12)**PSY 710. Independent Research in Psychology. (1-16; maximum 30)**

Design and execution of an independent research project with faculty supervision.

PSY 730. Advanced Seminar in Social Psychology. (3-4; maximum 18)

Consideration of a specialized topic in depth from current research literature in social psychology.

PSY 740. Advanced Seminar in Clinical Psychology. (1-4; maximum 18)

Consideration of specialized topics in clinical psychology.

Prerequisite: permission of instructor.

PSY 750. Advanced Clinical Techniques. (1-6; maximum 30)

Provides integration of theory and research in techniques of psychological intervention, with practicum experience in the application of these techniques.

Prerequisites: admission to clinical program, approval by clinical faculty, and permission of instructor.

PSY 755. Continuing Clinical Supervision. (1-3; maximum 3)

Provides ongoing supervision of cases in the Psychology Clinic after the end of PSY 750.

Prerequisite: permission of instructor.

PSY 780. Seminar in Brain, Cognitive, and Developmental Science. (1; maximum 10)

Introduces students to Brain and Developmental Science (BCD) graduate program to a broad spectrum of theories, research, and practical application of BCD science. Students will enhance their knowledge of BCD science by their participation in discussion of BCD faculty and student research. In addition, students will engage in discussing their dissertation research, practicing job talks, and acquiring tools to prepare them for non-academic professions.

Prerequisite: graduate student standing.

PSY 840. Internship in Psychology. (1-6; maximum 12)

Year-long internship in clinical or research setting. Required of clinical students, optional for others.

Prerequisite: permission of director of clinical training program or departmental chair.

PSY 850. Research for Doctoral Dissertation. (1-16; maximum 60)

Prerequisite: admission to candidacy for doctoral degree.

Religion, Comparative (REL)

REL 101. Introduction to the Study of Religion. (3)

Introduction to the study of religion as a phenomenon of human culture. Various examples of religion are observed and compared in relationship to a thematic and methodological framework. IIB. PA-3B. CAS-B.

REL 133. Imagining Russia. (3)

Survey of Russian history, society, politics, economy, literature, film, and arts from a variety of intellectual perspectives. Classroom lectures plus out of class cultural presentations. IIB, IIIB. PA-3B, PA-4C. CAS-B. Cross-listed with RUS.

REL 177. Independent Studies. (0-6)**REL 201. Methods for the Study of Religion. (3)**

Classical and contemporary theories of the nature, origin, and function of religion in human society. Required for majors and minors in comparative religion. ADVW. PA-1C. CAS-W.

Prerequisite: sophomore standing.

REL 203. Global Religions of India. (3)

Explores the major religions of India and their growth outside India. Asks how these religions have contributed to the religious pluralism of America. Also asks how Asian American and non-Asian American practitioners of these religions have changed the way that religion is practiced in India and other parts of Asia. IIB, IIIB. PA-3B, PA-4B. CAS-B. Cross-listed with AAA 203.

REL 223. Introduction to Buddhism. (3)

Explores the development of Buddhism in India and South Asia. Examines the relationship between early Buddhist values and those of the larger culture in India, especially with regard to the importance of marriage, family, and accumulation of wealth. As Buddhism spread to Nepal, Tibet, Sri Lanka, Burma, and Thailand, it was transformed by and effected profound changes within these other cultures. These cultural interactions are explored.

REL 226. Introduction to Islam. (3)

Origin and early history and rapid spread of Islam as a world faith, development of Muslim theology and culture, major groups and thinkers, and problems and issues of the present.

REL 241. Religions of the American Peoples. (3)

A wide-ranging introductory survey of ways that different religions practiced in the United States may shape the lives of your future colleagues, clients, or neighbors in areas including dress, diet, sexuality, finances, health, attitudes toward science and technology, and the lived experience of time (routines, holidays, life-cycle events). You'll gain critical perspective on how people construct and negotiate their religious identities. And you'll investigate an issue, challenge, or opportunity that religion creates in whatever field of work you are preparing to enter. IC. PA-4B. CAS-B.
Cross-listed with AMS.

REL 254. Introduction to Russian and Eurasian Studies. (3)

Examines the major developments that have shaped Russian and Eurasian Culture, society and politics over the last millennium. The course incorporates perspectives from the social sciences, humanities and the fine arts. IIB. PA-3B. CAS-B.
Cross-listed with ATH 254, CLS 254, HST 254, POL 254, and RUS 254.

REL 275. Introduction to the Critical Study of Biblical Literature. (3)

Surveys origins, historical development, content of texts, both canonical & non-canonical, that contributed to the formation of the Bible against the background of the advent & continuing development of modern literary and historical-critical methods. IIB. PA-3B. CAS-B.

REL 277. Independent Studies. (0-6)**REL 286. Global Jewish Civilization. (3)**

How did the Jewish people persist through the vicissitudes of enslavement, conquest, dispersion, and return, over the course of three thousand years of history? In this course, we will study of the encounter between Jews and the cultures and lands in which they lived, through a consideration of Jewish sacred texts and literature, spanning the globe from Ancient Mesopotamia to modern America. IIB, IIIB. PA-3B, PA-4C. CAS-B.

REL 305. Becoming Christianity. (3)

Students will learn how a sect became an enduring "religion" in its own right, how sects make their case for legitimacy, establish group identities, wrestle with factions and disunity, and eventually transcend ethnic boundaries so thoroughly that a former sect comes to reside among peoples who were once excluded from its original group. CAS-B.
Cross-listed with HST 305.

REL 306. History of Christian Thought. (3)

A survey of the history of Christian thought that introduces the major intellectual issues throughout Christian history, including understandings of God, evil, human nature, and salvation. Examines the diversity in Christianity between and within Orthodox, Catholic, and Protestant traditions. Explores the interaction between intellectual developments and historical context. CAS-B.
Cross-listed with HST 306.

REL 313. Marriage Across Cultures. (3)

This class engages feminist theory and gender studies to explore the consequences of different types of marital formations (polygamous as well as monogamous) for the lives of women and men in selected Western and non-Western cultures. IC. PA-4B. CAS-B.
Cross-listed with WGS.

REL 314. Social and Religious History of the Jewish People. (3)

Cultural, social, and religious history of Jews in Europe, America, and the Middle East since Enlightenment with emphasis on 20th century and in the context of the larger society and culture. IIB. PA-3B. CAS-B.

REL 316. The Age of the Reformation. (3)

The religious revolutions of the 16th century, both Protestant and Catholic, in their social, political, and religious contexts. Topics chosen from: medieval reform movements and heresies; popular religion; the debates about clerical celibacy, free will, and the priesthood; social discipline and the modern state; family and women; the missions to the New World; the witch craze and the Inquisition.
Cross-listed with HST 316.

REL 330. Religion, Sex, & Gender. (3; maximum 6)

Do people have gender-specific ways of experiencing religious life? Learn how gender and sexuality shape a person's religious life. See how organized religion is in turn shaped by the lived experience of humans with gendered and sexualized bodies. Apply feminist and queer theory to selected case studies in order to analyze how religions respond to people and how people respond to religion. CAS-B.
Cross-listed with WGS 330.

REL 331. Paul and the Beginnings of Christianity. (3)

History, institutions, and thought of early Christianity in the first two centuries, C.E., including the letters of Paul and early interpreters of Paul.

REL 333. Religion, Dress, and Status. (3)

Displays of status through constrictive dress and gender segregation will be explored with reference to religion, gender, and class. Course will explore the topic through selected case studies, several of which involve Islamic cultures.
Cross-listed with WGS.

REL 336. Reconstructing Jesus. (3)

There are a lot of Jesuses out there; the divine savior, the wandering Jewish preacher, the apocalyptic prophet, the revolutionary, the moral philosopher—each one someone's reconstruction. How do we get to the Jesus of History, and what does that even mean? Students explore the intellectual and methodological problems in reconstructing a historical figure — none more influential than Jesus of Nazareth.

REL 340. Internship. (0-20)**REL 341. Protestantism and the Development of American Culture. (3)**

History and symbolic structure of American Protestantism and its role in the development of American culture.

REL 342. Religious Pluralism in Modern America. (3)

Historical and cultural analysis of religious communities of the U.S. of primarily non-European origin. Includes African American, Native American, Latino, and Middle Eastern and Asian traditions, including Islam. IC. PA-4B. CAS-B.

REL 343. African-American Religions. (3)

An historical survey of the formulation and expression of African-American religions from slavery to the present, including culturally specific forms of Christianity and Islam, as well as reinventions and reinterpretations of African traditions. Cross-listed with CRE.

REL 355. Religion and Law. (3)

Students will work with legal briefs, theories, and case studies drawn from a range of traditions, such as Islamic, Jewish, Hindu, and Christian, to examine how law and religion are constituted and used to construct, challenge, or complicate identities. Case studies will focus on controversial cases in the US and other parts of the world. Also analyzed will be the changes to law and religion brought by modernization such as the effects of secularization, technology and new media, colonial/post-colonialism, and human migration.

REL 360. Interdisciplinary Special Topics. (1-4; maximum 8)

Course of study on a selected topic examined from the perspective of two or more disciplines.

REL 365. Arabian Gulf Economies in Social Transition. (6)

Since the discovery of oil in twentieth-century Arabia, the Sultanate of Oman and the United Arab Emirates have seen remarkable social, cultural, political, and economic shifts. In visits to Dubai, Muscat, and Abu Dhabi, this program will introduce students to the intersection of the religious, cultural, and economic climates of both the United Arab Emirates and the Sultanate of Oman to foster the importance of Arab culture and Islam to the pursuit of a successful emerging, developed, and specialized economy in the Middle East. Through site visits, conversations with experts and locals, as well as personal experiences, students will evaluate how culture is preserved, lost, and transformed in Oman and UAE in the course of engaging in local and global business. As a result of this experience, students interested in foreign affairs, human cultures, global politics, and global economies will be uniquely skilled to succeed in the Arabian Gulf context. This course is only offered as part of a credit workshop. PA-4B, PA-4C. CAS-B.

REL 373. Religion after Communism. (3)

Explores the relationship between Religion and Socialism, focusing especially on the Soviet Union and China. In both, religion suffered severe repression under communist regimes, followed in recent decades by the revival of Orthodox Christianity in Russia, Islam in Central Asia, and various religions in China, with significant impact on society and politics in all. Examines the significance of religion in these countries for understanding international relations and media representation. CAS-B.

REL 376. Global Jihadism. (3)

Introduces and examines the development of contemporary Jihadi-Salafi movements such as al-Qa'ida and ISIS in comparison with movements such as Hamas and Hizbullah. Evaluates the changing interpretations of Islamic tradition, law, and religious practice each movement manifests. Particular attention is paid to a critical analysis of the writings and multimedia productions of these movements in response to modernization, secularization, and global historical and socioeconomic circumstances.

REL 377. Independent Studies. (0-6)**REL 402. Basic Structures in the History of Religions. (3)**

Investigations of categories, types, and forms developed for the study of religions, such as the Sacred, the Holy, myth, initiation. SC.

REL 470A. Havighurst Colloquium. (3)

Exploration of significant issues related to Russian and post communist affairs. Each semester focuses on a central theme or topic that is examined through presentations, readings, research, discussion, and writing. May be repeated once for credit with only 3 hours counting towards the history major. Cross-listed with ATH 436/536; CLS 436; HST 436/HST 536/536; POL 440/POL 540/540; and RUS 436/536.

REL 477. Independent Studies. (0-6)**REL 480. Independent Reading for Departmental Honors. (1-6)****REL 677. Independent Studies. (0-6)**

Russian (RUS)

RUS 101. Beginner's Course. (4)

Essentials of Russian language including rudiments of grammar, acquisition of a simple vocabulary, practice in reading and conversation, and simple written exercises.

RUS 102. Beginner's Course. (4)

Essentials of Russian language including rudiments of grammar, acquisition of a simple vocabulary, practice in reading and conversation, and simple written exercises.

RUS 137. Magic and Power in Russian Folklore. (3)

Introduction to Russian folklore, including study of the folk tale, charms and incantations, ceremonial poetry connected with the calendar, jokes, proverbs, folk ditties, wedding ceremonies, funeral customs, modern gestures, and graffiti. Some discussion devoted to Slavic pre-Christian society and survivals of pagan customs in the Christian era. Considerable treatment of comparative folklore worldwide. Taught in English. IIB, IC. PA-3B, PA-4B, SI-02, SI-04. CAS-B-LIT.

RUS 177. Independent Studies. (0-6)**RUS 201. Intermediate Russian. (3)**

Conversation, vocabulary building, readings, composition, grammar.

RUS 202. Intermediate Russian. (3)

Conversation, vocabulary building, readings, composition, grammar. CAS-A.

RUS 250. Topics in Russian Literature in English Translation. (3)

Treatment of selected works of Russian literature that suggest particular thematic problems. For nonspecialist with little or no background in Russian literature. Taught in English. CAS-B-LIT.

RUS 254. Introduction to Russian and Eurasian Studies. (3)

Examines the major developments that have shaped Russian and Eurasian culture, society and politics over the last millenium. The course incorporates perspectives from the social sciences, humanities and the fine arts. Taught in English. IIB. PA-3B. CAS-B. Cross-listed with ATH 254, CLS 254, HST 254, POL 254, and REL 254.

RUS 255. Love and Death in Nineteenth-Century Russian Literature. (3)

Examines works by Pushkin, Lermontov, Gogol, Turgenev, and Dostoevsky and a number of critical essays representative of a variety of viewpoints. Uses interdisciplinary approach that takes into account social, historical, political, religious, as well as literary factors. IIB, IIIB. PA-4B. CAS-B-LIT.

Cross-listed with ENG.

RUS 256. Empire and Utopia in Russian Literature. (3)

Treatment of selected works of Russian literature (realism, modernism, post-modernism) with special attention to Tolstoy, Chekhov, Bunin, Sologub, Bulgakov, Babel and Nabokov. IIB, IC. PA-3B, PA-4B, SI-02, SI-04. CAS-B-LIT.

Cross-listed with ENG 256.

RUS 257. Communism and Catastrophe in Modern Russian Literature. (3)

Treatment of major trends in the development of Russian literature since 1953. Examines works by Pasternak, Solzhenitsyn, Rasputin, Trifonov, and others. IIB, IIIB. PA-3B, PA-4B, SI-04. CAS-B-LIT.

Cross-listed with ENG 267.

RUS 263. Soviet and Post-Soviet Russian Cinema. (3)

Critical survey of directors, genres, and movements in Soviet cinema. Screening of films from Eisenstein to current directors. Lectures, discussion, and readings in English. CAS-B-LIT.

Cross-listed with FST.

RUS 277. Independent Studies. (0-6)**RUS 301. Advanced Russian. (3)**

Conversation, advanced composition, reading in Russian literature. Prerequisite: RUS 202.

RUS 302. Advanced Russian. (3)

Conversation, advanced composition, reading in Russian literature. Prerequisite: RUS 202.

RUS 311. Reading in Russian. (3)

Enables students to develop fluency in reading Russian texts. Core readings for all students and supplemental readings according to individual interests.

Prerequisite: RUS 202 or equivalent.

RUS 325. Russian Reception of Classical Culture. (3)

Examines a variety of forms and poetic expressions in both modern (Russian) and ancient poetry. Introduces students to the way in which Russian literature and especially poetry responded to Greco-Roman antiquity. Analyzes how the study of classical antiquity, with its rich mythological tradition and history, represented to the Russian literary elite a window into the West and an opportunity to establish a Russian literary heritage within Western literary canon. All readings in English translation. CAS-W.

Cross-listed with CLS 325.

RUS 340. Internship. (0-20)**RUS 377. Independent Studies. (0-6)****RUS 436. Havighurst Colloquium. (3)**

Exploration of significant issues related to Russian and post communist affairs. Each semester focuses on a central theme or topic that is examined through presentations, readings, research, discussion, and writing. May be repeated once for credit with only 3 hours counting towards the history major.

Cross-listed with ATH 436/536; CLS 436; HST 436/HST 536/536; POL 440/POL 540/540; and REL 470A.

RUS 450. Topics in Russian Culture. (3; maximum 9)**RUS 477. Independent Studies. (0-6)****RUS 480. Departmental Honors. (1-6; maximum 6)**

May be taken in senior year.

Prerequisite: permission of instructor and department.

RUS 677. Independent Studies. (0-6)

Social Justice Studies (SJS)

Note: all SJS courses will fulfill CAS-C-SOC/GTY.

SJS 159. Creating Global Peace. (3)

Focuses on the study of peace, as represented across disciplinary boundaries and at local-to-global scales of analyses. Combines guest lectures, scholarly readings and other media, reflective writing and discussion, and a service-learning commitment that together explore different ways of thinking about peace, and 'peace' practices at global to local scales. IIC, IIIB. PA-2A, PA-4C. CAS-C.

Cross-listed with GEO.

SJS 165. Social Justice Perspectives. (3)

Social Justice Perspectives provides a basis to understand, interpret, and solve social problems in fair, equitable, and just ways. IC, IIC, IIIB. PA-2A, PA-4B, SI-02. CAS-C.

Cross-listed with SOC.

SJS 177. Independent Studies. (0-6)**SJS 215. EMPOWER I: Educational and Economic Justice and Service-Learning. (3)**

EMPOWER explores how educational and economic injustices impact communities and considers strategies for social change. This course contains a Service-Learning component. IC. PA-4B.

SJS 216. EMPOWER II: The Intersections of Race, Class, and Education. (3)

Builds on the concepts learned in EMPOWER I to further explore issues of race and class and how they intersect in education. This course contains a Service-Learning component. Recommended prerequisite: SJS 215.

SJS 265. Critical Inquiry: Penny Lecture Series. (2)

Weekly lectures given by different Black World Studies Affiliates. Credit/No Credit.

Cross-listed with CRE 265 and SOC 265.

SJS 277. Independent Studies. (0-6)**SJS 287. Anti-Racism Social Movements: From ideas to action. (3)**

This class, rooted in the experiences of Black, Asian, Indigenous, and Hispanic/Latino people, aims to critically investigate anti-racist protest and social movements that have occurred throughout U.S. and world history. #Students will explore anti-racist, etc. practice and organizing associated with vibrant massive movements for justice and equity.##This course will see how counter narratives and social movements have adapted anti-racist vision, leadership, and practice that have challenged and transformed many of these institutions.#t will focus on the long-term social and institutional transformation that are still needed to continue this work. ADVW. PA-1C. CAS-C.

Cross-listed with CRE 287.

SJS 303. Life After Graduation: Careers in Sociology/Social Justice. (3)

Explores a variety of career paths that use the skills acquired by sociology and social justice studies students while developing and honing those skills.
Cross-listed with SOC.

SJS 323. Social Justice and Change. (3)

Study of how social justice is realized through social change, focusing on the individual and collective actions of people fighting for their vision of a just world and a just future.
Prerequisites: SOC 151 or SOC 153 or SJS/SOC 165 or CRE 151 or DST/EDP/SOC 272.
Cross-listed with SOC.

SJS 340. Internship. (0-20)**SJS 350. Topics in Justice Studies. (3; maximum 6)**

This is a special topics course in the broad areas of social justice and human rights. The specific topic addressed will differ depending on instructor and/or academic term.
Prerequisites: SOC 165/SJS 165, or permission of instructor.

SJS 377. Independent Studies. (0-6)**SJS 419. Environment, Society & Justice. (3)**

Interdisciplinary studies of the underlying social aspects of environmental problems and issues. Topics include the unequal distribution of hazardous waste sites, the environmental impacts of war, vulnerability to disaster, the social construction of the environment, population growth, environmental movements, the political economy of the environment, and ecological modernization.
Cross-listed with IES.

SJS 470. Social/Political Activism. (3)

Provides students with the opportunity to explore how indigenous groups effect change in their communities.
Prerequisite: SOC 151 or SOC 153, or SOC/SJS 165, or CRE 151.
Cross-listed with CRE/DST/SOC.

SJS 477. Independent Studies. (0-6)

Sociology (SOC)

Prerequisite Notes: A majority of upper level classes require the successful completion of either SOC 151 or SOC 153 or where indicated SOC 165/SJS 165 (where indicated), unless otherwise stated.

400-level courses require upper-class or graduate standing and 12 semester hours of sociology or six hours of sociology and six hours from the following: anthropology, economics, geography, gerontology, political science, psychology or social justice studies. Six of these hours must be advanced credit. Note specific prerequisite for SOC 440.

SOC 127. Environmental/Justice Films. (3)

This course is designed to introduce Social Justice and Sustainability Prodesse Scholars to a variety of environmental and social justice issues through cinema. The emphasis will be fictional feature films, not documentaries, but the feature films may be based on reality. Students will meet to watch films together and reflect on the messages they carry about environmental and social justice issues and how those messages are disseminated to the viewers. Students will explore the relationship between art and message.
Cross-listed with FST 127 and IES 127.

SOC 151. Social Relations in the U.S.. (3)

Introduction to and application of the principles, methods, and major theoretical orientations of sociology in providing a basic understanding of the social aspects of human life with a focus on U.S. society. SOC 151 serves as a prerequisite for upper level sociology classes and as an entry course for the SOC major, SOC minors and SOC thematic sequences. Credit for the sociology major is NOT given for both SOC 151 and SOC 153. IIC. PA-2A, PA-4A. CAS-C.

SOC 153. Sociology in a Global Context. (3)

Designed to develop your sociological imagination – an imagination that allows you to place yourself in a larger ever-changing globalized world – by exploring the field of sociology. Examines social theory, culture, groups, deviance, stratification, and social institutions such as education, media, families, politics, and the economy. Prepares students for upper-level courses in sociology and serves as the foundational course for the sociology major and minor. Credit for the sociology major is NOT given for both SOC 151 and SOC 153. IIC, IIIB. PA-2A, PA-4C. CAS-C.

SOC 165. Social Justice Perspectives. (3)

Social Justice Perspectives provides a basis to understand, interpret, and solve social problems in fair, equitable, and just ways. IC, IIC, IIIB. PA-2A, PA-4B, SI-02. CAS-C.
Cross-listed with SJS.

SOC 177. Independent Studies. (0-6)**SOC 201. Social Problems. (3)**

Introduction to causes, context, policy, and prevention of selected social problems with particular emphasis on problems of conflict and inequality and problems of human progress. Primarily recommended for sophomores. CAS-C.

SOC 202. Social Deviance. (3)

Sociological focus on drug use, sexual deviation, and alternative lifestyles and/or other socially defined deviant behaviors.

SOC 203. Sociology of Gender. (3)

Description and analysis of gender in human society with special attention to constraints placed on both males and females by current socialization practices, and to issues in equality from historic as well as contemporary perspectives. IC. PA-4B. CAS-C.
Cross-listed with WGS.

SOC 208. The Rise of Industrialism in East Asia. (3)

Introduction to historic parameters, geographic variables, state policies, and sociocultural contexts of industrialism in East Asia (China, Japan, Korea, Taiwan, Hong Kong, and Singapore). IIC, IIIB. PA-2A, PA-4C. CAS-C.
Cross-listed with GEO/ITS.

SOC 221. Sexualities. (3)

Introduction to the study of human sexual behavior with particular attention paid to the issues of gender development; premarital, marital, and post-marital sexual patterns; birth control; sexual dysfunction; cross-cultural sexual patterns; and alternative sexual lifestyles.
Cross-listed with FSW/WGS.

SOC 225. Work and Occupational Justice. (3)

Introduction to the study of work, with an emphasis on the occupational structure, professions and professional powers, the employment relationship, and the institutional context in which work is done.

SOC 257. Population. (3)

Examines population theory, characteristics, dynamics and policies, focusing on global processes and global inequality. PA-2A. CAS-C.

SOC 258. Self and Society. (3)

Examines how social groups and institutions influence human behavior at the individual level. Introduces students to various theoretical and methodological issues germane to understanding how individuals construct social meanings of their everyday lives.

SOC 260A. Internship: An Introduction to Applied Sociology and Human Services. (1-4)

Offers a foundation for those considering careers in applied sociology, human services, or similar fields. In addition to internship, student attends minimum of five special-topics seminars and participates in a concluding internship seminar. Available primarily on Middletown campus and only on credit/no-credit basis. Sociology majors may not substitute this course for any SOC 440 course.

Prerequisite: written permission of instructor.

SOC 262. Research Methods. (3)

Acquaints students with rationale underlying application of scientific methods in social research. Practical experience in problems of research and design and data collection. CAS-QL.

SOC 265. Critical Inquiry: Penny Lecture Series. (2)

Weekly lectures given by different Black World Studies Affiliates. Credit/No Credit.

Cross-listed with CRE 265 and SJS 265.

SOC 272. Introduction to Disability Studies. (3)

Explores the link between the social construction of disability and that of race, class, gender, ethnicity, and sexual orientation as they pertain to social justice in a multicultural and democratic society. Promotes critical analysis of dominant and nondominant perspectives on disability. IC, IIC. PA-2A, PA-4B. CAS-C.

Cross-listed with EDP/DST.

SOC 277. Independent Studies. (0-6)**SOC 279. African Americans in Sport. (3)**

Socio-historical analysis of participation of African Americans in sport and society, and examination of the role sport has played in African Americans' integration into the larger society. Investigates the way the image of African Americans has been constructed and maintained through sporting practices. Sociological theories and concepts used to examine the impact of historical events, such as Reconstruction, black migration, and World Wars, on African American involvement in sport and other institutions. IC, IIC. PA-2A, PA-4B. CAS-C.

Cross-listed with CRE 279 and SLM 279.

SOC 303. Life After Graduation: Careers in Sociology/Social Justice. (3)

Explores a variety of career paths that use the skills acquired by sociology and social justice studies students while developing and honing those skills.

Cross-listed with SJS.

SOC 305. Introduction to the Sociology of Globalization. (3)

Study of human societies in evolutionary and comparative perspective emphasizing sociocultural origins and consequences of social development. Special attention to contemporary issues in advanced industrial societies.

Prerequisite: SOC 151 or SOC 153 or ITS 201.

SOC 318. Social Forces and Aging. (3)

Examines the social forces that shape the diverse experiences of aging for individuals and the social structures in which they live. Particular emphasis is given to sociological issues such as age stratification, the life course, demographic change and its effects, and societal aging as a force in social change. IC. SI-02, SI-05. CAS-C. Cross-listed with GTY.

SOC 323. Social Justice and Change. (3)

Study of how social justice is realized through social change, focusing on the individual and collective actions of people fighting for their vision of a just world and a just future.

Prerequisites: SOC 151 or SOC 153 or SJS/SOC 165 or CRE 151 or DST/EDP/SOC 272.

Cross-listed with SJS.

SOC 337L. Directed Research in European Studies. (3)

Reading and research on selected social science topics. Emphasis on European language materials and data sources. Substantive focus chosen each semester by instructor.

SOC 340. Internship. (0-20)**SOC 348. Race and Ethnic Relations. (3)**

Description and analysis of emergence and trends of minority relations in the U.S. IC. PA-4B.

Prerequisite: SOC 151 or SOC 153; or SOC/SJS 165; or CRE 151.

Cross-listed with CRE 348.

SOC 350. Topics in Justice Studies. (3; maximum 6)

This is a special topics course in the broad areas of social justice and human rights. The specific topic addressed will differ depending on instructor and/or academic term.

Prerequisite: SJS 165 or SOC 165 or permission of instructor.

SOC 352. Criminology. (3)

Sociological analysis of theories, institutionalization, and social responses to crime and criminality.

Prerequisite: SOC 151 or SOC 153; or SOC/SJS 165.

SOC 357. Medical Sociology. (3)

Sociological study of illness, patients, medical professionals, and problems inherent in the delivery of health care services.

Prerequisites: SOC 151 or SOC 153; or SOC/SJS 165; or GTY 154.

Cross-listed with GTY.

SOC 358. The Sociology of Mental Disorders. (3)

Study of social factors in cause, perpetuation, and treatment of emotional problems.

Prerequisite: SOC 151 or SOC 153; or SOC/SJS 165.

SOC 362. Family Poverty. (3)

Examines definitions, theories, causes and consequences of family poverty in the U.S. Identifies the extent and degree of U.S. poverty and demographic characteristics of those who are poor or likely to become poor. Consideration given to programs that reduce poverty and/or its negative effects, including those practiced in the past, those now practiced, and those that offer promise for improving the economic and social status of those who are poor. Costs and benefits of welfare and welfare reform and strategies for preventing poverty among future generations also discussed and evaluated. IC. PA-4B. Cross-listed with CRE 362 and FSW 362.

SOC 363. Sociology of Families. (3)

Analysis of the impact of social change on family systems and patterns, structures, dynamics, and social policy, with emphasis on differences by social strata and culture. Cross-listed with FSW 363

Prerequisite: SOC 151 or SOC 153; or SOC/SJS 165.

SOC 372. Social Stratification. (3)

Major theoretical approaches toward the study of social classes and social differentiation. Particular emphasis on the nature and consequences of stratification system within the United States. IC. PA-4B. CAS-C.

Prerequisite: SOC 151 or SOC 153; or SOC/SJS 165.

SOC 375. (Dis)Ability Allies: To be or not to be? Developing Identity and Pride from Practice. (3)

Explores what it means to be ally to/in/with the disability community in America. The course emphasizes identity formation and how that formation can inform the construction of the ally identity. Through deconstructing learned values, knowledge, and images of disability that mitigate ally behavior, students discover the micro and macro structures that support ally behavior. By exploring how social control and social change have worked in other civil rights movements, students understand the necessity of identifying and including allies in the disability movement for civil rights. IC. PA-4B. CAS-C.

Cross-listed with DST/EDP/WGS.

SOC 377. Independent Studies. (0-6)**SOC 409. Systems of Justice. (3)**

Examines the history and practice of punishment in society. Surveys methods of punishment employed after conviction of criminals and delinquents.

Prerequisite: SOC 151 or SOC 153, or SOC/SJS 165.

SOC 410. Topics in Criminology. (3)

Selected topics in the sociological study of crime and delinquency.

Prerequisite: Permission of instructor.

SOC 412. Sociology of Law. (3)

Introduction to law as a form of dispute resolution and a mechanism of social control. Examines the law as both an independent variable and a dependent variable by studying the relationship between law and other social institutions using sociological theory and sociological research.

Prerequisite: SOC 151 or SOC 153 or SOC/SJS 165.

SOC 413. Juvenile Justice. (3)

Study of definitions, theories, and social constructions of juvenile delinquency and the juvenile justice system's historical and contemporary responses to juvenile delinquency.

Prerequisites: SOC 151 or SOC 153 or SOC/SJS 165, SOC 352.

SOC 417. Economy and Society. (3)

Sociology of work relationships within the major social organizational and institutional settings complemented by the study of the more general structures and relations generated within the economy and society as viewed in a comparative and developmental perspective.

Prerequisite: SOC 151 or SOC 153; or SOC/SJS 165.

SOC 421/SOC 521. Critical Race and Post-Colonial Studies. (3)

Utilizes critical sociology (intersectionality, critical race, and post-colonial theory) to investigate how race and social structures interact over time both within the U.S. and globally. Specifically the course examines the theories, research and policy associated with intersectional identities of race, class, gender, place and context. Finally, it investigates the role of intersectionality in (re)producing systems of inequality, privilege, and how they can be transformed.

Prerequisites: CRE 151, GIC 101, SJS 165 or SOC 151.

Cross-listed with GIC.

SOC 435. Death Studies. (3)

Examines social processes involved in the meaning, management, and experience of death and dying. Analyzes death as it relates to social structure, patterns of social interactions, and human experience.

Prerequisite: SOC 151 or SOC 153; SOC/SJS 165; or GTY 154; or FSW 261.

Cross-listed with FSW.

SOC 440. Internship in Sociology or Social Justice Studies. (1-16; maximum 16)

Field placement in an agency, program, or organization which provides students with valuable work experience and an opportunity to apply their sociological imagination and/or social justice perspectives. Credit/no-credit only. A maximum of 4 credits can count toward the major or minor.

Prerequisite: SOC 151 or SOC 153 or SJS/SOC 165 and permission of instructor.

SOC 440A. Internship in Applied Sociology. (1-16)

Field placement in an agency, program, or organization needing applied sociological research which provides students with valuable work experience and an opportunity to use sociological knowledge to answer research questions or problems as defined by those entities. Credit/no-credit only. A maximum of 4 credits can count toward the major or minor.

Prerequisites: SOC 151 or SOC 153, SOC 262, and permission of instructor.

SOC 440C. Internship in Criminology. (1-16)

Field placement in an agency, program, or organization dealing with the administration of justice, including law enforcement, the judicial process, corrections, juvenile justice, and victim's services, which provides students with valuable work experience and an opportunity to apply sociological criminology. Credit/no-credit only. A maximum of 4 credits can count toward the major or minor.

Prerequisites: SOC 352, SOC 409, and permission of instructor.

SOC 451. Interpersonal Violence. (3)

This course examines and evaluates how interpersonal violence impacts individuals, families, groups, organizations, and communities. Using ecological/feminist framework, emphasis is placed on the examination of violence within varied contexts. Topics and class discussions will focus heavily on concepts related to prevention and intervention. Student will use critical thinking, engage with other learners, and complete personal reflections. SC.

Cross-listed with FSW 451/FSW 551/551 and WGS 451/WGS 551/551.

SOC 454. Formal Organization. (3)

Sociological analysis of complex organizations. Topics include theories, types of organizations, basic characteristics of organizations, organizational change and conflict, interactions with environments, and research in organizations.

Prerequisite: SOC 151 or SOC 153; or SOC/SJS 165.

SOC 459. Sociology Capstone. (3)

Involves review of the discipline of sociology and focuses on key issues including review of the tools of the discipline and the role of sociology in the student's future role as individual, employee, and citizen. SC.

Prerequisite: must be sociology major with senior standing and have completed or currently are taking the methods and theory requirements.

SOC 462. Applied Sociological Research. (3)

Provides basic skills needed to conduct applied sociological research. Emphasis on issues that need to be addressed in such research and processes used to answer questions. SC.

Prerequisite: SOC 262.

SOC 470. Social/Political Activism. (3)

Provides students with the opportunity to explore how indigenous groups effect change in their communities.

Prerequisite: SOC 151 or SOC 153, or SOC/SJS 165, or CRE 151.

Cross-listed with CRE/DST/SJS.

SOC 477. Independent Studies. (0-6)**SOC 480. Independent Reading for Departmental Honors. (1-6)****SOC 482. Sociological Theory. (4)**

General survey of the history and theories of society and social action arising out of social research since the 19th century.

Prerequisite: SOC 151 or SOC 153; or SOC/SJS 165.

SOC 490. Current Issues in Sociology. (1-3; maximum 6)

Selected topics of importance on contemporary sociology.

SOC 677. Independent Studies. (0-6)

Spanish (SPN)

Note: All students must take the placement examination before enrolling in any Spanish course. Once placed, students may not skip a course in the sequence leading to SPN 202. Most of the courses listed below may be taken abroad (with Miami or other program) with pre-approval from the department.

SPN 101. Beginner's Course. (4)

Objectives: to read and understand ordinary Spanish without translation and to speak and write it with increasing ability.

SPN 102. Beginner's Course. (4)

Objectives: to read and understand ordinary Spanish without translation and to speak and write it with increasing ability.

Prerequisite: SPN 101.

SPN 104. Beginner's Course Spanish Lab. (1; maximum 2)

Laboratory course covering basic Spanish vocabulary and grammar, with the objective of reinforcing students' writing, speaking, reading, and listening skills.

Co-requisite: SPN 101 or SPN 102.

SPN 111. Intensive Basic Spanish. (4)

Covers same material as SPN 101, 102. For entering students whose high school background in Spanish has not included all the basic grammar and whose preparation for enrollment in 201 is deficient.

Upon completion of SPN 111, students enroll in SPN 201. Credit earned in SPN 101 and/or 102 is considered duplication of credit.

Prerequisite: enrollment determined by placement exam.

SPN 177. Independent Studies. (0-6)**SPN 201. Second Year Spanish. (3)**

Intermediate Spanish grammar with a focus on speaking, writing short compositions and reading and discussion of selected texts with practice speaking and writing the language.

Prerequisite: SPN 102 or 111 or placement exam score.

SPN 202. Second Year Spanish. (3)

Intermediate Spanish grammar with a focus on speaking, writing short compositions and reading and discussion of selected texts with practice speaking and writing the language. CAS-A.

Prerequisite: SPN 201 or placement exam score.

SPN 203. Spanish for Health Care Professions. (3)

An intermediate level course geared towards students planning to work in the health care field. Designed to familiarize students with medical vocabulary and cultural issues they may encounter while working with Hispanic patients. Spanish 203 is also designed to further student's knowledge of Spanish grammar while continuing the development of speaking, reading and writing skills. Students earn graduation credit for 202 or 203, but not both. CAS-A.

Prerequisite: SPN 201 or placement exam score.

SPN 204. Second Year Spanish Lab. (1; maximum 2)

Laboratory course covering intermediate Spanish vocabulary and grammar, with the objective of reinforcing students' writing, speaking, reading, and listening skills.

Co-requisite: SPN 201 or SPN 202.

SPN 277. Independent Studies. (0-6)**SPN 311. Grammar Review and Introductory Composition. (3)**

Continued development of basic grammatical proficiency in Spanish with an introduction to the fundamentals of writing in the Spanish language.

Prerequisite: SPN 202, SPN 203, SPN 211 or appropriate placement exam score.

SPN 311L. Individualized Instruction Lab. (1)

Laboratory course designed for Spanish Heritage Learners that covers Spanish 311 grammar, with the objective of reinforcing students' writing and reading skills.

Prerequisite: SPN 202.

Co-requisite: SPN 311.

SPN 312. Introduction to Spanish Language/Linguistics. (3)

Introduction to Spanish phonetics, phonology, morphology, and syntax. May also include an introduction to other areas of linguistic inquiry, and the application of phonetics analysis to improve pronunciation in Spanish. CAS-E.

Prerequisite: SPN 311.

SPN 315. Intro to Hispanic Literatures. (3)

Close reading and critical analysis of selected poetry, essay, narrative fiction, and drama from Spain and Latin America. IIB. PA-3B. CAS-B-LIT.

Prerequisite: SPN 311.

SPN 316. Intermediate Spanish Composition. (3)

Further development of essential grammar concepts of Spanish and the formal elements necessary to write Spanish with precision. Students are expected to perfect their understanding of grammar rules and to incorporate them into their writing. ADVW. PA-1C. CAS-B-LIT.

Prerequisite: SPN 311.

SPN 317. Business Spanish. (3)

An introduction to the cultural and social organization of the Hispanic business world with an overview of the vocabulary and idioms necessary for doing business in Spain or Latin America.

Prerequisite: SPN 311.

SPN 318. Introduction to Hispanic Film. (3)

This course is an introduction to film analysis in Spanish, and to the cinemas of Spain and Latin America. Students will learn the skill of shot by shot analysis, and also learn how to analyze Spanish and Latin American film within its historical and sociocultural contexts. Mandatory weekly screenings.
Prerequisite: SPN 311.

SPN 319. Exploring Spain Today (Cultural trip). (1)

As part of MIAMlinSPAIN only, this course takes place for 7-8 days. Students visit some of the most prominent cultural and historically relevant enclaves in Spain, such as the Prado Museum in Madrid, the Sinangoge of Santa Maria la Blanca in Toledo, or the Alhambra in Granada, and experience first-hand other cultural manifestations of the country (traditional foods, community celebrations, music, etc.).
Prerequisite: SPN 311.

SPN 321. The Way of St. James. (2)

This course takes place during ten days of the Summer Term, while hiking along the Way of St. James in Northern Spain, a UNESCO world heritage site. Independently of the academic component of the course, each participant may have a different personal approach to The Way. A traveling experience, not only physical but also emotional, The Way of St. James may become a religious pilgrimage, an introspective encounter with oneself, an individual challenge of biking around 30 miles or walking around 14 miles daily, or a cultural journey through a different space, and also a different time, as far back as the 11th century.
Prerequisite: SPN 311.

SPN 322. Issues Affecting Hispanic Health Care in the U.S.. (3)

Explore social, political, and cultural issues that affect access to health care and wellness for Hispanic patients within the U.S. Designed to build cultural competency while continuing to develop linguistic knowledge of specialized vocabulary and content through readings, and intensive oral practice. Students will interact with healthcare professionals, community organizations, and Hispanic patients through a 20-hour Service-Learning project as part of this course. Previous enrollment in SPN 203 is recommended, but not required. Counts toward the Spanish minor and major. Service-Learning designated course. PA-4B.
Prerequisite: SPN 311.

SPN 331. Spanish for Community Work. (3)

An introduction to the Hispanic community with an examination of the achievements and challenges of this community at a national and local level. Designed to familiarize students with the necessary information and skills to be able to work effectively with a partnering organization in ways that benefit the local immigrant community. Spanish 331 is also designed to further students' oral proficiency through intensive oral practice. Students will participate in a 20-hour service-learning project as a part of this course. IC, EL. PA-4B. CAS-B-LIT.
Prerequisite: SPN 311.

SPN 332. Latin American Popular Culture. (3)

Interprets and contextualizes elements of Latino and Latin American popular culture (art, music, food, and celebrity) in light of academic readings in Spanish and English that explore issues of hybridity, representation, commodification, and the quest for authenticity. Conducted in Spanish and English. CAS-B-LIT.
Prerequisite: SPN 311 or permission of instructor.
Cross-listed with LAS 332.

SPN 340. Internship. (0-20)**SPN 341. Intermediate Conversational Spanish. (3)**

Intensive oral practice of Spanish conversation to further develop oral proficiency while increasing awareness of Hispanic culture. Focuses on strategies to develop oral proficiency to a level between Intermediate-Mid and Intermediate-High, according to the Proficiency Guidelines of the American Council on the Teaching of Foreign Languages.
Prerequisite: SPN 202/203 or higher, or placement score of 311.

SPN 342. Advanced Conversational Spanish. (3)

Intensive oral practice of Spanish conversation to refine oral proficiency and advance awareness of Hispanic culture. Focuses on strategies to develop oral proficiency to a level of Intermediate-High or above, according to the Proficiency Guidelines of the American Council on the Teaching of Foreign Languages.
Prerequisite: SPN 341 or permission of instructor.

SPN 351. Historical Perspectives on Current Issues. (3)

This course focuses on current critical social, political, and ecological issues in the Hispanic world by exploring their historical roots and developments through different literary and cultural manifestations, as a way to learn and improve our own understanding and relationship with these current issues in our present time. The focus may vary depending on the instructor's expertise (e.g. Inequality, discrimination, technology, pandemics, political polarization, misinformation, democracy, environmental justice, migration, ecological crisis, and energy). This course will also provide students with critical, analytical, and methodological tools for the study of Hispanic literature. Furthermore, students will develop their communicative skills through class discussion and academic writing in Spanish. PA-4C. CAS-A, CAS-B-LIT.
Prerequisite: SPN 315.

SPN 352. Cultural History of Spain II. (3)

Cultural history of Spain from the 18th-century to the present, with an emphasis on 20th century Spain. CAB-B-LIT.
Prerequisite: SPN 315 or permission of instructor.

SPN 361. Marginalized Voices. (3)

SPN 361 is an intermediate level course designed to help students further their speaking, reading, listening and writing skills through the exploration of a historically marginalized culture from the Spanish-speaking world. SPN 361 will enhance your ability to understand increasingly complicated issues related to history, culture, social exclusion in Latin America, and identity development theory. Students are expected to communicate in Spanish in the classroom at all times. PA-4B. CAS-B-LIT.
Prerequisite: SPN 315.

SPN 362. Spanish American Cultural History II. (3)

Continued exploration of historical events surrounding the struggles for independence from Spain, the legacy of colonial institutions through the nineteenth-century, and the twentieth-century search for democracy and social justice. Specific literary readings and films will vary. CAS-B-LIT.
Prerequisite: SPN 315.

SPN 370. Topics in Hispanic Studies. (3; maximum 9)

Varied topics in Hispanic Studies. Repeatable for up to 9 credit hours. Typically offered abroad.
Prerequisite: SPN 311.

SPN 377. Independent Studies. (0-6)**SPN 381. Language and Society: Past and Present. (3)**

This course examines the history of the Spanish language and the peoples of the Spanish-speaking world. Sociolinguistic, cultural, and political factors will be explored as a means of understanding how Spanish has been shaped by contact with many other languages and cultures over centuries. This knowledge will help us understand that language is not just a tool for communication, but also a record of history and the interactions that different groups of people have had. PA-3B, PA-4C. CAS-A.
Prerequisite: SPN 312.

SPN 382. Spanish Language and Hispanic Culture II. (3)

Overview of social and cultural issues as they relate to modern Spanish. Study of how the Spanish language reflects and, at the same time, contributes to the creation and transformation of sociocultural values, norms, identities, and relationships throughout the Spanish-speaking world. CAS-B-LIT.
Prerequisite: SPN 312.

SPN 420. Selected Topics in Literature and Culture: Spain. (3)

In-depth study of literary texts or films on a specific cultural theme. CAS-B-LIT.
Prerequisites: SPN 312 and (SPN 351 or SPN 361) and (SPN 352 or SPN 362).

SPN 430. Selected Topics in Literature and Culture: Spanish America. (3)

In-depth study of Latin American literary texts or films on a specific cultural theme. CAS-B-LIT.
Prerequisites: SPN 312 and (SPN 351 or SPN 361) and (SPN 352 or SPN 362).

SPN 440. Selected Topics in Spanish Language and Hispanic Culture. (3)

Explores linguistic issues in the Spanish-speaking world today, focusing on how they reflect economic, social and cultural tensions.
Prerequisite: Two SPN 300 level courses.

SPN 450/SPN 550. Topics in Hispanic Culture and Language. (1-4; maximum 9)

Intensive study of a special problem or topic, a specific period, author, genre, or movement in Hispanic culture; or special topics in Hispanic language or linguistics. CAS-B.
Prerequisites: Three SPN 300 level courses.

SPN 451/SPN 551. Spanish Cultural Studies. (3)

Focuses on one or more areas of Spanish narrative, visual and/or digital culture. May offer comparative approaches. Specific periods and texts may vary according to the instructor. CAS-B-LIT.
Prerequisites: Three SPN 300 level courses.

SPN 454/SPN 554. Don Quixote. (3)

Study of Miguel de Cervantes's masterpiece and first modern novel in the Western world. Current critical approaches studied as well. CAS-B-LIT.
Prerequisites: Three SPN 300 level courses.

SPN 461/SPN 561. Spanish American Film, Visual, and Digital Studies. (3)

The study of film, video, and digital sources in Spanish American cultures. Students will hone critical and analytical skills while being exposed to the rich visual and audio production of Spanish American culture from cross-cultural perspectives. CAS-B-LIT.
Prerequisites: Three SPN 300 level courses.

SPN 462/SPN 562. Contemporary Spanish American Literature. (3)

Spanish American literature since the formation of the national states. Topics vary covering issues and authors from the nineteenth-century to the present. The readings may prioritize a specific literary genre (narrative, poetry, theatre) or favor a diverse generic approach to a topic. Blending textual and contextual readings and analysis, this course will delve into foundational socio-historical discourses under literary expressions. CAS-B-LIT.
Prerequisite: Three SPN 300 level courses.

SPN 463/SPN 563. Spanish American Interdisciplinary Studies. (3)

Interdisciplinary study of Spanish America, including cultural manifestations in politics, economy, history, anthropology, geography, religion, art, and languages. CAS-B-LIT.
Prerequisites: Three SPN 300 level courses.

SPN 477. Independent Studies. (0-6)**SPN 480. Independent Reading for Departmental Honors. (1-6)**

Departmental honors may be taken for a minimum of four semester hours and a maximum total of six semester hours in one or more semesters of the student's senior year.

SPN 481/SPN 581. Spanish Phonology and Syntax. (3)

Overview of the major theoretical approaches to Spanish phonology and syntax. Phonology includes the study of significant sound contrasts in Spanish, and their distribution and representation, as well as suprasegmental elements like syllable structure and stress assignment; syntax analyzes the theoretical basis of Spanish sentence structure.
Prerequisites: SPN 312 plus two SPN 300 level courses.

SPN 482/SPN 582. Language Variation in Spanish. (3)

Study of different varieties of Spanish throughout the world, including the analysis of regional and social dialects. Exploration of the causes and consequences of language variation, including language contact, and social and situational factors.
Prerequisites: SPN 312 plus two other SPN 300 level courses.

SPN 483/SPN 583. History of the Spanish Language. (3)

History of Spanish from Latin to the present. Changes in phonology, morphosyntax, and lexicon. Comparative analysis of Spanish with other Romance languages, especially other varieties of Ibero-Romance.
Prerequisites: SPN 312 plus two other SPN 300 level courses.

SPN 484/SPN 584. Second Language Acquisition: Spanish. (3)

A theoretical study of factors influencing first and second language acquisition/learning with a concentration in Spanish.
Prerequisite: SPN 312 plus two other SPN 300 level courses.

SPN 490. Issues in Hispanic Literature, Linguistics, or Culture. (3)

Intensive study, including reading and independent research in the Spanish language, on a topic in Spanish or Spanish American literature, culture or linguistics. Specific course content varies. May not be taken abroad; must be taken on campus. SC.
Prerequisites: Senior standing and a declared major in Spanish.

SPN 600. Seminar in Hispanic Language, Literature or Culture. (3; maximum 15)

In-depth exploration of a specific theme/period/genre/issue in Spanish or Latin American literature, film or culture, or of a selected theme or issue of Spanish linguistics. Research intensive.

SPN 677. Independent Studies. (0-6)**SPN 700. Research for Master's Thesis. (1-12; maximum 12)**

Prerequisite: graduate standing and approval of instructor.

Speech Pathology & Audiology (SPA)

Note: All graduate courses require graduate standing and approval of instructor.

SPA 101. Beginning ASL I. (4)

This course will introduce conversationally relevant signs, fingerspelling, grammatical sign principles and background information related to deaf culture with the objective of teaching students to sign and understand ASL with increasing ability.

SPA 102. Beginning ASL II. (4)

The Beginning II course is a continuation of the Beginning ASL I course. This course will continue to introduce conversationally relevant signs, grammatical principles, and background information related to the Deaf culture with the objective of teaching students to sign and understand ASL with an increasing ability at the ACTFL proficiency intermediate low-mid level (Swender, Conrad, & Vicars, 2012). Swender, E., Conrad, D. J., & Vicars, R. (2012). ACTFL proficiency guidelines 2012. ACTFL, INC. Retrieved from <http://actflproficiencyguidelines2012.org>.

Prerequisite: DST 101/SPA 101 or placement exam score of 102.

SPA 127. Introduction to Communication Disorders. (3)

Overview of disorders of communication, special problems of speech, language and hearing impairments, and treatment. IIC. PA-2A. CAS-C.

SPA 177. Independent Studies. (0-6)

SPA 201. Intermediate ASL I. (3)

The Intermediate ASL I course is a continuation of the Beginning ASL II course. This course will continue to address conversationally relevant signs, grammatical principles, and background information related to the Deaf culture with the objective of teaching students to proficiently sign and understand ASL with an increasing ability dictated by the American Council on the Teaching of Foreign Languages' proficiency intermediate mid-high level.

Prerequisite: SPA 102 or placement exam score of 201.

SPA 202. Intermediate American Sign Language II. (3)

Intermediate ASL II is the fourth course in the American Sign Language curriculum. Students will continue to develop ASL communication skills receptively and expressively through continued vocabulary and grammar instruction. Deaf culture concepts will be expanded upon with course instruction presented primarily in ASL. In addition, students will partake in service learning opportunities so the student can partake in mastery of ASL and to become assimilated with Deaf culture values.

Prerequisite: SPA 201 or equivalent or placement exam score 202.

SPA 210. Topics in Speech Pathology and Audiology. (3; maximum 6)

Explores special topics in the fields of speech-language pathology and audiology.

Prerequisite: SPA 202.

SPA 216. Research Design. (3)

Basic principles of research in communication disorders incorporating research design and critical evaluation of clinical research in speech pathology and audiology.

Prerequisite: major status; or permission of instructor.

SPA 222. Anatomy and Physiology Speech Production. (3)

Introduction to anatomical, physiological, and neurological characteristics of normal speech mechanisms; developmental embryology; and fundamental acoustics of speech.

Prerequisites: Sophomore standing, Major status.

Prerequisite or Co-requisite: BIO 161.

SPA 223. Theories of Language Development. (3)

Survey of the integration of scientific and theoretical knowledge about the normal acquisition of language from birth to adulthood. Introduction to the linguistic aspects of cultural, political, and environmental impacts on acquisition of language, relationship between English and coexistent languages, gender-related differences in conversational interactions, and the complex interaction of culture and language development. IIC. PA-2A. CAS-C.

SPA 277. Independent Studies. (0-6)

SPA 293. Sophomore Seminar in Speech Pathology and Audiology. (1)

Professional seminar for majors in speech pathology and audiology. Students learn observational techniques and observe at the Speech and Hearing Clinic.

Prerequisite: Sophomore standing (pre-major status).

SPA 312. American Deaf Cultures. (3)

This course will provide an introduction to the American Deaf community. Students will be introduced to the medical and cultural models of deafness, and the differences that result from these two perspectives in terms of identity, language, behavior, values, education, and/or intervention. IC, IIC, IIIB. PA-4A, SI-02.

Cross-listed with DST 312.

SPA 316. Introduction to Audiology. (3)

Topics include: physics of sound principles and techniques of audiometric testing, types of hearing loss, and treatments for hearing impairment.

Prerequisite: junior standing, major status.

Prerequisite or Co-requisite: PHY 101 or PHY 131.

SPA 325. Foundations of Neurology for Communication Sciences and Disorders. (3)

Nature and treatment of speech and language disorders with involved structural and neurological components.

Prerequisites: SPA 222, Major status, Junior standing.

SPA 326. Aural Rehabilitation. (3)

Discussion of skills and abilities associated with hearing loss, strategies used in hearing loss intervention including listening and speaking, sign language and hearing aid selection for children and adults.

Prerequisites: junior standing; major status; SPA 316.

SPA 334. Clinical Phonetics and Articulation Disorders. (3)

Sound structure of the English language, beginning and advanced transcription using international phonetic alphabet with clinical applications.

Prerequisite: junior standing; major status; SPA 222.

SPA 340. Internship. (0-20)

SPA 377. Independent Studies. (0-6)

SPA 393. Junior Clinical Experience. (1)

Professional seminar for majors in speech pathology and audiology. Focuses on counseling in speech pathology and audiology.

Multicultural experiences in a variety of contexts. Credit/no-credit basis only.

SPA 402. Counseling Strategies for Speech Pathologists and Audiologists. (3)

Provides an understanding of counseling theory and practice as it relates to individuals with communication disorders. Consideration given to the psychological and psychosocial implications of communication disorders to individuals and their families. Prerequisite: senior standing; major status; SPA 127 or permission of instructor.

SPA 413. Senior Seminar in Communication Disorders. (3)

Intensive study of current issues in communication disorders. Each topic builds on knowledge acquired in past courses. Emphasis on analysis of issues, ranging from ethical concerns to multicultural imperatives. Students work collaboratively in developing their topics culminating in oral presentations and written papers. Projects are showcased at a colloquium featuring a national authority. Written proceedings summarize student projects. SC.

Prerequisite: senior standing; major status; Thematic Sequence in speech pathology and audiology, or permission of instructor.

SPA 426. Language Disorders. (3)

Etiology, diagnosis, and in-depth analysis of communication disorders in children.

Prerequisite: SPA 223, Senior standing, major status, or permission of instructor.

SPA 427/SPA 527. Augmentative and Alternative Communication Systems for Individuals with Complex Communication Needs. (3)

Overview of manual, graphic, and electronic systems used by individuals with severe communication disabilities. Prerequisite: SPA 127, junior standing.

SPA 435/SPA 535. Speech and Hearing Science. (3)

History, current status, and future trends of the scientific aspects of speech production and reception.

Prerequisite: SPA 222, SPA 334, Senior standing, Major status.

SPA 477. Independent Studies. (0-6)**SPA 493. Senior Seminar in Speech Pathology and Audiology. (2)**

Professional seminar and introduction to clinical practice for speech pathology and audiology majors. Information about the intervention process and practical application through supervised clinical work in the Miami University Speech & Hearing Clinic. Prerequisite: SPA 293, SPA 393, Senior standing, Major status.

SPA 605. Speech, Language, Pathology & Audiology in School Setting. (3-15; maximum 15)

Externship for graduate students in speech/language pathology and audiology. Full-time experience with supervision of faculty and school speech/language pathologists or audiologists in selected school districts.

SPA 612. Seminar on Childhood Apraxia of Speech. (1)

This 1-credit seminar will critically examine childhood apraxia of speech, along with neurological underpinnings, etiologies, behavioral characteristics, and assessment/treatment approaches. Prerequisite: Graduate standing in Speech Pathology or permission of instructor.

SPA 614. Evidence Based Practice in Communication Sciences and Disorders. (3)

This graduate level course integrates the fundamental concepts of evidence based practice (EBP) with research methodologies. The goal of this course is for students to directly apply EBP concepts to clinical practice in the area of speech-language pathology. Further, the final student product generated from this research course will fulfill part of the Graduate School requirement for a master of science degree.

Prerequisite: SPA 662.

SPA 620. Advanced Clinical Practice. (1-8; maximum 16)

Stuttering (adults), cleft palate, aphasia, cerebral palsy, and voice, hearing, or language disorders. Principles and techniques of examination, appraisal, and treatment supplemented by supervised experiences in Miami's Speech and Hearing Clinic and satellite clinics in the region.

SPA 621. Neurogenic Language Disorders. (3)

Advanced study in causes, management, and related research of adult aphasia.

Prerequisite: graduate standing and approval of instructor.

SPA 622. Voice and Resonance Disorders. (3)

Advanced study in causes, assessment, and treatment of voice and resonance disorders.

SPA 625. Best Practices for the School-Based Speech-Language Pathologist. (3)

This course provides graduate students with a thorough understanding of the roles and responsibilities of the school-based speech-language pathologist.

SPA 626. Seminar in Pediatric Documentation/Administration. (1; maximum 2)

The diagnosis and treatment of pediatric communication disorders requires professional skills grounded in evidence-based practice. During this course, we will explore and put into practice the organization and administrative skills required for documentation including but not limited to: 1) assessment administration and scoring, 2) lesson plan development and implementation, 3) data collection methods, 4) SOAP note documentation, and 5) self-reflective journaling to determine clinical strengths and areas in need of continued growth.

Prerequisite: graduate standing in speech pathology or permission of instructor.

SPA 627. Pediatric Language and Autism Spectrum Disorders. (3)

Current trends of research and remediation procedures for language disorders. Individual diversity expressed in language learning through an exploration of the differing effects of various handicaps and cultural diversity.

Prerequisite: SPA 226.

SPA 629. Organic Speech Disorders: Motor Speech Disorders. (2)

Advanced study in causes, management, and related research of motor speech disorders.

SPA 631. School Age Language and Literacy. (3)

Assessment and treatment of communication delays and disorders in infants, toddlers, and preschool children.

SPA 633. Phonological and Articulation Disorders. (3)

Reviews assessment and intervention strategies relative to the effective clinical management of persons with disorders of phonology affecting communication and literacy. Its emphasis will be in the area of treatment with over two-thirds of the course content devoted to the clinical management process.

SPA 635. Special Topics in Medical Speech-Language Pathology. (2)

Advanced study in special topics related to patient populations served in a medical setting.

Prerequisites: SPA 651, Graduate Standing and permission of the instructor.

SPA 638. Advanced Methods in Augmentative and Alternative Communication. (3)

This 3-credit hour course is designed to prepare students for clinical practice with individuals with complex communication needs across a variety of settings and across the lifespan. Students will learn specific assessment and intervention strategies and how to individualize them to meet their clients needs. Prerequisite: graduate standing in speech pathology or permission of course instructor.

SPA 641. Advanced Studies in Fluency Therapy. (2)

Advanced study in management of fluency disorders.

SPA 651. Dysphagia across the Lifespan. (3)

Studies in the causes, evaluation, treatment, and selected research in feeding and swallowing disorders.

SPA 653. Normal Deglutition Across the Lifespan. (1)

The primary purposes of this course are to provided the student with an understanding of the anatomy, physiology and neurologic substrates of the structures and function of the aerodigestive tract as related to oropharyngeal and esophageal phases of swallowing across the lifespan.

Prerequisite: SPA 672.

SPA 655. Cognition across the Lifespan. (1)

An understanding of normal cognitive processes is required in the field of speech-language pathology in order to facilitate diagnostic and clinical decision making for clients across the lifespan. Within this course the range of healthy normative cognitive function and related developmental and neurologic correlates will be discussed with specific focus on attention, memory, and executive function. Best current theoretical and neurocognitive research will be used to help student recognize the needs and abilities of individuals and families to whom they provide clinical services. As the population across the globe is aging, the course will also focus on what is considered normal cognitive function for older adults and discuss stereotypes, prejudice, and discriminations to others or oneself based on age and how this may influence assessment and treatment approaches. Finally, prevention of central nervous system dysfunction related to cognition will be discussed. Prerequisite: Graduate standing in Speech pathology or permission of the instructor.

SPA 656. Seminar in Adult Documentation/Administration. (1)

The diagnosis and treatment of adult acquired neurogenic cognitive, communication, and swallowing disorders requires professional skills grounded in evidence-based practice. During this course, we will explore and put into practice the organization and administrative skills required for medical documentation including but not limited to: 1) assessment administration and scoring, 2) lesson plan development and implementation, 3) data collection methods, 4) SOAP note documentation, and 5) self-reflective journaling to determine clinical strengths and areas in need of continued growth. Within the course medical abbreviations will be reviewed and incorporated into documentation to facilitate effective and effective technical writing skills unique to working in healthcare. Prerequisite: graduate standing in speech pathology or permission of instructor.

SPA 671. Neurogenic Cognitive Disorders. (3)

Advanced study in neuropathology, diagnosis, treatment, and research of adult neurogenic cognitive disorders.

Prerequisite: SPA 672.

SPA 672. Seminar in Neuroanatomy. (1)

Neuroanatomy of normal speech and hearing mechanisms and current research implications for speech therapy. This course will focus on the Knowledge and Skills in speech-language pathology standards for graduate student education in the degree program. Prerequisite: Graduate standing in speech pathology or by instructor approval.

SPA 677. Independent Studies. (0-6)**SPA 700. Research for Master's Thesis. (1-12; maximum 12)****SPA 711. Research In Speech Pathology. (1-12)**

Students pursuing the non-thesis option may register for these hours while working on a research project; however, these hours are typically taken during the second year of the program.

SPA 720. Seminar in Speech Disorders. (1-2; maximum 8)

Current professional problems of a selected topic explored through study of recent research, clinical literature, and individual student projects.

Prerequisite: six hours in 600-level speech pathology courses.

SPA 750. Professional Field Experience. (0-10; maximum 20)

Intern experiences for the advanced graduate student.

Sport Leadership and Management (SLM)

SLM 110. Dance. (2)

Emphasis placed on beginning technique of each dance form.

SLM 110A. Beginning Ballet. (2)

Classical ballet technique. Work at the barre stressed.

Cross-listed with THE 110A.

SLM 110G. Beginning Modern Dance. (2)

Technique stressed. Correct form and body placement along with flexibility and control covered.

Cross-listed with THE 110G.

SLM 110S. Social Dance - Men. (2)

Rhythms, steps, and positions of various ballroom dances, mixers, etc.

SLM 110T. Social Dance - Women. (2)

Rhythms, steps, and positions of various ballroom dances, mixers, etc.

SLM 110U. Intermediate Social Dance - Men. (2)

This class focuses on advanced rhythms, steps, and positions for complex dances from around the world, emphasizing the difference between American and international styles. Students will perform the Foxtrot, Rumba and Tango, among others, and learn about the historical, social, and cultural practices associated with these dances. Students will be taught the correct etiquette of each dance and be required to attend 3 extra dances outside class time.

Prerequisite: SLM 110S or SLM 110T.

SLM 110W. Intermediate Social Dance - Women. (2)

This class focuses on advanced rhythms, steps, and positions for complex dances from around the world, emphasizing the difference between American and international styles. Students will perform the Foxtrot, Rumba and Tango, among others, and learn about the historical, social, and cultural practices associated with these dances. Students will be taught the correct etiquette of each dance and be required to attend 3 extra dances outside class time.

Prerequisite: SLM 110S or SLM 110T.

SLM 112. Transition for College Students. (1)

This course is designed to help students prepare for the transition from high school to college. This course will focus on personal and leadership development through small group discussions, hands on experience, guest lectures, and a variety of readings and assignments to help you acclimate to college. Students will explore their values and belief systems, practice advanced study strategies and techniques, develop critical time management skills, research various leadership theories, and develop their own personalized development plan to help them achieve their goals.

SLM 120A. Aerobics. (2)

Fitness program consisting of rhythmic activities to develop cardiovascular conditioning and flexibility.

SLM 120B. Beginning Badminton. (2)

Beginning badminton will develop students' understanding of badminton as an international sport. Students will learn the culture, history, fundamental rules and regulations, and basic movement techniques through participation in the course.

SLM 120C. Individual Exercise. (2)

Programming to give students opportunity to develop strength, endurance, flexibility, coordination, and power by executing specific exercises and activities.

SLM 120E. Self Defense. (2)

Individual basic defense skills; awareness of necessary precautions.

SLM 120G. Weight Training. (2)

Introduction to fundamental principles of weight training. Includes selection and implementation of a weight training program and discussions of kinesiological and physiological principles as they relate to weight training.

SLM 120I. Power Walking for Fitness. (2)

This course introduces and develops the appropriate choices in making walking a core component within a healthy lifestyle.

SLM 120K. Marathon Training. (2)

This course introduces and develops the techniques to train and successfully complete a marathon.

SLM 120L. Jogging for Fitness and Health. (2)

This course introduces and develops the appropriate choices in making running a core component within a healthy lifestyle.

SLM 120N. Nature Fit: Physical Activity in the Great Outdoors. (2)

This course introduces students to sustainable ways to engage in physical activity. The course explores a variety of activities such as parcourse, yoga, tai chi, informal games, mountain biking and student developed activities.

SLM 120T. Beginning T'ai Chi. (2)

This course will cover the Short (Simplified Modern) Yang Style T'ai Chi Chuan 24-Posture form which is the most-often taught version in the world. Developed by Yang Cheng Fu for instructing the Chinese Emperor's family over a hundred years ago, it is considered a valuable health exercise with many proven benefits, although it is also an effective martial art or self-defense. Often called "Meditation In Motion", T'ai Chi has been shown to relieve stress and increase flexibility, balance and focus.

SLM 130H. Golf. (2)

Basic golf skills, etiquette, and rules of the game.

SLM 130I. Intermediate Golf. (2)

Intermediate techniques and strategies for students who have mastered basic skills.

SLM 130K. Racquetball. (2)

Fundamental skills and knowledge of the game.

SLM 130M. Tennis. (2)

Basic strokes of tennis including forehand, backhand, serve, and game experience.

SLM 130O. Basic Ice Skating. (2)

For students with little or no previous experience.

SLM 130P. Intermediate Ice Skating. (2)

Intermediate skills and techniques for students who have mastered fundamentals.

SLM 130T. Advanced Ice Skating. (2)

Advanced techniques of skill in ice skating.

SLM 140A. Basketball. (2)

Fundamental skills, rules, and strategy necessary for team play.

SLM 140B. Power Volleyball. (2)

Fundamental skills, rules, and strategy necessary for team play.

SLM 140H. Ice Hockey. (2)

Fundamental skills, rules, and strategy necessary for team play.

SLM 140J. Soccer. (2)

Fundamental skills, rules, and strategy necessary for team play.

SLM 140K. Advanced Ice Hockey. (2)

Advanced ice hockey theory and techniques for those with demonstrated skill and hockey background.

SLM 140M. Broomball. (2)

Introduction to basic broomball skills, for those who have never played, for those with limited experience, or with broomball experience, but no formal instruction.

SLM 150. Outdoor Pursuit Activities. (2)

Includes leisure, recreational, and environmental pursuits. Instruction provided in basic skills, knowledge, and social behavior necessary for competent participation. Instruction at the Miami stables and other outdoor locations.

SLM 150A. Beginning Canoeing. (2)

This course will focus on the essential skills and information that tandem canoeists need to travel safely and comfortably on the water. Course content aligns with the American Canoe Association curriculum for paddling on flat and moving water. The course will cover history, equipment and usage, paddling technique, environmental impact for boaters, navigation, risk management and emergency procedures.

SLM 150B. Beginning Backpacking. (2)

This course will focus on the essential skills and information that backpackers need to travel safely and comfortably in the backcountry. The course will cover trip planning, equipment use and proper attire, cooking and meal planning, water treatment, leave no trace, land navigation, permits, land use regulations, weather and risk management.

SLM 150C. Beginning Rock Climbing. (2)

This course covers skills appropriate for the novice level climber. Students will climb during class time to put lecture and instruction into practice. Topics covered during this course include climbing terminology, equipment use, technical and movement skills.

SLM 150E. Beginning Horseback Riding. (2)

Introductory course to the fundamentals of horsemanship, basic horse care, and safety around equines.

SLM 150F. Intermediate Horseback Riding. (2)

Develops the fundamental skills of the western style of riding. Course explores equine anatomy, nutrition, and health care. Continues to focus on safety around equines.

SLM 150H. Advanced Horseback Riding. (2)

Explores advanced techniques and tradition in English Equitation. Course content focuses on advanced equine nutrition, anatomy, and physiology of the horse.

SLM 150K. Intermediate Rock Climbing. (2)

This course covers the terminology, equipment, technical and risk management skills appropriate for the intermediate level climber including the fundamentals of lead climbing and belaying. Students will climb during class time to put lecture and instruction into practice.

SLM 150M. Mountain Biking. (2)

Students will learn about mountain biking: equipment, performance, safety, its role in health promotion, environmental issues, trail development and maintenance, and building community. Students will learn how to mountain bike safely and will have opportunities to bike on a variety of mountain bike trails of different difficulty levels. Students will also participate in mountain bike trail maintenance and sustainability.

SLM 150N. Beginning Kayaking. (2)

This beginning kayaking course will focus on the essential skills and information that recreational kayakers need to travel safely and comfortably on the water by utilizing the American Canoe Association (ACA) Introduction to Kayaking, Level 1 curriculum. The course will cover equipment and usage, environmental impact for boaters, paddling technique, risk management and emergency procedures.

SLM 170A. Swimming. (2)

For students with little or no previous experience. Basic skills to meet requirements for American Red Cross beginners and advanced beginners certification.

SLM 170B. Intermediate Swimming. (2)

Basic swimming strokes, turns, diving, rescue skills, and personal safety skills; meets American Red Cross intermediate and swimmers requirements.
Prerequisite: ability to swim 25 yards on stomach and back, and swim in deep water.

SLM 177. Independent Studies. (0-6)**SLM 195. Stress Management and Performance Psychology in Sport. (2)**

Focuses on the causes of stress, how to apply coping skills and relaxation techniques used in sport psychology to begin a lifelong commitment to stress management and performance enhancement. Students will design and implement a personal stress management and performance enhancement plan.

SLM 212. Introduction to Sport Management. (3)

Introduces the foundations and principles of sport management, with a broad focus on administration, supervision, and leadership in the business of sport at all levels.

SLM 225. Ethics in Sport. (3)

This course includes an introduction and moderate exploration of ethics in sports. Most of the content is reliant upon the four dominant contemporary ethical-decision making models – consequentialism, deontology, contract theory, and virtue ethics – and their nexus with sports. Topics include foundational ethics, fair play, performance-enhancing techniques, gender equity, intercollegiate sports, the business of sports, social responsibility in sports, violence in sports, and other dilemmas in sports as they are topical.

SLM 246. Sport, Management, and Culture in the Global Marketplace. (3; maximum 6)

The Sport, Management, & Culture in the Global Marketplace study abroad program is designed for students who are interested in exploring relationship between sport, culture, and the contemporary global economy through an experiential learning environment. This course is only offered as part of a credit workshop. IC. PA-4B, SI-05.

SLM 248. Global Sport Perspectives. (3)

This course provides students with a global perspective about sport, including research and professional practice information, across diverse cultural and global contexts. Students are provided opportunities to examine the global forces influencing sport participation, to critically analyze the meaning of sport for others and oneself, and to rethink complex issues and events in sport. IIIB. PA-4C, SI-05.

SLM 272. Contemporary Perspectives on Leadership in Sport Contexts. (3)

Examination of contemporary theories of leadership as they apply to sport settings and consideration of the sociopolitical and socioenvironmental factors that may affect leadership effectiveness in the sport domain.

SLM 273. Sport Communication & Media. (3)

This course will serve as an introduction to the relationship between the communication and sport industries. Students will explore communication theory, sport information and practice, media relations, public relations, social media, communication delivery, careers in sport communication, and how the interaction between sport and communication entities has grown and continues to evolve.

SLM 274. Critical Perspectives on the Body. (3)

Explores the ways in which the body is culturally created and shaped by socio-political concerns. The fields of exercise science, athletic training, health, nutrition, physical education, and sport will provide contexts to examine ideological influences on the body including those related to gender, race, class, ability, age, and sexuality.

SLM 275. Introduction to Sport Analytics. (3)

The class provides an overview of the purpose and application of data analytics in sport. Students will gain an understanding of analytics in sport for in-game strategy, player performance, team management, sport operations (e.g., analytics for ticket pricing, fan loyalty analysis, promotions, social media, and fan engagement), fantasy competitions, among many other topics. Upon completion of this introductory course, students will understand the importance for sport organizations to analyze, interpret, and communicate data efficiently and effectively in sport.

SLM 276. Current Issues in Leisure and Sport. (3)

This course engages students in a critical examination of leisure as negotiated practices and experiences. Issues of globalization, sustainability, social equality and social justice are explored and provide a context for students to reflect on their leisure and inform their future professional practice. IIC. PA-2A. CAS-C.

SLM 277. Independent Studies. (0-6)**SLM 279. African Americans in Sport. (3)**

Socio-historical analysis of participation of African Americans in sport and society, and examination of the role sport has played in African Americans' integration into the larger society. Investigates the way the image of African Americans has been constructed and maintained through sporting practices. Sociological theories and concepts used to examine the impact of historical events, such as Reconstruction, black migration, and World Wars, on African American involvement in sport and other institutions. IC, IIC. PA-2A, PA-4B. CAS-C. Cross-listed with CRE 279 and SOC 279.

SLM 294. Games and Sport. (3)

Focuses on educational progressions for games and sports with a focus on developing appropriate curriculum for grades three to 12.

SLM 314. Sport Analytics I. (3)

An introduction to database and computer programming for sport analytics. An emphasis on learning to code, program, package, and use modules within sport-based contexts. Database management, storage, and debugging techniques will be reviewed for sport industry data.

Prerequisites: ISA/STA 125 or STA 261 and SLM 275.

SLM 315. Modeling for Sport Analytics. (3)

An introduction to the statistical programs used to analyze quantitative sport data. Students will learn intermediate knowledge of regression analysis such as linear regression, logistic regression, and model selection. Students will apply different techniques related to compiling and interpreting statistics through available databases used in the sport industry.

Prerequisite: SLM 275.

SLM 317. Data Visualization for Sport Analytics. (3)

Introduction to the methods, principles, and techniques for creating visualizations of quantitative sport data and information. Emphasizes effective communication and problem solving through the use of software in turning quantitative sport data into readable images and graphics. Students will work with a variety of tools and techniques for presenting sport analytics data in digital media.

Prerequisite: SLM 275.

SLM 337. Foundations and Fitness Training for Coaches. (3)

Overview of basic foundations of coaching applications in coaching philosophy, sport science, and sport management with in-depth analysis of sport physiology resulting in American Sport Education Program certification.

SLM 338. Psychosocial Aspects of Coaching. (3)

In-depth analysis of theory and application techniques in sport psychology to provide understanding of appropriate coaching behavior and resulting in American Sport Education Program certification.

SLM 340. Internship. (0-6)**SLM 375. Psychological Perspectives in Sport and Exercise. (3)**

Examines antecedents and consequences of individual and group behavior in sport and exercise settings. Focuses on (a) effects of psychosocial factors on performance and participation in physical activity, and (b) effects of physical activity participation on personal growth and development.

SLM 377. Independent Studies. (0-6)**SLM 378. Sport, Power and Inequality. (3)**

This course examines the relationship between sport and contemporary society. Emphasis upon the operations of structural and ideological power in sport as evidenced in and through social class, race, gender, sexuality, disability, and national identity. Explores sport as a significant cultural form that holds the capacity to simultaneously perpetuate and challenge inequality and injustice, with a focus on how sport can be used as vehicle for social change. PA-4A, SI-02.

SLM 392. Lifetime and Adventure Activities. (3)

Development of personal skills and teaching techniques for lifetime sports and adventure activities. Activities include tennis, golf, swimming, orienteering, ropes course, and hiking.

SLM 402. Reflections and Actions in Sport Leadership & Management. (3)

Engages collaborative groups of students in problem-based and/or community service-learning initiatives related to leadership and the culture of sport, recreation, or physical activity. Students work to critically analyze a social issue or problem, observe and experience the issue/problem in practice, and develop a reflective action plan to provide meaningful and sustainable solutions in the community. EL, SC.

Prerequisite: senior standing.

SLM 413/SLM 513. Sport Economics. (3)

This course engages students with real-world sports stories and incorporates empirical research and statistical analysis to introduce the application of basic statistics, standard economic theory, and behavioral economics. Students will critically examine economic issues affecting the world of sports including: the basics of sport economics, organization of professional sport leagues; public finance of sport; and the market for labor in professional sport.

Prerequisite: Junior or Senior.

SLM 414/SLM 514. Facilities and Event Management in Sport. (3)

A comprehensive focus on the planning, funding, and operation of sporting events and sport/recreation facilities of all types.

SLM 416/SLM 516. Sport Marketing. (3)

Provides an overview of various aspects of sport marketing, or the business of promoting and selling products and services in the sport industry.

SLM 417/SLM 517. Legal Issues in Sport Leadership and Management. (3)

This course is designed to provide students with an introductory knowledge of sport law. Students will learn to think critically about legal issues related to sport organizations they may encounter in sport management, coaching, sport media and sport journalism professions.

Prerequisites: Junior or Senior standing and enrolled as a Sport Leadership and Management Major, Sport Management Minor, Coaching Minor, or Sport Analytics Minor.

SLM 418. Applied Sport Analytics. (3)

This course provides a setting for the application of sport analytics principles, procedures, and techniques to improve data-driven decision making in the sport industry. Students will learn and integrate advanced data analysis, predictive modeling, and data visualization techniques to deliver efficient and impactful insights for sport organizations. Using a variety of sport databases, students will conduct a guided research project in sport performance or management that involves identifying a real problem facing a sport organization, developing and testing analytical models, and delivering valuable solutions to improve future decision-making and outcomes.

Prerequisites: SLM 275; AND SLM 314 OR STA 308; AND STA 261 OR STA 301; or permission of instructor.

SLM 438/SLM 538. Principles of Effective Coaching. (3)

Examination of the research and theory on the effects of different types of coaching behaviors and practices on the performance and psychosocial development of athletes and evaluation of the contextual (socioenvironmental and sociocultural) factors that may affect the coach-athlete interaction across different types of sport settings.

SLM 445/SLM 545. Esports Performance Psychology and Coaching. (3)

This course introduces students to performance psychology and effective coaching with esports athletes and teams. Focuses on the use of educational psychological interventions to facilitate personal development and performance of esports athletes by teaching them strategies and techniques to enhance mental performance. Examines the effects of different types of coaching behaviors and practices on the performance and psychosocial development of esports athletes and teams.

SLM 447/SLM 547. Sport Pedagogy for Coaches and Practitioners. (3)

This course describes models of instruction for coaches and practitioners with the application of technical teaching styles, strategies, and skills in sport. Students will focus on the analysis of the teaching-learning process and the use of appropriate coaching/teaching methods and assessment for all learners.

SLM 453/SLM 553. Seminar in Sport Leadership & Management. (1-3; maximum 12)

Advanced study of current developments in technical and organizational aspects of activities within the field of sport leadership and management.

Prerequisite: junior or graduate standing.

SLM 471/SLM 571. Sport, Leisure, and Aging. (3)

Critical analysis of leisure and sport as contexts for and practices of adult development and aging.

Prerequisite: junior or graduate standing.

SLM 472/SLM 572. Sport Administration. (3)

Provides relevant theoretical and practical application of management strategies and administrative principles within sport organizations. Offers an overview of organizational structures, functions, and policies of local, regional, national, and international sport governing bodies.

Prerequisite: junior or graduate standing to enroll in this course (or permission of course instructor).

SLM 473. Children and Youth in Sport. (3)

Influences on and consequences of the involvements of children and youth in sport.

Prerequisite: junior standing.

SLM 475/SLM 575. Women, Gender Relations, and Sport. (3)

Explores the meanings of women's participation in sport and physical activity using sociological, feminist, and cultural studies perspectives. Special consideration given to the ideological significance of sport in U.S. culture and ways in which sporting women accept and challenge contemporary gender relations.

Prerequisite: junior or graduate standing.

Cross-listed with WGS 475.

SLM 477. Independent Studies. (0-6)**SLM 495. Practicum in Sport Leadership and Management. (3)**

This course provides a setting for students to integrate practical field experiences with their sport leadership and management coursework and liberal arts foundation. Students complete a field-based experience in management, coaching, sport journalism, or sport media, and attend intermittent class meetings to discuss and critically analyze these professional practice experiences. Professional development skills are also addressed, such as resume writing, interviewing, professional networking, and professional standards and expectations within the field. SC.

Prerequisites: junior standing or higher.

Co-requisites: SLM 212 and SLM 272.

SLM 600. Independent Reading. (1-4; maximum 8)

Student and instructor develop an individualized plan for an independent reading experience.

Prerequisite: Permission of department chair and instructor.

SLM 620. Independent Research. (1-4; maximum 8)

Student and instructor develop an individualized plan for an independent research experience.

Prerequisites: permission of department chair and instructor.

SLM 621. Research Foundations in Sport Leadership and Management. (3)

Provides foundational knowledge and skills regarding the research process in sport leadership and management, including a critical analysis of research traditions and practices in the field.

SLM 623. Qualitative Methodological Research Approaches in Sport Leadership and Management. (3)

Course provides overview of the methodological procedures used by researchers in sport studies fields that adhere to an interpretive, qualitatively-based research approach. Course topics include research methods, data collection issues, and basic analysis procedures.

Prerequisites: Graduate Status and SLM 621.

SLM 632. Psychological Foundations of Sport. (3)

Examines theory and research related to individual difference factors (e.g., personality, motivation, anxiety, confidence) that affect cognitions, affect, behavior and performance in sport.

SLM 633. Psychological Interventions in Sport. (3)

Examines theory, research, and professional practice related to psychological interventions in sport. Focuses on the use of educational psychological interventions to facilitate personal development and performance of athletes by teaching them strategies and techniques to enhance mental skills.

SLM 634. Social Psychology of Sport and Exercise. (3)

Examination and analysis of theory and research relating to social psychological factors and group dynamics affecting sport and exercise behavior.

SLM 635. Strategic Management of Sport Organizations. (3)

This course provides students with specific knowledge and skills related to the strategic management of sport organizations. The primary focus of this class is the development of strategy within organizations; this includes perspectives and materials deriving from a variety of subdisciplines related to strategic thinking and decision-making, such as behavioral economics, organizational theory, game theory, and marketing. By integrating the literatures from outside of sport with sport-specific theory, students will assemble short and long-term strategic plans for organizations within the sport industry. Ultimately, this course will provide students the theoretical and analytical tools to both design strategic business plans for sport organizations and to evaluate existing strategies for sport organizations.

SLM 636. Sport Communities & Public Relations. (3)

This course provides students with specific knowledge and skills related to the public relations of sport organizations. The primary emphasis of this class is to identify and manage relationships with communities, media, organizations, and people in and around the sport industry. By integrating theory and practice of public and community relations, students will assemble strategic communication plans for sport professionals. Additionally, this course will explore corporate social responsibility, crisis management, social media communication and PR strategies in Esports industry.

SLM 637. Sport Business Analytics. (3)

This course focuses on analytics methods and techniques used in sport organizations. Students learn to model business activities in sport marketing, sport economics, sport administration, and sport communication. Students will be exposed to analytics topics such as fan engagement, ticket sales, market demand, sponsorship evaluation, media analytics, revenue generation, and social and economic impacts on sport organizations.
Prerequisites: ISA 512, ISA 514, ISA 591, ISA/STA 616, or permission of instructor.

SLM 638. Sport Performance Analytics. (3)

This course focuses on analytics skills that are employed to address performance issues in sport. Students will be immersed with rich sport performance data and use the analytics techniques to generate decision-making insights. Analytics topics include but are not limited to player evaluation, team performance, game strategy, draft analysis, and coaching effectiveness with sport teams and organizations.
Prerequisites: ISA 512, ISA 514, ISA 591, ISA/STA 616, or permission of instructor.

SLM 640. Internship. (0-6)**SLM 673. Developmental Perspectives on Youth Sport Participation. (3)**

A multidisciplinary developmental analysis of children and youth that focuses on the description and explanation of biological, psychological, and social aspects that relate to sport participation.

SLM 676. Cultural Studies of Sport. (3)

Critically interrogates US sport as an important socio-cultural institution and as a site for the production, reproduction and contestation of gender, race and class ideologies.

SLM 677. Independent Studies. (0-6)**SLM 700. Research for Master's Thesis. (1-12; maximum 12)**

Statistics (STA)

Note: *Service courses* do not count toward majors in the Department of Statistics or the Department of Mathematics. They may or may not count toward majors in other departments. Look carefully at your major requirements elsewhere in this Bulletin.

STA 125. Introduction to Business Statistics. (3)

This course provides an introduction to data, probability, sampling and its importance to analytical decision-making in business. Upon successful completion of this course, students will have the foundational skills necessary to summarize data, describe relationships among variables, and conduct one-sample and two-sample statistical inference. Note: Credit for graduation will not be given for more than one of STA 125, ISA 125, STA 261, STA 301, or STA 368.

Prerequisites: MTH 102 or MTH 121 or MTH 125, MTH 122, MTH 141 or MTH 151; ACT Math Score of 22 or higher; SAT Math Score of 540 or higher; or Miami International Math Placement Test score of 8 or higher; or successful completion of MTH 025; or permission of department chair.

Cross-listed with ISA 125.

STA 147. First Year Seminar in Statistics. (1)

Serves as an introduction to various areas of Statistics. The course provides majors in the Department of Statistics with information about undergraduate research and career options as well as about Departmental, College, and University resources and requirements. The course helps students plan how to make the most of their time at Miami, build community, and establish a foundation for academic and co-curricular success. Credit for graduation will not be given for more than one of STA 147 and MTH 147.

STA 177. Independent Studies. (0-6)**STA 250. Basic Math for Analytics. (3)**

Provides students with practical and applied foundational mathematics needed as background for success in data-driven decision making. Topics include sets, functions in single and multiple variables including logarithms, exponentials, and trigonometric; matrix algebra operations; introductory calculus concepts; and basic optimization principles necessary for data analysis. Introduction to applied software driven techniques is included in the course.
Prerequisites: MTH 102 or MTH 121 or three years of college preparatory mathematics or permission of department chair.
Co-requisites: STA 261, ISA 225, or STA 301.
Cross-listed with ISA.

STA 261. Statistics. (4)

Service course. Descriptive statistics, basic probability, random variables, binomial and normal probability distributions, tests of hypotheses, regression and correlation, analysis of variance. Emphasis on applications. Note: Credit for graduation will not be given for more than one of STA 125, ISA 125, STA 261, STA 301, or STA 368. V. PA-1A. CAS-E.

STA 271. Introduction to Actuarial Science. (1)

Introduction to the actuarial profession and to the concepts and problems encountered by actuaries. Topics include the different types of insurance, probability's role in insurance, interest theory, mortality, annuities, pensions, reserves, life insurance, the different actuarial societies, and employment opportunities. Each class meeting will feature a guest lecturer from an area insurance company.

STA 277. Independent Studies. (0-6)**STA 301. Applied Statistics. (3)**

A first course in applied statistics including an introduction to probability, the development of estimation and hypothesis testing, and a focus on statistical methods and applications. Includes introduction to probability of events, random variable, binomial and normal distributions, mathematical expectation, sampling distributions, estimation, and hypothesis testing. Statistical methods include one and two sample procedures for means and proportions, chi-square tests, analysis of variance, and linear regression. Note: Credit for graduation will not be given for more than one of STA 125, ISA 125, STA 261, STA 301, or STA 368.

Prerequisite: MTH 151 or MTH 249 or MTH 251 or MTH 252.

STA 308. Introduction to Programming and Scripting for Data Analytics. (3)

Introduction to computer programming concepts used for solving mathematical problems and manipulating data. Control structures, functions, formatted input/output, character and string processing, arrays, procedural and functional programming, basic elements of object-oriented programming. Emphasis on programming languages in high demand for data analytics.

Prerequisites: STA 261 or STA 301 or ISA 225 or POL 306.

Cross-listed with POL.

STA 309. Building, Managing and Exploring Data Sets in Analytics. (3)

Techniques for constructing, downloading, cleaning, combining, extracting and manipulating data sets to prepare them for statistical analysis and visualization. Emphasis on programming languages used in data analytics and structured query language.

Prerequisites: STA/POL 308; STA 363 or ISA 291 or POL 306; MTH 133 or ISA/STA 250.

STA 333. Nonparametric Statistics. (3)

Applied study of statistical techniques useful in estimating parameters of a population whose underlying distribution is unknown. Chi-square, runs, and association tests covered. CAS-QL. (For majors in the department, this course counts only toward the B.S. in Data Science and Statistics.)

Co-requisite: ISA 291 or STA 363.

Cross-listed with ISA.

STA 340. Internship. (0-20)**STA 363. Introduction to Statistical Modeling. (3)**

Applications of statistics using regression and design of experiments techniques. Regression topics include simple linear regression, correlation, multiple regression and selection of the best model. Design topics include the completely randomized design, multiple comparisons, blocking and factorials. STA 363 may not be taken after credit has been earned for STA 463/STA 563. CAS-QL.

Prerequisite: STA 261 or STA 301 or STA 368 or ISA 205 or ISA 225; or permission of instructor.

STA 365. Statistical Monitoring and Design of Experiments. (3)

Introduction to statistical methods for monitoring process data and data streams. Introduction to experimental design with applications in business analytics.

Prerequisite: ISA 205 or ISA 225 or STA 301 or STA 363 or equivalent.

Cross-listed with ISA.

STA 377. Independent Studies. (0-6)**STA 401/STA 501. Probability. (3)**

Development of probability theory with emphasis on how probability relates to statistical inference. Topics include review of probability basics, counting rules, Bayes Theorem, distribution function, expectation and variance of random variables and functions of random variables, moment generating function, moments, probability models for special random variables, joint distributions, maximum likelihood estimation, unbiasedness, distributions of functions of random variables, chi-square distribution, students t distribution, F distribution, and sampling distributions of the sample mean and variance. Note: STA 401/STA 501 may not be counted toward graduate degree programs in mathematics or statistics.

Prerequisite: STA 261, STA 301, or STA 368 or ISA 225 and MTH 249 or MTH 251.

STA 402/STA 502. Statistical Programming. (3)

Introduction to the use of computers to process and analyze data. Techniques and strategies for managing, manipulating, and analyzing data are discussed. Emphasis is on the use of the SAS system.

Statistical computing topics, such as random number generation, randomization tests, and Monte Carlo simulation, will be used to illustrate these programming ideas.

Prerequisite: A grade of C or better in ISA 291 or ISA/STA 333 or STA 363 or STA 463/STA 563 or STA 672; or STA graduate standing.

STA 404/STA 504. Advanced Data Visualization. (3)

Communicating clearly, efficiently, and in a visually compelling manner using data displays. Identifying appropriate displays based on various data characteristics/complexity, audiences, and goals. Using software to produce data displays. Integrating narratives and data displays. Critiquing visualizations based on design principles, statistical characteristics, and narrative quality. CAS-QL.

Prerequisites: A grade of C or better in ISA 291 or ISA/STA 333 or STA 363 or STA 463/STA 563 or STA 672; or STA Graduate Standing.

STA 427/STA 527. Introduction to Bayesian Statistics. (3)

Introduces the Bayesian approach to statistical inference for data analysis in a variety of applications. Topics include: comparison of Bayesian and frequentist methods, Bayesian model specification, prior specification, basics of decision theory, Markov Chain Monte Carlo, Bayes factor, empirical Bayes, hierarchical models, and use of computational software.

Prerequisites: A grade of C or better in STA 462/STA 562 or STA 665, and STA 463/STA 563; or permission of instructor.

STA 432. Survey Sampling in Business. (3)

Survey sampling with applications to problems of business research. Simple random sampling, systematic sampling, stratified random sampling, ratio estimation, and cluster sampling. (For majors in the department, this course counts only toward B.S. in statistics.)

Prerequisite: ECO 301, ISA 305, STA 363, STA 401/STA 501 or STA 463/STA 563 or permission of instructor.

STA 462/STA 562. Inferential Statistics. (3)

A study of estimation and hypothesis testing including a development of related probability ideas. Topics include derivation of the distribution of functions of random variables, point estimation methods, properties of point estimators, derivation of confidence interval formulas, and derivation of test statistics and critical regions for testing hypotheses.

Prerequisite: MTH 252 with a grade of C or better and STA 363 with a grade of C or better and STA 401/STA 501 with a grade of C or better.

STA 463/STA 563. Regression Analysis. (4)

Linear regression model, theory of least squares, statistical inference procedures, general linear hypothesis, partial F tests, residual analysis, regression diagnostics, comparison of several regressions, model adequacy, and use of statistical computer packages.

Prerequisite: MTH 222 with a grade of C or better and STA 363 with a grade of C or better and STA 401/STA 501 with a grade of C or better.

STA 466/STA 566. Experimental Design Methods. (4)

Experimental design concepts; completely randomized, randomized block, and Latin square designs; planned and multiple comparisons; analysis of variance and covariance; factorial and split-plot experiments; nested designs and variance components; fixed, random, and mixed effects models. Emphasis on applications and computer usage.

Prerequisite: STA 463/STA 563 or ISA 291 with a grade of C or better.

STA 467/STA 567. Statistical Learning. (3)

Introduction to methods of statistical learning, with emphases on both theory and implementation. Topics include supervised and unsupervised learning methods, including linear and nonlinear models for regression and classification, additive models, recursive partitioning methods, neural networks, support vector machines, association rules, and cluster analysis; ensemble methods; and methods of model assessment and selection. Credit not awarded for both STA 467/STA 567 and ISA 491/ISA 591.

Prerequisite: STA 463/STA 563 with a grade of C or better.

STA 475. Data Analysis Practicum. (3)

The use of statistical data analysis to solve a variety of projects. Emphasis on integrating a broad spectrum of statistical methodology, presentation of results both oral and written, use of statistical computing packages to analyze and display data, and an introduction to the statistical literature. A term project involving student teams combines elements of all of the above. CAS-QL. SC.

Prerequisite: senior standing and STA 463/STA 563 or 363, or ISA 291 with a grade of C or better and at least one of STA 404/STA 504, STA 466/STA 566, STA 467/STA 567 or STA 483/STA 583.

STA 477. Independent Studies. (0-6)**STA 477R. Independent Study - Research. (0-6)****STA 480. Departmental Honors. (1-6; maximum 6)**

Departmental honors may be taken for a minimum of four semester hours and a maximum total of six semester hours in one or more semesters of student's senior year.

STA 483/STA 583. Analysis of Forecasting Systems. (3)

Introduction to quantitative prediction techniques using historical time series. Involves extensive use of interactive computing facilities in developing forecasting models and considers problems in design and updating of computerized forecasting systems. Credit not awarded for both STA 483/STA 583 and ISA 444/ISA 544.

Prerequisite: A grade of C or better in STA 463/STA 563; or a grade of C or better in STA 401/STA 501 and STA 363 or ISA 291.

STA 600. Topics in Advanced Statistics. (1-4; maximum 10)

Prerequisite: permission of department chair.

STA 616. Communicating with Data. (3)

Bridges the study of technical and computational tools to the audiences who need the results of this work. This course will span the entire process of developing a data analytic product from consultation with a client to implementing a solution to presenting the solution to the client. This course will address the fundamentals of effectively communicating with and about quantitative analyses. Topics include using data visualization to describe data; document descriptive, predictive, and prescriptive analytical methods for reproducibility; write professional white papers and technical reports; and ethical considerations related to writing and communication with data. Cross-listed with ISA.

STA 640. Internship. (0-12; maximum 6)**STA 650. Topics in Statistics. (1-4; maximum 8)**

Topics selected from an area of statistics.

Prerequisite: permission of instructor.

STA 651. Advanced Statistical Methods I. (3)

Advanced topics selected from an area of statistics.

Prerequisites: STA 563 and STA 664 and STA 665, or permission of instructor.

STA 652. Advanced Statistical Methods 2. (3)

Advanced topics selected from an area of statistics.

Prerequisites: STA 563 and STA 664 and STA 665 or permission of instructor.

STA 660. Practicum in Data Analysis. (3)

Supervised practice in consulting and statistical data analysis including use of computer programs. Maximum of six hours may be applied toward a degree in mathematics or statistics. Offered credit/no-credit basis only.

Prerequisite: STA 566.

STA 664. Theory of Statistics. (3)

Topics from distribution theory, theory of estimation, theory of tests of hypothesis.

Prerequisite: Graduate standing or permission of instructor.

STA 665. Theory of Statistics. (3)

Topics from distribution theory, theory of estimation, theory of tests of hypothesis.

Prerequisite: STA 664 and graduate standing; or permission of instructor.

STA 672. Statistical Modeling and Study Design. (4)

Introduction for graduate students to various methods of data analysis, forecasting, and building and use of computer simulation and optimization models for analysis and solution of environmental problems.

Prerequisite: basic course in statistics and admission to IES or permission of instructor.

STA 677. Independent Studies. (0-6)

Strategic Communication (STC)

Note: MJF 105, 146 and 205 are requirements for all majors in the Department of Media, Journalism and Film.

STC 135. Principles of Public Speaking. (3)

Develops fundamentals of analyzing, organizing, adapting, and delivering ideas effectively in public contexts. Special emphasis placed upon informative and persuasive discourse.

STC 136. Introduction to Interpersonal Communication. (3)

Introduction to major theories and empirical research regarding the role of interpersonal communication and related personal, contextual, and cultural variables in the development of various types of dyadic relationships. Does not count toward the strategic communication major. IIC. PA-2A. CAS-C.

STC 177. Independent Studies. (0-6)**STC 236. Intercultural Communication. (3)**

Examines similarities and differences among cultures and subcultures with regard to norms, values, and practices in verbal and nonverbal communication. Barriers, such as prejudice and ethnocentrism, to effective intercultural communication addressed. PA-4B.

STC 259. Foundations of Campaign Design. (3)

This course offers an introduction to the foundations of designing strategic communication campaigns. It focuses on developing campaigns that integrate strategies from public relations, advertising, and branding across a complex environment that includes traditional media like TV, radio, and print, as well as emerging media such as social, digital, and mobile platforms. It also introduces students to important theories of communication and media to inform the steps of campaign design as they are applied to corporate, non-profit, social, and public service messaging.

STC 262. Research Methods. (3)

Examination and application of contemporary communication research methods to investigate human communication processes. Emphasizes experience in data collection utilizing both quantitative and qualitative paradigms. CAS-Q.
Prerequisite: ISA/STA 125 or STA 261 or STA 301 or STA 368.

STC 277. Independent Studies. (0-6)**STC 285. Professional Communication for Data Analytics. (3)**

Focuses on data analysis reporting for data analytics majors. Students will develop rhetorical knowledge and skills needed to write and present data and data findings effectively for a variety of audiences, purposes, contexts, and media. ADVW. PA-1C. CAS-W.
Prerequisite: ENG 109 or ENG 111 (or AP and other placement credit).
Cross-listed with ENG 285.

STC 311. Communication in Everyday Life. (3)

This course explores the often-hidden significance, dynamics, and meanings of everyday communication. This course looks at a broad range of everyday communication contexts—including self-presentation, interpersonal communication, romantic relationships, and workplace culture—and considers the rhetorical power of ideas like “tradition,” “common sense,” and “folksiness.” Ultimately, students in this course will learn about everyday communication as a form of ongoing persuasion and culture-making that continually defines our social world.

STC 331. Branding in Politics. (3)

This course overviews the central role of strategic communication in the modern political and commercial arenas. It examines how political actors and institutions, for-profit and nonprofit organizations, the press, and both domestic and foreign publics interact. Course material explores how public relations, advertising, and marketing fit into and impact the local, national, and global schemes of political activities, ranging from election campaigning, to legislative and executive policy making, public diplomacy and nation branding. Beyond looking inside the political establishment, this course also explores external communications fundamentally impacting the political process, such as special interest lobbying, corporate activism and social responsibility, civic advocacy and engagement, and journalism.

STC 340. Internship. (0-20)**STC 359. Advanced Strategic Communication Writing. (3)**

Intermediate study of public relations, advertising and integrated marketing communication strategy, writing and presentation. Students will practice and develop advanced professional writing skills while creating communication assets for communication campaign implementation. Emphasis on paid, earned, owned and shared strategy. As an advanced writing course, students participate and collaborate in peer review and multiple drafts of professional writing. ADVW. PA-1C. CAS-W.
Prerequisite: STC 259.

STC 377. Independent Studies. (0-6)**STC 421. Managing Crisis & Reputation. (3)**

Brand reputation is valuable. Yet, every day, brands and individuals face crises and loss of trust. Every brand faces negative attention at some point - it is just a matter of when and how much the situation damages brand reputation. Using real-life case studies, this course prepares students to identify, navigate and manage reputations in crisis. Introducing key principles of issue, risk, and crisis communication management, this course integrates theories in crisis communication research. Students learn proactive and reactive strategies to respond to the pre-, on-going, and post-stages of crisis; to repair and recover organization reputation; and to maintain long-term sustainable relationships with stakeholders.

STC 422. Trendsetters & Coolchasers. (3)

This course seeks to understand what makes something “cool” and how coolness can be used (or misused) in strategic communication. The course focuses on qualitative research methods as a way of helping students identify emerging trends that exist outside of their own cultural niche. Using these methods, students in the course will analyze the lifecycle and mainstreaming of emerging trends, the value of the concept of authenticity in contemporary culture, and “out of touch” miscalculations by major brands.

STC 431. Persuading Audiences. (3)

Examines the formation, change, and functions of attitudes and the link between attitudes and behavior. Emphasis placed on understanding relevant theory and research.

STC 437. Media, Advocacy & Social Change. (3)

This course analyzes the public communication efforts of activists and social movements from World War II to the present. Taking a broad and historically-informed view of media and advocacy communication, it explores how citizens have mobilized a variety of participatory media, technologies, tactics, and strategies to raise awareness of social issues and shape public opinion.

STC 450. Topics in Communication. (3; maximum 9)

Study or research of issues and problems associated with communication under the guidance of a faculty member of the department.

Prerequisite: major status or permission of instructor.

STC 459. Strategic Communication Campaigns. (3)

This capstone course is designed to integrate previous strategic communication courses, internships, and other liberal education courses to provide a comprehensive overview of how strategic communications are created through team-based work in collaboration with civic and non-profit organizations. This course aims to hone students' practical skill sets in strategic communication, which requires the students to be able to conduct solid research while applying public relations theories and communications models to develop a strategic action plan that includes measurable objectives, evaluation metrics, and a community focus. EL, SC.

Prerequisite: STC 359 or permission of instructor.

STC 469. Public Relations Practicum. (1-2; maximum 8)

Practical experience in public relations work. Cannot count for credit toward major in communication.

Prerequisite: PRSSA membership and permission of instructor.

STC 477. Independent Studies. (0-6)**STC 478. Inside New York City- Study Away. (3)**

A three-week experience takes students "inside" New York City through field trips, guest speakers, panel discussions and an opportunity to job shadow in your area of specialization. Students will meet with industry leaders from every corner of the public relations, marketing, and advertising world from large agencies to small nonprofits and everything in between. In addition, students will get the full experience of NYC as they visit media headquarters, museums, and Broadway. Two weeks of lectures, discussions, and on-site visits are followed by one week of job shadowing a media professional - all in New York City.

Prerequisite: STC 259.

STC 482. Inside Chicago. (3)

A Media, PR, Advertising, and Marketing Study Away program in Chicago. Students explore careers, engage in cultural experiences and research challenges of the modern marketing communication function. Students live and commute to corporate offices, practice networking skills and experience professional life in a large city known for media-centric careers.

Teaching, Curriculum, & Educational Inquiry (TCE)

TCE 002. College Reading II. (3)

TCE 002 is a 3 non-degree credit hour course which is a credit/no credit class. Instruction focuses on learning and applying strategies in reading to improve comprehension. This course teaches reading as a thinking process to improve understanding of written material. Instruction focuses on applying effective reading/thinking strategies to increasingly difficult reading material, addressing effective vocabulary and reading study skills including synthesis, evaluation, and argumentation.

TCE 110. Learning Strategies for College Success. (2)

Designed to teach study skills (reading, note-taking from texts and lectures, organizing and composing orally and in writing) necessary for student to function effectively at Miami University.

TCE 177. Independent Studies. (0-6)**TCE 181. Physical Science and Society. (4)**

This course (lecture and lab) is designed as a model of interactive, inquiry-oriented teaching and learning for students to experience as learners and then apply in their future classrooms. Opportunities will be provided for students to expand their thinking about the process of science and the work of scientists who generate our current understandings of the physical world across the disciplines of physics and chemistry. Explicit attention will be paid to making connections between physical science content and key social justice concepts. 3 Lec. 1 Lab.

TCE 182. Earth Science and Society. (4)

This course (lecture and lab) is designed as a model of interactive, inquiry-oriented teaching and learning for students to experience as learners and then apply in their future classrooms. Opportunities will be provided for students to expand their thinking about the process of science and the work of scientists who generate our current understandings of the physical world across the disciplines of geology and astronomy. Explicit attention will be paid to making connections between physical science content and key social justice concepts. 3 Lec. 1 Lab.

TCE 188. Creativity and Innovation in STEM Education. (3)

The goal of this course is an introduction to STEM (Science, Technology, Engineering and Mathematics) Education and its basic principles of creativity and innovation. This course is the first course in the "Exploring STEM Education in Society" thematic sequence. This course will provide many opportunities for thinking critically, problem solving, and in-depth writing.

TCE 191. Threshold Concepts of Teaching, Curriculum, and Educational Inquiry. (3)

This course explores the purposes, organizations, and outcomes of schooling from the perspectives of the field of social foundations of education. Students undertake critical inquiry into teaching as a profession and examine threshold concepts related to teaching, curriculum, and educational inquiry. Students will explore historical, philosophical, and contemporary purposes of schooling in order to open up new possibilities for them as teachers and community members in a complex, multicultural society. The course challenges students to understand how historical and contextual issues related to schooling intersect with matters of diversity, equity, and inclusion. This examination centers issues related to schooling within the context of power, justice, and social change. PA-4A, SI-02.

TCE 202. Global Childhood Education: Diversity, Education & Society. (3)

This course focuses on increasing awareness, sensitivity, and understanding of the diverse cultural, ethnic, linguistic, religious, and family backgrounds of children in education from broader perspectives. It provides students with an opportunity to explore the multicultural American society as well as the global communities. It starts by learning about ourselves that is a basic foundation to understand and respect others. It also offers a chance to see, feel, and think in a different way than we have ever had before. Such mental, emotional, and intellectual "bothering and challenging" is consistently planned and encouraged in this course in order to reexamine our taken-for-granted assumptions and expectations. This course discusses the critical issues by connecting them to application into educational practice and settings. Therefore, it attempts to incorporate the various meanings and concepts of social justice, equality, multiculturalism, diversity and globalization and internationalism into education. IIIB. PA-4C.

TCE 205. Race, Cultural Diversity, and Equity in Education. (3)

This course will explore the complex relationship between race, cultural diversity, and inequity in education. It will interrogate the idea and construction of “race,” and will examine how racial inequities are produced, maintained, and resisted in educational institutions. It will attend to diversity within groups by considering the dynamics of race as it intersects with gender, class, sexuality, dis/ability, language, and religion. The course will also analyze the historical and ongoing exclusion and marginalization of minoritized groups, and the hegemonic dominance and normalization of whiteness in education policies, curriculum and pedagogy, assessment and achievement, teacher and student identities, school and classroom spaces, and family and community engagements. It will employ various conceptual frameworks to look inside educational structures and cultures that sustain inequities and that challenge and remedy them. Finally, the course will provide students with opportunities to investigate these issues as they relate to their own experiences and communities. IC, IIIB. PA-4B, PA-4C.

TCE 221. Teaching English Language Learners in PK-12: Culture & Second Language Acquisition. (3)

The first of three sequenced courses in the Teaching English Language Learners (TELLs) certificate, TCE 221 TELLs in PK-12: Culture & SLA provides the theoretical foundations necessary for PK-12 teachers to work successfully with English Language Learners (ELLs) in the mainstream classroom. A field experience component, coupled with comprehensive case study assignments, enables teachers to obtain real-world understanding of the cultural and language development issues facing ELLs, their families and their teachers in schools. IIIB. PA4C.

TCE 225. Family School and Community Connections. (3)

This course focuses on the theory and practice of joining families, communities, and schools to support student learning, development and success in education. Strategies to improve communication and collaboration are emphasized with a focus on family types, cultures, economic conditions, school systems, community services, political forces, advocacy groups, and other factors that impact children and their families. IC. PA-4B.

TCE 242P. Phonics and Literacy Instruction for Teachers. (3)

This course presents historical and research perspectives, word analysis concepts/ terminology, and critical literacy. Teacher candidates will examine diagnostic and instructional procedures as well as digital literacy instruction.

TCE 246. Foundations of Language and Literacy. (3)

Explores the foundations of language and literacy development as content background for effective language and literacy instruction, birth to age 21. Topics include theories of language and literacy development, history of reading and writing instruction, literacy and technology, cultural and linguistic aspects of literacy, and various perspectives and models of literacy learning. Note: Early Childhood education majors take 246E as part of block 1 and Middle Childhood education majors take 246M in the early field block. Integrated English/Language Arts majors take TCE 246A prior to TCE 346A. Prerequisite: admission to the program (for early and middle childhood majors)

TCE 246A. Foundations of Language and Critical Literacy. (3)**TCE 246M. Foundations of Language and Literacy. (3)****TCE 246P. Foundations of Reading, Language, and Literacy. (3)**

This course offers an introduction to the foundations of language and literacy development as content background for effective language and literacy instruction, PK- 5. Topics include theories of history of reading and writing instruction, literacy and technology, cultural and linguistic aspects of literacy, and various perspectives and models of literacy learning. Teacher candidates will explore various schools of thought regarding literacy, teaching, and learning, including discussions of multicultural education, multi-literacies, and linguistic diversity through a critical literacy framework toward multimodal understandings of literacy to foster culturally responsive practices for an increasingly diverse and globally just society. Field experience in the preschool classroom is integral to meeting course objectives.

Prerequisites: Admission to Primary PK-5 program and complete TCE 190 and EDP 201 with grade of B or higher.

Co-requisites: KNH 245, TCE 272P, TCE 323, TCE 315P.

TCE 251. Research Skills and Strategies - Library & Internet. (2)

Build research skills and improve your search strategies using current technology, online tools, and the Internet. Progress through the research process as you apply critical thinking to your information need. Develop skills in finding and evaluating information and citing sources. Learn to use library services and resources including the online catalog, research databases, and print and digital collections.

TCE 252M. Early Field Experience: Middle Childhood. (3)

Professional seminar for students admitted to a cohort in teacher education in the middle childhood licensure. Explores process of becoming a teacher and includes clinical and field experiences. Part of early field block.

Prerequisite: admission to and retention in middle childhood cohort.

TCE 265. Mathematics: History and Technology. (3)

A mathematics course for middle childhood education majors, using various technologies to investigate such topics as mathematical modeling, proportional reasoning, and historical development of math concepts. Pre-requisites: Only available for Middle Childhood Education majors or by permission of instructor.

TCE 272P. Introduction of Childhood Development and Education. (3)

This course focuses on understanding characteristics and needs of young children and on recognizing the multiple influences on their development and learning. Students will discuss the significance of the context in which political, economic, societal, and cultural factors interrelate with early childhood education and young children's lives. Topics also include teachers' varied roles and responsibilities for healthy, respectful, and safe learning environments. Moreover, this course examines brain development, Developmentally Appropriate Practices (DAP) with Culturally Relevant Teaching approaches (CRT), and the importance of play. This course is mainly focused on children in American school settings. Field experience in the preschool classroom is integral to meeting course objectives.

Prerequisites: Admission to Primary PK-5 program and complete TCE 191 and EDP 201 with grade of B or higher.

Co-requisites: TCE 246P, TCE 454/TCE 554, KNH 245, TCE 315P.

TCE 273. Prekindergarten Integrated Curriculum I. (3)

Course for students who wish to become child care professionals, working with young children ages 0-5, not yet in kindergarten, in a variety of settings, including public, corporate and private child care centers and preschools. Topics include integration of learning experiences through preparation of safe and healthy environments, observation and assessment tools, behavior management, and adult interactions. Special needs of children are also considered.

TCE 274. Prekindergarten Integrated Curriculum II. (3)

Course for students who wish to become child care professionals, working with young children ages 0-5, not yet in kindergarten, in a variety of settings, including public, corporate and private child care centers and preschools. Topics include development of appropriate curriculum through an integrated thematic approach and lesson planning in the arts, literacy, and content areas, including health, physical education, math, social studies and science. Parent/community involvement and special needs of children are also considered.

TCE 277. Independent Studies. (0-6)**TCE 284. Writing for Educators. (3)**

This writing course is designed for prospective educators and those who want to strengthen their written voices. Students will develop and extend attitudes, habits, and skills that enable them to write with efficiency, clarity, and substance. In addition to writing in a number of genres, students will study the craft of successful writers to learn strategies that expand their own writing repertoire. A central feature of this course is peer response and one-to-one conferences with the instructor to help students learn to revise evolving writing into writing worth reading. ADVW. PA-1C.

Prerequisite: ENG 111 or equivalent.

TCE 288. Ways of Thinking in STEM (Science, Technology, Engineering, and Mathematics) Education. (3)

Over the course of human history, many theories have been developed to help us better understand our physical, biological, psychological, and social worlds. In the process of developing these theories, STEM professionals have used particular ways of observing natural phenomena - thinking, questioning, experimenting, and validating their observations, methods, and theories. This course is designed to help you understand the nature of scientific inquiry and scientific knowledge, mathematical reasoning, engineering and technological design, and the interactions among science, technology, engineering, mathematics and society. The overall goal of the course is to increase your appreciation for the ways of knowing in STEM and contributions of STEM to society in the past, present, and future.

TCE 303. Community Based Practices: Learning Enhancement for Preschool Children from Low Income Families. (1-3; maximum 3)

This course is designed for Miami students to learn how to enhance the learning of low income preschool children through technology based content instructions with various learning activities and experiences. The focus of the course is on Butler County preschool classrooms which include children with special needs and children from Latino and various different cultural backgrounds. Miami students will interact with young children in the preschool classroom, teach digital media (iPad) instructions with several contents such as math, social studies, or/and science with literacy components, support young children's parents, and collaborate with in-service teachers under the course instructor's close supervision.

TCE 310. Applications of Peer Education. (1)

Introduction to theories and methods of effective tutoring and peer education at college level.

Prerequisite: recommendation of faculty member and department chair in tutor's content area or permission of instructor.

TCE 311. Educational Strategies for Non-Majors. (3)

Curriculum, materials, and methods of teaching in K-12 schools; lesson planning, questioning strategies, cooperative learning, concept development, technology, evaluation, teaming, understanding learning styles and needs of learners and the teaching environment; teaching professionalism.

TCE 312. Foundations of Education in Global Contexts. (3)

This class focuses on the theoretical foundations of education in global contexts, as well as issues influencing the field. Topics include: globalization; education reforms, political, cultural, and religious influences, centralization and decentralization policies, colonialism and its legacies, and access to education among others. The goal of this class is to uncover why education is the way it is in other contexts, determine the limitations of understanding other contexts, and evaluate the extent to which elements of education are transferable between contexts. IIIB. PA-4C.

Cross-listed with EDL 312.

TCE 315P. Children's Literature for PK-5 Classrooms. (3)

In this course, candidates will select, read, and critique literature for young children from a perspective that recognizes the numerous aspects of diversity in today's populations, communities, and classrooms. With attention to the shift in publishing to the inclusion of diverse authors and illustrators, candidates will focus on current books from various genres and formats, recognizing emerging topics. Candidates will be empowered to engage in critical thinking and action in their roles and responsibilities for shaping perspectives of social justice, diversity, and inclusion through literature. Field experience in PK-5 classrooms is integral to meeting course objectives. Co-requisites: TCE 246P, TCE 272P, TCE 454/TCE 554, and KNH 245

Prerequisites: Admission to Primary PK-5 program and complete TCE 191 and EDP 201 with grade of B or higher.

TCE 317P. Science PK-5: Child and Curriculum Integration. (3)

This course will challenge students to think critically, engage with other learners, and reflect and act upon issues related to science education. Course texts and assignments are intended to deepen personal identity as a scientific thinker (an individual who is able to ask critical questions and build explanations of physical and social phenomena) in order to enhance ability to teach and collaborate effectively with children in Pre-K to 5 science classrooms. Field experience in PK-5 classrooms is integral to meeting course objectives.

Prerequisites: Completion of Block One and MTH 115, MTH 116, TCE 181 or TCE 182 with a grade of C or higher in each course. Co-requisites: TCE 474P, EDP 495E, TCE 346P, and TCE 318P.

TCE 318P. Mathematics PK-5: Child and Curriculum Integration. (3)

This course focuses on methods of teaching mathematics that include play, small-group projects, open-ended questioning, group discussion, problem-solving, cooperative learning, and inquiry experiences toward engaging with young children in advancing their intellectual curiosity and capabilities. Teacher candidates will be provided the opportunity to work with children of diverse ages, with diverse abilities, and culturally and/or linguistically diverse family systems. Instruction will focus on developing strategies to encourage children's physical, social, emotional, aesthetic, and cognitive development with respect to learning mathematics. This course will challenge students to think critically, engage with other learners, and reflect and act upon issues related to mathematics education. Field experience in PK-5 classrooms is integral to meeting course objectives.

Prerequisites: Completion of Block One, MTH 115, MTH 116, TCE 181 or TCE 182 with a grade of C or higher in each course.

Co-requisites: TCE 474P, EDP 495E, TCE 346P, TCE 317P.

TCE 340. Internship. (0-20)**TCE 346A. Reading Instruction for Adolescents. (3)**

Basic course in instructional principles and methods for reading and studying techniques in specific subject area courses taken by adolescents. Emphasis on strategies to improve reading comprehension and vocabulary. Laboratory and field experiences are an integral part of the course.

Prerequisite: TCE 246A and retention in adolescent integrated English/language arts cohort.

Co-requisite: TCE 427/TCE 527.

TCE 346M. Reading Instruction for Middle Grades. (3)

Students expand and extend knowledge base from TCE 246M; explore, study, apply, and assimilate new learning about effective reading and literacy strategies appropriate to development and needs of early adolescent learners (grades 4-9). Focuses on knowledge and skills necessary to make and apply appropriate programmatic and instructional decisions including knowledge of the early adolescent learner, reading and writing processes, instructional strategies, and integrating materials and learning environments. Laboratory and field experiences are an integral part of the course.

Prerequisite: retention in middle childhood cohort (part of fall semester middle childhood content methods block).

TCE 346P. Language, Literacy, and Culture in PK-5 Education. (3)

This course explores theories and practices in the field of language and literacy that encourage the development of supportive classrooms for young children across a range of racial, ethnic, linguistic, and cultural communities. Specific attention is given to issues of equity with regard to race, ethnicity, language, religion, sexual orientation, gender identification, ableism, etc. to enable preservice teachers to develop critical understandings and dispositions to better support all learners in the teaching of language and literacy across the PK-5 curriculum. Field experience in PK-5 classrooms is integral to meeting course objectives.

Prerequisites: Completion of Block Two, MTH 115, MTH 116, TCE 181 or TCE 182 with a grade of C or higher in each course.

Co-requisites: TCE 473P, EDL 318E, EDP 432/EDP 532, EDP 495E.

TCE 362. U.S. Political/Economic Experience for Teachers. (4)

This course includes discussions of United States' political and economic institutions and processes toward preparation of teacher candidates. Instruction emphasizes historical and contemporary interrelationships of economic and political institutions in the United States society. Toward growth in constructs of financial literacy, course participants will discern financial choices, discuss financial issues without (or despite) discomfort, and respond to life events that affect everyday financial decisions, including events in the general economy.

TCE 377. Independent Studies. (0-6)**TCE 405/TCE 505. Advanced Science for the Elementary School Teacher. (3)**

Content course in physical science covering advanced study of selected areas of geology, physics, chemistry, and astronomy.

TCE 415/TCE 515. Inquiry Into Life Science. (3)

Provides students with the opportunity to explore the world of life science through inquiry using a thematic approach. Major themes include the nature of science, ecology, human biology, evolution, and taxonomy.

Prerequisites: successful completion of any entry-level life science course taught in biology or microbiology.

TCE 417P. Social Studies PK-5: Child and Curriculum Integration. (3)

This course engages teacher candidates in analysis of the values embodied in the USA democratic form of government with its commitment to justice, equality, and freedom of thought and speech, as reflected in classroom curricula, materials, and methods of teaching social studies in PK-5. The course will include considerations of the ethical dimensions of social studies topics, of controversial issues, and of heritage as reflected through diverse cultures and as shown through the arts, play, customs, traditions, family celebrations and language. Field experience in PK-5 classrooms is integral to meeting course objectives.

Prerequisites: Completion of Block One and MTH 115, MTH 116, TCE 181 or TCE 182 with a grade of C or higher in each course.

Co-requisites: TCE 474P, EDP 495E, TCE 317P, and TCE 318P.

TCE 418. TESOL in PK-12: Teaching Practicum. (3)

The Teaching Practicum is the culminating experience in the TESOL undergraduate endorsement certificate. Teacher Candidates will complete a minimum of 50 service learning hours under the supervision of a certified teacher holding a TESOL endorsement (or equivalent) and the Miami University practicum supervisor. TCE 221 and TCE 454/TCE 554 must be completed before the Teacher Candidate is allowed to complete the experience.

Prerequisites: TCE 221, TCE 454/TCE 554, TCE 425 & LIN/ATH/GER 219 or SPN 312 or FRE 361.

TCE 419A/TCE 519A. Teaching Internship- Adolescent. (1-16)

Planned and supervised learning experiences in which students demonstrate knowledge, skills, abilities, and values appropriate to teaching in educational settings. Typically 15 weeks in the schools is required. Frequent conferences with university supervisors and cooperating teachers.

Prerequisites: completion of all instructional procedures courses required in the licensure program; required GPA for licensure programs; at least 96 semester hours; and take the OAE content test.

TCE 419M. Teaching Internship-Middle Childhood. (15)

Planned and supervised learning experiences in which students demonstrate knowledge, skills, abilities, and values appropriate to teaching in educational settings. Typically 15 weeks in the schools is required. Frequent conferences with university supervisors and cooperating teachers.

Prerequisites: completion of all instructional procedures courses required in the licensure program, required GPA for licensure programs, at least 96 semester hours, and take the OAE content test.

TCE 419P. Teaching Internship Primary PK-5. (15)

Planned and supervised learning experiences in which students demonstrate knowledge, skills, abilities, and values appropriate to teaching in educational settings. Typically, 15 weeks in the schools is required. Frequent conferences with university supervisors and cooperating teachers.

Prerequisites: Completion of all instructional procedures courses required in the licensure program, required GPA for licensure programs, at least 96 semester hours, and take the OAE content test.

TCE 420. Field Experience. (1-4; maximum 8)

Collaborate and work with schools and communities to deepen understandings of contextual factors that impact teacher candidates' future profession. EL.

TCE 420F. Teaching Foreign Language (FL): Elementary School Practicum. (3)

Provides the instructional foundations to successfully teach a Foreign Language in the elementary school classroom. Miami students with proficiency and background in a foreign language (e.g. ASL, Chinese, French, German, Latin, Spanish) read, discuss, and explore theories and best practices in language teaching and learning. Students apply this theoretical knowledge, transfer course skills, and deepen their understanding of course content as they independently author and implement language and culture lessons in the Talawanda After School Foreign Language Program (TASFLP). Students collaborate with their faculty mentor and peers to reflect and conduct self-assessments on their teaching experiences throughout the course in order to improve their planning and implementation of language and cultural content in the program and beyond.

Prerequisite: Proficiency and background in a foreign language.

TCE 420R/TCE 520R. Remote Practices for K-12 Learners. (3)

This course focuses on best practices for K-12 remote instruction, student engagement, and virtual community building. This course also addresses equity issues & access; effective uses of asynchronous and synchronous technologies to enhance teaching in the content areas, etc. The course content and activities are aligned with specific Universal Design for Learning (UDL) principles. Students who take this course for graduate credit (TCE 520) will complete an 8-10 page literature review in addition to the required assignments.

Prerequisite: Completion of EDP 437/EDP 537 or EDP 447/EDP 547.

TCE 421A/TCE 521A. Classroom Cultures, Community, and Climate. (3)

This course focuses on strategies for building positive learning environments for students and teachers that support student cooperation, engagement, and achievement. Teacher candidates study and apply techniques intended to foster mutual respect and community-building in the classroom with emphasis on the first days of school and classroom technologies.

Prerequisites: Admission to and retention in the language arts, mathematics, science, social studies, and foreign language cohorts (part of the adolescent methods block).

TCE 421M. Classroom Cultures, Community, and Climate. (3)

This course integrates the ways in which middle childhood students learn and develop with the essential knowledge, skills, and lenses teachers need in order to build and nurture a positive and inclusive community of learners. Topics include increasing understanding and embracing of cultural differences, and focusing on why and how to promote effective and reciprocal relationships with students, families, colleagues, and the community in which the school is placed. Students will have a field experience in grades 4-9.

Prerequisites: Admission to and retention in middle childhood education cohort (part of the fall semester middle childhood methods block) including successful completion of early field block courses and three courses in each content area.

Co-requisites: TCE 346M, EDP 301M, and two of the following: TCE 429M, TCE 436M, TCE 439M, TCE 441M.

TCE 422. Studies in Educational Issues. (3)

Each student or student team collaborates with instructor and peers to identify and conduct an investigation or complete a creative project that focuses on a specific problem or issue in education. Seminar course with primary emphasis on intensive reading, research, writing, and interaction in student-selected areas of study with opportunities for analysis and reflection. Includes discussions, team work, presentations, and writing projects. Culminating activity is an oral or written presentation or exhibition that demonstrates understanding or resolution of the issue or problem studied. SC.

TCE 423/TCE 523. Literature and Other Media for Adolescents. (3)

Discusses evaluation of nonprint media, selection aids, censorship problems, and adolescent needs in half the semester and evaluation and criticism of literature in the other half.

Prerequisite: junior or senior standing.

TCE 425. TESOL in PK-12: Literacy Development. (3)

The third of four courses in the undergraduate TESOL endorsement certificate, TCE 425 provides theory and practice to enable candidates to develop strategies for implementing culturally and linguistically relevant and sustaining literacy learning opportunities in classrooms, as well as for supporting and family literacy development in communities. To this end, candidates will deconstruct, critique, and modify literacy materials to maximize literacy development of ELs and their families.

Prerequisite: TCE 221 or TCE 454/TCE 554.

TCE 427/TCE 527. Adolescent Language Arts I. (3)

Curriculum, materials, and methods for teaching writing, grammar, usage, literature, speech, journalism, with emphasis on writing and journalism, including ethics and law surrounding school publications. Prerequisite: retention in your language arts cohort (part of language arts methods block).

TCE 428/TCE 528. Adolescent Language Arts II. (3)

Curriculum, materials, and methods for teaching writing, grammar, usage, literature, speech, journalism, and media with emphasis on literature and media.

Prerequisite: retention in your language arts cohort and successful completion of all of the courses in the language arts methods block.

TCE 429A/TCE 529A. Adolescent Mathematics I. (3)

Use of curricula, materials, and teaching/assessment strategies for teaching mathematics in the middle childhood/junior high school years (grades 7-9).

Prerequisite: retention in the math cohort (part of mathematics methods block).

TCE 429M. Middle Childhood Mathematics. (3)

Use of curricula, materials, and teaching/assessment strategies for teaching mathematics in the middle childhood/junior high school years (grades 4-9).

Prerequisites: retention in your math cohort.

TCE 430/TCE 530. Adolescent Mathematics II. (3)

Use of curricula, materials, and teaching/assessment strategies for teaching mathematics to adolescents in the senior high school years (grades 9-12).

Prerequisite: TCE 429A/TCE 529A and retention in your math cohort.

TCE 431/TCE 531. Adolescent Science Methods I. (3)

Fundamental principles, techniques, and materials of science teaching in grades 7-12.

Prerequisite: admission to and retention in science cohort.

TCE 432/TCE 532. Adolescent Science Methods II. (3)

Fundamental principles, techniques, and materials of science teaching in grades 7-12.

Prerequisite: TCE 431/TCE 531 and retention in science cohort.

TCE 433/TCE 533. Adolescent Social Studies Methods I. (3)

Introduction to social studies as a professional field, curriculum, materials, and methods of teaching grades 7-12; lesson planning, simulations, learning styles, current trends in social studies education.

Prerequisite: admission to and retention in social studies cohort.

TCE 434/TCE 534. Adolescent Social Studies Methods II. (3)

Materials, curriculum, methods, and standards for teaching social studies in grades 7-12; questioning strategies, cooperative learning, technology, unit development, evaluation, current trends in the social studies.

Prerequisite: retention in your social studies education cohort, including TCE 433/TCE 533 (part of social studies methods block).

TCE 436. Middle Childhood Language Arts. (3)

Methods, strategies, techniques, and attitudes for integrating the teaching of writing, grammar, usage, literature, and speech in grades 4-8.

Prerequisite: retention in the appropriate middle childhood cohort.

TCE 439. Middle Childhood Social Studies. (3)

Curricula, materials, and methods of teaching social studies in grades 4-9; lesson planning, simulations, learning style, current trends in teaching social studies.

Prerequisite: retention in your middle childhood social studies cohort.

TCE 441. Middle Childhood Science. (3)

Basic principles, methods, curriculum trends, and materials for teaching science to children, grades 4-9. Laboratory and field experiences with children are integral to meeting course objectives.

Prerequisite: retention in your middle childhood science cohort.

TCE 442M. Phonics and Reading Improvement for Middle Childhood. (3)

Presents historical and research perspectives, word analysis concepts/terminology, and instructional methods of phonics and word recognition for middle childhood, grades 4-9. Examines diagnostic and instructional procedures related to special needs of very low to high achieving readers.

Prerequisite or Co-requisite: TCE 346M (retention in cohort and successful completion of early field block in middle childhood education).

TCE 444/TCE 544. Language Teaching and Learning I. (3)

The first of two courses preparing pre-K-12 foreign language teacher candidates to become critical and reflective professionals; to use theoretical underpinnings; to apply national standards, best practices, cutting edge curricula, current trends; and to infuse technology in teaching languages.

Prerequisite: retention in foreign language cohort.

TCE 445/TCE 545. Language Teaching & Learning II. (3)

The second of two courses preparing pre-K-12 foreign language teacher candidates to become critical and reflective professionals, to use theoretical underpinnings, to apply national standards, best-practices, cutting-edge curricula, current trends and to infuse technology in teaching languages.

Prerequisite: TCE 444/TCE 544 and Advanced Low score on the ACTFL Oral Proficiency Interview (OPI).

Co-requisite: TCE 446L/TCE 546L.

TCE 446A/TCE 546A. Integrating Literacy Across the Content Areas. (3)

Basic course in instructional principles and methods for integrating literacy across the content areas in grades 7-12. Part of methods block for mathematics, social studies, and science education majors.

TCE 446L/TCE 546L. Reading in the Foreign Language. (3)

Basic course in instructional principles and methods for teaching reading and study techniques in foreign language in secondary schools. Emphasis on developmental strategies to improve reading comprehension and vocabulary.

Prerequisite: admission to and retention in the foreign language cohort (part of methods block for foreign language education majors).

TCE 448M. Reading Practicum for Middle Childhood. (3)

Supervised experience in teaching a middle grade student having difficulty in reading. Emphasizes principles and methods for special needs instruction.

Prerequisite: TCE 346M.

TCE 450/TCE 550. Special Problems. (1-3; maximum 6)

Individual study or research of problems of learning, instruction, or curriculum with guidance of department faculty member.

Prerequisite: senior or graduate standing and written approval of instructor and department chair.

TCE 452/TCE 552. Teaching Social Studies. (3)

Topics include the content required to teach social studies in the intermediate grades as well as strategies, activities, and materials for developing pedagogical competencies. A field component is required. Prerequisite(s): Successful completion of an early childhood social studies methods course such as TCE 417P.

TCE 453. Practicum & Praxis Grades 4-5. (1)

Topics include content required to teach language arts, mathematics, science, or social studies in the intermediate grades as well as strategies, activities, and materials for developing pedagogical competencies as reflected on the Praxis II Elementary Content Knowledge Examination (www.ets.org) - test code 10014. A field component of implementation of content and pedagogical knowledge is required, either in this course or in one or more of the following: TCE 405/TCE 505/505, TCE 452/TCE 552/552, or TCE 465/TCE 565/565.

TCE 454/TCE 554. TESOL in PK-12: Instructional Theory & Practice. (3)

Provides the theoretical and instructional foundations necessary for PK-12 teacher candidates to work successfully with English learners (ELs) in the mainstream content area or ESOL classrooms.

TCE 455. Capstone Seminar: Comparative Education in Europe or China. (4)

This class is conducted in both Oxford and Europe or China. Students spend time in classrooms abroad observing educational practices in another culture(s) for the purpose of identifying similarities and differences between the U.S. and other Europe or China. The class is approved to meet the capstone requirement. Format, themes, and topics may differ by section. SC.

TCE 457/TCE 557. Engaging Minoritized Children & Youth. (3)

This course will assist students to develop proficiency in foregrounding the experiences and needs of minoritized children, youth and their communities. The course includes inquiry into the critical theoretical and practical foundations of U.S. schooling and educational experiences with explicit focus on issues of race, class, gender, sexuality, and other identities. Students will leave this course equipped with the necessary tools to analyze the world in which they live, locate themselves in relationship to youth (cultures), be able to offer critical observations of youth cultures in our contemporary society, and identify possibilities for positive personal and societal transformation.

TCE 461/TCE 561. Grant Writing Skills/Methods. (3)

This graduate and permission only senior level course offering will introduce approved seniors and graduate students to systemic methods for reviewing "Requests for Funding Proposals" (RFP), creating pre-writing documents to support creating a grant application, and applying collaborative methods for writing quality grant applications to foundation, federal, state and community funding sources. Web-based sources for grant funding will be introduced. The course will introduce a 4 stage/32step process for analyzing complicated Requests for Funding Proposals (RFPs), supporting the grant application writing process and applying for funding. The course will include many recommendations for technology-supported grant application development and the final grant editing process. Novice and more experienced grant writers may work in writing teams to create and submit real grant applications on behalf of existing organizations, agencies, school districts or individual initiatives. This course is online.

TCE 465/TCE 565. Learning and Teaching Mathematics in the Intermediate Grades. (3)

Topics include the content required to teach mathematics in the intermediate grades as well as strategies, activities, and materials for developing pedagogical competencies. A field component is required. Prerequisite: successful completion of an early childhood mathematics methods course such as TCE 318E (one of the courses in 4-5 endorsement for ECE students or for licensed ECE teachers).

TCE 466/TCE 566. Mathematics Misconception Diagnosis & Remediation. (3)

Participants engage in deep analysis of classroom artifacts (e.g., video of classroom instruction, student work samples) to inform revision of teaching materials / curriculum to better support learning needs and interests of K-12 mathematics learners from diverse learning backgrounds and cultures.

Prerequisite: Junior or graduate standing or permission of course instructor.

TCE 473P. Negotiating the Complexities of Teaching: PK-5 Synthesis. (3)

This course engages teacher candidates with synthesizing elements of teaching: the child, culture, community, content/curriculum, mandates, pedagogies, and personal identity. Emphasis is on building relationships, articulating intellectual identity, developing ethical commitment, and on development of skills toward integrated-content project planning that is responsive to the needs, interests, and culture of the children, school, and community. Field experience in PK-5 classrooms is integral to meeting course objectives.

Prerequisites: Completion of Block Two with a grade of C or higher in each course.

Co-requisites: EDL 318E, EDP 432/EDP 532, TCE 417P.

TCE 474P. Classroom Cultures, Community, and Climate. (3)

This course integrates the ways in which children learn and develop with the essential knowledge, skills, and lenses teachers need in order to build and nurture a positive and inclusive community of learners. Topics include increasing understanding and embracing of cultural differences, and focusing on why and how to promote effective and reciprocal relationships with students, families, colleagues, and the community in which the school is placed. Additional topics addressed include Trauma-Sensitive Schools, Restorative Justice, and Positive Behavioral Interventions and Supports (PBIS). Field experience in PK-5 classrooms is integral to meeting course objectives.

Prerequisites: Completion of Block Two, MTH 115, MTH 116, TCE 181 or TCE 182 with a grade of C or higher in each course.

Co-requisites: EDP 495E, TCE 346P, TCE 318P, TCE 317P.

TCE 477. Independent Studies. (0-6)**TCE 483/TCE 583. Educators as Activists: Preparing Educators and Allies for Forces Impacting Classrooms and Schools. (3)**

Activism, broadly defined, will be explored using (a) historical, individual and organizational perspectives from educational policy and civil rights and (b) current issues, such as educational corporatization, educational equity, and racism. Students will study themes and perspectives on activism strategies in a variety of contexts (both in education and non education applications), and will self-reflect on their own identities to develop individual strategies for activism. Structural inequities in education and society will be emphasized.

TCE 485. Outdoor Leadership in New Zealand. (3,6; maximum 6)

This course will provide students with an opportunity to challenge and expand their traditional views of leadership and education in a diverse environment. The course will focus on four main principles: leadership, outdoor skill development, outdoor education, and cultural engagement. The course is comprised of three distinct experiences: 1) examining and discussing different theories/models in the classroom prior to the trip, 2) investigating the cultural diversity of New Zealand by participating in various cultural experiences in a Maori community and 3) putting theory and core skills (human, outdoor, & educational) into practice during multi-day backpacking and sea kayaking experiences throughout New Zealand.

TCE 488. Grand Challenges in STEM Education. (3)

This course is designed to engage students in a broad range of topics related to STEM. This course is designed as a culminating experience in a thematic sequence, bringing together big ideas around the grand challenges in STEM.

Prerequisite: TCE 188.

TCE 495. Writing Information Books for Children. (3)

Drawing on content knowledge gained from coursework in major courses of study, students will each write an information book for a diverse community of children. As an authentic learning experience, the course will include the study of children's literature and writing for children, the creation of a writing community among participants, and development of ways to share the books globally. SC.

TCE 600. Independent Reading. (1-3; maximum 6)

Planned reading in any field curriculum or instruction with guidance of a department faculty member.

Prerequisite: regular standing in graduate school, minimum of 10 hours in education, and approval of the plan of study by department chair.

TCE 603. Language, Literacy and Culture. (3)

Critical analysis of research and theory of language and literacy development and instruction with particular emphasis on the cognitive, linguistic, and socio-cultural factors that influence language and literacy learning and teaching.

Prerequisite: graduate standing or permission of instructor.

TCE 606. Curriculum Innovation and Transformation through Understanding and Design. (3)

This course is designed for educators interested in learning more about the curriculum in use in classrooms, schools, and community organizations, and the possibilities for shaping and transforming curriculum and teaching practices. The course will introduce students to important issues in curriculum theory and practice.

Cross-listed with EDL.

TCE 610. Applied Studies in Classroom Teaching. (1-3; maximum 12)

Practicum to meet specific classroom needs of the instructional staff of a school, school system, or group of subject area teachers. Structured after needs-assessment made.

Prerequisite: minimum of 10 semester hours of professional education courses.

TCE 612. TESOL in PK-12: Culture, Policy, & Second Language Acquisition. (3)

The first of four courses in the graduate TESOL endorsement certificate program, TCE 612 problematizes and operationalizes PK-12 public policies governing the education of English learners (ELs) and the ways school districts do and can meet these obligations.

The course also acquaints teachers with cultural issues and second language acquisition theories and models that will help them work successfully with their ELs. Assignments enable inservice teachers to synthesize knowledge of the dynamic academic, personal, familial, cultural, social, and sociocultural contexts on the education and language acquisition of ELLs as supported by research and theories.

TCE 614. TESOL Instructional Methodologies. (3)

The second of four courses in the graduate TESOL endorsement certificate, TCE 614 inservice teachers engage with theoretical and instructional foundations necessary for PK-12 teacher candidates to plan supportive and effective environments for ELLs, design and implement standards-based instruction in content areas using sheltered, ELL-centered, interactive approaches. Candidates will analyze, interpret, and implement multiple and varied assessments for ELLs.

Prerequisites: TCE 612.

TCE 615. Introduction to Research Inquiry. (3)

This course is an introduction to research in community-based and educational contexts. As such, this course will comprehensively cover the different steps of research, including: major research paradigms; positionality; the definition and application of theory; research methods; and review of existing literature/research. Drawing upon the knowledge and research tools, students will propose their own critical research study to investigate an urgent issue in the context of communities and schools. This course will draw upon critical theories, which emphasize student agency, racial and social justice orientations, and transformative research methodologies.

TCE 616. Current Issues in TESOL. (3)

The fourth of four courses in the TESOL graduate endorsement program, TCE 616 Current Issues in TESOL allows licensed, generalist P-12 teachers to delve more in depth into some topics or issues regarding English Language Learners (ELLs) that are critical to the profession. They will present their research to our professional learning community, as well as analyze their effectiveness in applying it to their own ELLs.

Prerequisite: TCE 612.

TCE 617. TESOL in PK-12: Literacy Development. (3)

617 TESOL in PK-12: Literacy Development 3 The third of four courses in the graduate TESOL endorsement certificate, TCE 617 develops critical understandings of policies and practices impacting ELs' opportunities to learn. Candidates will develop strategies for implementing culturally and linguistically relevant and sustaining literacy learning opportunities in classrooms, as well as for supporting family literacy development in communities.

Prerequisites: TCE 612 and TCE 614.

TCE 618. TESOL Cultural Contexts & Assessment. (3)

The second of four courses in the TESOL graduate endorsement program, TCE 618 TESOL Cultural Contexts & Assessment aims at helping licensed, generalist P-12 teachers develop awareness of the elusive and learned nature of culture, and its pervasive effects on schooling for ELLs. The course also provides P-12 teachers with language proficiency and content assessment theories and practices that will help them better evaluate the progress of their ELLs. Practical, comprehensive case study assignments enable teachers to reformulate their assessment and cultural understandings to create a culturally responsive and equitable environment for the ELLs in their classrooms.

TCE 619. TESOL in PK-12: Current Issues in TESOL. (3)

The fourth of four courses in the graduate TESOL endorsement certificate, TCE 619 affords licensed, generalist PK-12 teachers the opportunity to delve more deeply into current issues that are critical to teaching ELs in their own setting and propose action plans to address them. Pre-requisites: TCE 612, TCE 614, and TCE 616.

TCE 622. Improvement of Teaching in the Public School. (3)

Advanced course in principles and practices for improving instruction in modern secondary schools with emphasis on research findings and innovation. Summer only.

Prerequisite: graduate standing, 15 hours in education, permission of instructor.

TCE 623. Students, Justice, and Equity Centered Pedagogies. (3)

This course is designed to prepare early career teachers with methods and pedagogies to engage ALL learners equitably. The course will focus on understanding students from all pathways of life as well as the humanity of each student. The course will examine the hostility schools can sometimes provide as well as how to build a sense of community in the classroom to minimize the challenges students can bring to the classroom. Other student-centered pedagogies will include project-based learning, advanced "Making Thinking Visible" strategies, and Concept-Based Curriculum and Instruction; whereby, a social justice topic will be at the core of a curriculum designed project, e.g. food deserts, environmental racism, racism in science research, etc. Finally, a published blog written by the early career teachers will be at the core of the course and disseminated via social media.

TCE 625. Teaching Writing. (3)

Advanced course in the teaching of writing, emphasizing procedures and strategies for teaching writing, development of students' own writing skills in a number of genres, readings in recent theory and practice of teaching writing, and case study research methods. Students must gain access to a K-12 classroom to complete their case study. Appropriate for both elementary and secondary school teachers across the curriculum.

TCE 626. Teaching with Literature for Children. (3)

Intensive study of children's literature and its use in literacy instruction. Topics include: critical analysis of literature, diversity of forms and genres, use of literature that represents various cultural identities and contexts, and support of literary discourse among students.

Prerequisite: Graduate standing or permission of instructor.

TCE 627. Curriculum Theorizing for Innovation and Transformation. (3)

This course positions students to explore important issues in curriculum theory and practice. It is designed for educators, both inside and outside of schools, who are interested in shaping and transforming curriculum to center anti-racist, culturally-sustaining, and community-oriented pedagogies.

Cross-listed with EDL 627.

TCE 632. Literacy Assessment and Instruction. (3)

In-depth examination of classroom aspects of literacy assessment and instruction in reading and writing. Includes experience in assessing aspects of literacy development and analyzing assessment data to group students and design instruction for students with diverse needs (topics include: reading processes & miscue analysis, reading fluency, comprehension, literary response, and writing).

Prerequisite: graduate standing or permission of instructor.

TCE 635. Clinical Literacy Practicum. (4)

Advanced supervised practicum experience involving assessment and instruction of public school students experiencing reading and writing difficulties. Involves writing reports of assessment and instruction for tutees' parents and teachers.

Prerequisite: ALL reading endorsement requirements must be met prior to registering (TCE 603, TCE 642, TCE 632, TCE 646).

TCE 636. Literacy and Leadership. (3)

Theoretical and practical exploration of the roles of the reading specialist/literacy coach in supporting teachers and other education professionals in the planning, implementation and evaluation of effective literacy instruction. Designed as a practicum or internship to meet specific literacy coaching needs of instructional staff of a school, school system or group of subject area teachers.

Prerequisites: 12 credit hours of program requirements, TCE 603 and TCE 610.

TCE 642. Phonics and Reading Improvement for the Reading Teacher. (3)

Examination of the principles and practices of literacy development using phonics as a component of reading and writing instruction. Focus on instructional strategies, materials, and programs aimed at teaching phonics and spelling targeting the specific needs of developing and struggling readers and writers.

Prerequisite: graduate standing or permission of instructor.

TCE 643. Language and Discourse. (3)

In-depth examination of linguistic and cultural aspects of diverse populations as they affect literacy learning and teaching. Includes practical applications of theories of language and discourse. Emphasis on designing classroom discourse environments and home and community connections to promote equity and foster language and literacy development of Pre-K-12 students with diverse backgrounds and needs.

Prerequisite: graduate standing or permission of instructor.

TCE 646. Reading and Writing in Content Areas. (3)

Examination of the research, theory, curricula, and methods for integrating the teaching of reading and writing across the disciplines such as mathematics, science, social studies.

Prerequisite: graduate standing or permission of instructor.

TCE 648. Data-Informed Decision Making in Education. (3)

Students in this class learn contemporary educational research methods and develop skills to plan and complete a systematic action research inquiry into educational practice. The class introduces students to research design, review of relevant literature, implementation, and evaluation.

Cross-listed with EDL.

TCE 660. Seminar in Mathematics Education. (1-3; maximum 6)

Current issues and research in mathematics education.

Prerequisites: certification or current enrollment in a certification program.

TCE 663. Advanced Methods for Adolescent Mathematics. (3)

Innovative activities, materials, and programs for junior high and high school mathematics. Curricular and instructional decision-making based upon study of current state and national recommendations and of current research. Emphasis on the teaching of problem solving (7-12).

Prerequisites: Teacher certification/licensure or permission of instructor.

TCE 677. Independent Studies. (0-6)**TCE 690. Graduate Capstone Experience in Education. (3)**

Provides students the opportunity to engage in a culminating project that demonstrates critical thinking, understanding contexts, and reflection and action using the course work and experiences from the graduate program. The end product of the individualized experience could include a research paper, journal manuscript, written comprehensive examination, professional portfolio with components indicative of a state/national master teacher portfolio, or other approved project. The project will also serve as part of the master's examination. It is expected that the student will have completed the majority of the courses in his or her program.

Prerequisite: completion of at least 12 graduate hours.

Co-requisite: submission for Institutional Review Board (IRB) approval within the first two weeks of the semester if conducting research with human subjects.

TCE 691. Graduate Capstone Experience in Education. (3)

This course provides the opportunity for students to synthesize their course work and experiences from throughout the program with an individualized research project that demonstrates critical thinking, understanding contexts, and reflection into action. The end product could include a research paper, journal manuscript, grant proposal, or strategic plan.

Cross-listed with EDL 691.

Theatre (THE)

THE 101. Introduction to Theatre: Drama and Analysis. (3)

Examination of drama and theatre production as modes of human expression. Students will explore myriad approaches to script analysis and theatre criticism within various historical and cultural contexts.

IIA. PA-3B. CAS-B-LIT.

Co-requisite: THE 200 is suggested.

THE 107. The Theatre Major: an Introduction to Theatre Resources and Skills. (1)

This course is an orientation to the resources, personnel, policies, production season, and student organizations in the theatre department as well as related resources across campus. Students will build a variety of skills necessary for success including time management, academic honesty and collaboration. Open to Theatre Majors only.

THE 110A. Beginning Ballet. (2)

Classical ballet technique. Work at the barre stressed.

Cross-listed with SLM 110A.

THE 110B. Beginning Jazz Dance. (2)

This course is designed for the beginning jazz dancer interested in learning the fundamentals and aesthetics of this diverse dance form. Students will learn to embody the evolution of jazz dance in America, beginning with its roots in African-American culture through its presence in musical theatre. As a course in the techniques of jazz dance, learning activities include full body warm up, technical progressions across the floor, and combinations.

THE 110G. Beginning Modern Dance. (2)

Technique stressed. Correct form and body placement along with flexibility and control covered.

Cross-listed with SLM 110G.

THE 111. Introduction to Ballroom Dance. (2; maximum 4)

This is a foundational dance course that includes technical frames, patterns, musical rhythms and cultural contexts for competitive ballroom styles, e.g. American Smooth (waltz, and tango, Foxtrot), and American Rhythm (Cha cha, Swing and mambo). Students are required to attend 3 evening dances outside of the scheduled class time.

THE 123. Acting for the Non-Major: Text and Performance. (3)

Introduction to the art of acting for the non-theatre major. Focuses on developing basic acting skills through improvisation and scene work; includes study of script analysis and acting theory. Credit cannot be applied to major degree in theatre. IIA, IIB. PA-3A.

THE 131. Principles of Acting. (3)

Introductory course examining performance as an essential component of theatre. Focuses on dynamics of building an effective ensemble. Introduces theories and principles of acting techniques including script analysis, characterization, and action. Open to theatre majors and minors only. PA-3A.

THE 142. Theatre Organization and Communication. (1)

This course is an introduction to theatre organizational structures with a particular emphasis on technical and production positions and their interface with performers. Beginning skills in organization, communication, and time management used in various theatre positions will be developed and evaluated.

THE 151. Stage Makeup. (1)

Principles and techniques of makeup for stage. Proper care and use of stage makeup products and related supplies projects in relation to character analysis and the actor's own facial features. Preparation for possible production makeup design or makeup crew opportunity.

THE 177. Independent Studies. (0-6)**THE 191. Experiencing Theatre. (3)**

This course introduces non-majors to all aspects of theatre arts through online lectures and assignments as well as weekly face-to-face class sessions. This course will help students appreciate the theatre--its role in our lives as well as the ways in which it is created. Credit cannot be applied to the theatre major or minor. IIA. PA-3A.

THE 200. Production and Performance Practicum. (1; maximum 8)

Open to all university students. Laboratory experience in performance, design, technical production, and management. Each student selects area of theatrical production to participate in for the semester. Involves a minimum of 40 hours per semester, arranged around student's schedule and demands within area of participation. Registration through consultation with theatre faculty member required. EL.

THE 209. Physical Wellness for Artists. (2)

This class is designed for artists that want to work toward a deeper understanding of how their minds connect to their bodies, and the various tactics that promote wellness in the physical form. This course will also investigate various systems of the body and modalities that enhance the mind/body connection. Students will be expected to discuss theories and concepts then physically embody them in class each week. Students will also investigate and increase their overall understanding of physical wellness.

THE 210. The Theatrical Toolbox. (1-2; maximum 10)

This course is designed to introduce students to a highly specialized skill/technique in theatre not offered in our permanent curriculum. A specific focus might include one of the following: stage combat, clowning, solo drama, puppetry, projection design or other. Course will be taught principally by visiting artists.

THE 226. Acting Studio: Foundations. (4)

Acting Studio: Foundations is the first half of a yearlong sequence designed for theatre majors desiring an intensive immersion in an acting studio. This course will build foundational skills in movement, voice and acting techniques.

Prerequisite: THE 131 or permission of instructor (Theatre Majors only; Theatre Minors by permission of instructor).

THE 227. Acting Studio: Integrating Text. (4)

Acting Studio: Integrating Text is the second half of a yearlong sequence designed for theatre majors desiring an intensive immersion in an acting studio. This course will build on the skills explored in Acting Studio: Foundations. The focus of this course will be scene study, including the speech skills necessary for the effective delivery of text. Theatre Majors only; Theatre Minors by permission of instructor.

Prerequisite: THE 226 or permission of instructor.

THE 238. Playwriting Through Improvisation. (3-4; maximum 4)

A class about the making of theatre from the actor's imagination. Introduces students to existing and immersing techniques of text creation through improvisation. We place our work in context to the art of theatre and the societies they come from through the study and analysis of existing works.

THE 239. Alexander Technique. (1)

Introduction to the Alexander Technique. Basic anatomy, body-mapping and principles of the Technique (coordination of the self with efficiency and ease) are explored in group lessons and in application to creative activity. Course is offered for credit/no credit only. Open to theatre and music majors and dance minors only. Cross-listed with MUS 239.

THE 250. Topics in Dance. (1-2; maximum 4)

This course introduces diverse creative and artistic perspectives associated with dance. The class will cover topics not regularly offered in course rotation.

Prerequisite: Open to dance minors, theatre majors, theatre minors, and music theatre minors, or by permission of instructor or dance minor advisor.

THE 251. Visual Communication for the Theatre. (3)

Fundamentals of the visual means of communication in theatre through the study of the elements and principles of design, establishment of compositional problems as they relate to theatre, and representation of design solutions through a variety of common media. Open to Theatre majors and minors, or by permission of instructor.

THE 253. Costume Fundamentals. (3)

This course offers a practical exploration of the techniques used to realize the costume design including dyeing, pattern drafting, texture, and fashion history.

THE 257. Stagecraft and Theatre Technologies. (3)

An introduction to the technologies involved in the conception and creation of visual environments that help tell theatrical stories. Topics include scenic construction, lighting instrumentation and control, and digital and traditional exploration of graphic representation of theatrical environments. IIA, V. PA-1A, PA-3A.

THE 258. Scene Painting Fundamentals. (3)

The course combines theory and practice of scenic art through study of and work with varying types of paints, dyes, and texturing techniques used in scenic painting. Layout tools and equipment are used to set up projects using fundamental and advanced painting techniques. Faux finishes are explored as parts of the basic requisite techniques.

THE 261. Intermediate Ballet. (2)

Intermediate Ballet expands upon the foundations of Beginning Ballet, the understanding of the basic positions and steps. The focus will be on mastering the basic positions and steps while introducing more complicated exercises both at the barre and the center. Center floor work will include the development and practice of adagio and allegro combinations as well as turns and leaps (jetes). Students will be given opportunities of perfecting their technique and musicality in longer sequences, both at the barre and center floor. A class dance will be learned and the techniques covered in the class will be applied. Students will also be given the opportunity of choreographing an individual phrase for the class dance. Ballet history is also explored as a source for understanding where certain traditions originated. The course also includes some outside written work and performance attendance to better provide a background necessary to the appreciation of dance as a creative art form. Prerequisite: SLM/THE 110A.

THE 262. Intermediate Modern Dance. (2)

Intermediate Modern Dance expands upon the fundamentals covered in Beginning Modern Dance and explores more deeply improving anatomical awareness, increasing strength and flexibility, expanding the modern dance vocabulary, and developing flow and dynamic range. The students will demonstrate, define, and perform demonstrating an understanding of these concepts. A class dance will be learned and students will also be responsible for choreographing a partner phrase for the class dance. The class will critique, discuss and analyze line, design, technique, choreography, and dynamic qualities through personal performance, class discussions, posted videos, and concert critiques. Along with discussing the blurring of lines between modern and contemporary dance, the course also includes some outside written work and performance attendance to better provide a background necessary to the appreciation of modern dance as a creative art form. Prerequisite: SLM/THE 110G.

THE 263. Intermediate Jazz Dance. (2)

As a course that takes a deep dive into the diverse aesthetics of jazz dance, Intermediate Jazz Dance is for those students who have significant training in the form. Students will continue to build on their knowledge of and skills in the technique, continuing to further embody the evolution of jazz dance in America, beginning with its roots in African-American culture through its presence in musical theatre. As a course in the techniques of jazz dance, activities include full body warm up, intermediate level technical progressions across the floor, and long combinations. Prerequisite: THE 110B Beginning Jazz Dance or permission of instructor.

THE 271. Dance Practicum. (1; maximum 2)

The course is designed for the student to experience rehearsing a dance for performance, possibly performing a dance in concert, as well as practical experience in the non-performing elements of dance production, including dance lighting, stage management, sound, set, and public relations. Students might also learn new or repertory choreography created by dance faculty or guest artists and are frequently active participants in the choreographic process. Students are also expected to complete pre- and post-production assignments. The Practicum provides students the opportunity to earn course credit while fulfilling a production assignment on a dance production. The emphasis of the course is on professional decorum and a willingness to become a valuable member of the production team. Open to all university students.

THE 277. Independent Studies. (0-6)**THE 291. World Stages. (3)**

A survey of world stages that includes western theatre history and global performance practices. These courses introduce the student to theatre and performance as a social and cultural construction that is directly related to the place and time in which it occurs. Courses also explore the ramification and manifestation of internal and external influences on the theatre/performance of a given locale. Open to majors only.

Prerequisite: THE 101.

THE 292. World Stages. (3)

A survey of world stages that includes western theatre history and global performance practices. These courses introduce the student to theatre and performance as a social and cultural construction that is directly related to the place and time in which it occurs. Courses also explore the ramification and manifestation of internal and external influences on the theatre/performance of a given locale. Open to majors only.

Prerequisite: THE 291.

THE 301. Professional Practice in Theatre. (1; maximum 2)

This course is designed to prepare students to enter professional theatre. Students will meet throughout the semester with working theatre professionals/guest artists in a series of workshops, seminars, and intensives in order to learn more about how to interface with the profession following graduation.

Prerequisite: Junior standing or permission of instructor.

THE 316. Dramaturgy. (3)

This course provides an introduction to dramaturgy. It merges theory and practice, the intellectual and the practical, and the oral and written components of theatre research and production. This course is designed to develop research, analysis, and communication skills through creative research projects, script analysis workshops, and oral presentations. ADVW. PA-1C.

Prerequisite: THE 101 or permission of professor.

THE 340. Internship. (0-20)**THE 342. Stage Management. (3)**

This course is an investigation of principles and techniques of stage management in theatrical production. Students will study the accepted practices used in professional companies, including the requirements and regulations established by Actors Equity Association and variations in practice with regard to educational, community, and regional companies. The course requires participation in departmental stage management activities, which require some evenings and weekends.

THE 351. Dance as Culture. (3)

This course is designed for students interested in an overview of the history of human movement in the United States as seen through the lens of race, class, and gender. It is a lecture- and discussion-based course in which students will reflect on the implications of these theories as they relate to ancient and contemporary dance forms, as well as their own interactions with these systems. The class will focus on three main areas: context/theory, ancient history, and contemporary history. Dance as Culture requires that students learn and work with classmates in an open and collaborative environment, while deepening their understanding of how to critically evaluate the context and implications of traditional structures of oppression in dance in the United States. PA-3A, PA-4A.

THE 352. Scenic Design. (3)

Theory and principles of scenic design for stage. Conceptualization and communication of design ideas through script analysis, sketches, renderings, models, floor plans, and elevations.

Prerequisite: Sophomore standing or permission of instructor.

THE 353. Costume Design. (3)

Principles and theories of costume design for productions of theatre. Conceptualization and communication of design ideas through script analysis, sketches, fabric studies, and renderings.

Prerequisite: Sophomore standing or permission of instructor.

THE 354. Lighting Design. (3)

Theories and principles of lighting design for theatrical productions. Conceptualization and communication of design ideas through script analysis, light studies, light plots, and related projects.

THE 361. Choreography. (3)

From improvisational techniques to designing groups of bodies in space, this course investigates how to generate content, direct, coach, and structure a dance piece with the goal of communicating both narrative and non-narrative ideas and emotions to an audience. Students will create multiple works over the semester and will learn to receive and implement critical responses during their process.

Prerequisite: Dance minor or permission of instructor.

THE 377. Independent Studies. (0-6)**THE 393. Topics in Intercultural Perspectives and Global Theatre and Performance. (3; maximum 6)**

May be offered with various focuses (including African, African American, Latin American, Asian American, feminist perspectives, as well as others) as it explores culture, race, gender and identity in performance. Emphasis on developing student appreciation of and critical response to drama and performance. This course is repeatable up to 6 credit hours. IC. PA-4B.

Prerequisite: THE 101 or THE 191.

THE 394. Topics in Dramatic Literature and Cultural Performance. (3; maximum 6)

Topics in Dramatic Literature and Cultural Performance is a topic-driven course in theatre. Possible topics may include a given playwright such as August Wilson; a given style in theatre such as Realism or Postmodernism; or an overall specific maker of theatre such as an actor, director, or dramaturg. Students will be required to write short papers, make a public presentation, and develop a final paper or project. The course is repeatable up to 6 credit hours.

Prerequisite: THE 101 or THE 191.

THE 395. The Musical in American Culture. (3)

This course traces the development of the American Musical Theatre from 19th century popular entertainments to a unique institution in its own right. The changing shape of the musical will be explored in context of a growing and developing American culture, popular taste, and expression of personal and cultural identity.

THE 398. London Theatre. (3)

This course is an introduction to theatre in London. Students learn about London's rich theatrical history, attend performances of professional productions, and discuss them in their critical and cultural context. This course is offered as part of the Department of Theatre's study abroad program in London. CAS-B-LIT.

THE 400. Advanced Production and Performance Practicum. (2; maximum 4)

Practical experience in advanced design, engineering, technical production, and performance positions for major theatre productions.

Prerequisites: Senior standing and permission of instructor.

THE 418/THE 518. Playwriting. (3)

Applied theory, technique, and practice of playwriting.

Prerequisite: (THE 418/THE 518 only) THE 101 or permission of instructor.

Cross-listed with ENG.

THE 421. Fundamentals of Directing. (3)

Aesthetic principles, analysis, and exercises in composition, movement, gesture, sound, mood, rhythm, and leadership. Students should have completed four full semesters as a theatre major before matriculating in this course.

Prerequisites: THE 101, THE 131, THE 251, and junior standing.

THE 422/THE 522. Politics and Ethics of Theatre and Performance: Representation, Race, Gender, Class and Sexuality. (3)

An advanced course that foregrounds political and ethical questions in relation to theatre and performance in the areas of race, class, gender and sexuality.

Prerequisites: THE 291, THE 292 and Junior standing or permission of the instructor.

Cross-listed with WGS.

THE 424/THE 524. Topics in Applied Theatre, Practice, and Pedagogy. (3; maximum 6)

Topics in Applied Theatre, Practice, and Pedagogy will explore creative methods in theatre and performance and their application in non-traditional settings such as the classroom, community, or other nonartistic venues. Prerequisite for THE 424/THE 524: junior status or permission of instructor.

THE 437. Auditions. (3)

Preparation for entry into graduate schools, professional internships, or repertory companies for actors.

Prerequisite: THE 227 or permission of instructor.

THE 439/THE 539. Special Techniques for the Actor. (3; maximum 6)

Practical application and exercises in advanced skill areas such as, Alexander, Feldenkrais, circus skills, mask training, hand-to-hand combat, weapons, comedy, period movement. Topic varies.

THE 477. Independent Studies. (0-6)**THE 480. Independent Reading and Projects for Departmental Honors. (3-6; maximum 6)**

Departmental honors may be taken during the senior year. Departmental approval required.

THE 481/THE 581. Integrating Performance, Theory and Practice. (3; maximum 6)

This capstone will build an original creative performance from source material based on a particular topic, theme or method. Students will create an artistic product and explore ways to design, produce, write and perform as a collaborative team. Students will then assess their work within the larger contexts of art-making, community engagement or performance. Creative products resulting from this class may include an exhibit or installation, fashion show, evening of scenes, collaboratively devised performance, autobiographical solo performance, site specific performance, documentary performance, production dramaturgy or other formats. Students will learn to think like an artist and to think across disciplines. They will conduct research to better understand contexts, to understand how to apply a method, and to understand how research provides creative inspiration. SC.

THE 677. Independent Studies. (0-6)

University Studies (UNV)

UNV 101. I Am Miami. (1)

Through reflection, self-assessment and group discussions, students gain a sense of belonging at Miami, plan how to make the most of their time at Miami, and establish a foundation for academic and co-curricular success.

UNV 171. First-Year Research Experience I. (1-3)

This course will introduce students to the research enterprise in general, and research activities and resources at Miami, in particular. Furthermore, it allows students to discover the research process within a particular content area by participating in a hands-on research experience. The course serves a number of purposes, such as: providing orientation and overview of relevant university resources, exposing students to examples of ongoing research at the university, covering content material on how to design and conduct research, locating and retrieving source material for research projects, designing an appropriate study to address a research question, and socializing students within a community of scholars. It is expected that students will complete UNV 172 in the subsequent semester, after which they will be adequately trained to partake in supervised yet independent research or creative activity with a faculty mentor, or other similar endeavors of their choosing.

UNV 172. First-Year Research Experience II. (1-3)

This course continues the student's training and experience in conducting research in the relevant content area. Specifically, whereas the focus in UNV 171 was on the design of a research project, this semester will focus on the implementation of the project, as well as the subsequent data analysis and presentation of results. After completing this course, students will have conducted a research process from beginning to fruition, and will thus be adequately trained to partake in supervised yet independent research or creative activity with a faculty mentor. The course serves a number of purposes, such as: practicing careful data collection, preparing data and conducting appropriate analyses, professional writing according to the conventions of the discipline, professionally presenting research results in a variety of formats, and socializing students within a community of scholars.

Prerequisite: UNV 171.

UNV 177. Independent Studies. (0-6)

UNV 277. Independent Studies. (0-6)

UNV 340. Internship. (0-6)

UNV 377. Independent Studies. (0-6)

UNV 477. Independent Studies. (0-6)

Western Program (WST)

WST 110. Introduction to Contemporary Topics. (1; maximum 6)

Draws on experiences of guest faculty and alumni speakers to model how engaged learning leads to informed action. Readings on the chosen focus emphasize an integrative perspective; students may repeat the course for credit when the topic changes.

WST 123. Biology and Society. (3)

Introduces students to the implications of modern biological knowledge on society, and the ways in which the concerns of society affect the questions addressed by biological research. This is a lecture and discussion course that encourages students to develop their own well-reasoned opinions about the nature of our species and our relationship with the natural world. Course will not count toward any BIO or MBI major. IC. PA-4B. CAS-C.

WST 177. Independent Studies. (0-6)

WST 201. Self and Place. (3)

Investigates various disciplinary models for how place and identity interact in American culture, and, specifically, how the local environment, including geographical location, ethnic traditions, and family traditions, impact our lives. Students draw upon their own life experiences to begin to formulate their intellectual interests. IIB. PA-3B. CAS-B.

WST 231. Interdisciplinary Inquiry. (3)

Introduction to the relevance of interdisciplinary approaches to learning in the arts, humanities, social sciences, and sciences. Explores the process of inquiry-based discovery through instructor-generated inquiries, student-generated inquiries, and discipline-specific methods and techniques. Particular theme or topic will differ each semester. CAS-B-Other or CAS-C Other. CAS-W.

WST 251. Individualized Studies Seminar. (1)

Provides students with the tools to chart their personal plan of study.

WST 277. Independent Studies. (0-6)

WST 301. Interdisciplinary Problems and Questions. (3)

Considers a complex topic from multiple perspectives. Identifies the distinct vantage points offered by different fields of inquiry, including philosophical, aesthetic, scientific and historical discourse, with an emphasis on achieving an integrative understanding of the topic. Team-taught by two or more faculty members with different disciplinary and/or interdisciplinary expertise. CAS-B-Other or CAS-C Other.

WST 321. Developing Interdisciplinary Projects: Exploring Ways of Knowing. (3)

Investigates a complex topic with attention to methods and theoretical approaches from the sciences, social sciences, humanities, and the arts, emphasizing the tensions that emerge from the interplay of different sources of information. Students identify and critique distinctive approaches to integrate multiple perspectives on the course topic. CAS-B-Other or CAS-C Other.

WST 322. Developing Interdisciplinary Projects: Art and Politics of Representation. (3)

Investigates a complex topic with specific attention to developing competence in the analytical and rhetorical tools for interdisciplinary inquiry in the arts, humanities, sciences, and/or social sciences. Based on course topic, students identify and analyze representational practices (e.g., written texts, performances, new media, statistical surveys, scientific studies) to promote the development of creative strategies for representing and addressing complex problems and questions. CAS-B-Other or CAS-C Other.

WST 340. Internship. (0-20)

WST 341. Interdisciplinary Synthesis and Action. (3)

Integrates diverse methods of inquiry to assist the development of student outreach projects that synthesize learning about a complex topic. Working on their own or in teams, students develop action-based approaches with a strong aspect of public performance and/or engagement. EL. CAS-B-Other or CAS-C Other.

WST 377. Independent Studies. (0-6)

WST 421. Senior Project Proposal Workshop. (3)

Supports student planning of senior project by focusing on proposal formulation, action plan, literature analysis, methodology, and project evaluation/assessment; culminates in public defense of full proposal with program faculty and students.

WST 444. Senior Workshop and Project. (3)

Provides a forum in which students share with peers the process of writing, revising, researching, or otherwise executing the planned project. Work with direction of a faculty adviser. Students work individually or in teams to develop means of senior project delivery, e.g., by submission of research paper suitable for conference presentation or journal publication; theatrical or multimedia performance; gallery showing. Students present their research in a public form at the end of the spring semester. SC. Prerequisite: WST 421.

WST 477. Independent Studies. (0-6)

Women's, Gender & Sexuality Studies (WGS)

Note: Cross-listed courses are available in Women's, Gender, and Sexuality Studies. For more information, consult the listing in the appropriate department.

WGS 177. Independent Studies. (0-6)

WGS 201. Introduction to Women's Studies. (3)

Interdisciplinary introduction to the study of women which focuses on determinants and expressions of women's roles. IC, IIC, IIB. PA-2A, PA-4B, PA-4C. CAS-C.

WGS 202. Introduction to GLBT Studies. (3)

Introduction to the scholarly field of GLBT (Gay, Lesbian, Bisexual, Transgender) Studies. Provides the intellectual foundation for the further study of non-normative genders and sexualities. IC, IIB. PA-3B, PA-4B. CAS-B.

WGS 203. Sociology of Gender. (3)

Description and analysis of gender in human society with special attention to constraints placed on both males and females by current socialization practices, and to issues in equality from historic as well as contemporary perspectives. IC. PA-4B. CAS-C. Cross-listed with SOC.

WGS 211. Writing with Purpose: Interdisciplinary Inquiry and Communication. (3)

This is an intermediate level course which enables students to investigate and discuss interdisciplinary practices of knowledge creation and dissemination. Students will practice a variety of writing and other communication strategies necessary for the effective dissemination of ideas to interdisciplinary audiences and the general public, and can expect to gain experience in working with a wide spectrum of interdisciplinary research, tools and methods while engaging intellectually in interdisciplinary modes of thinking, reading, listening, and speaking. ADVW. PA-1C.
Cross-listed with AAA/AMS/CRE/LAS.

WGS 221. Sexualities. (3)

Introduction to the study of human sexual behavior with particular attention paid to the issues of gender development; premarital, marital, and post-marital sexual patterns; birth control; sexual dysfunction; cross-cultural sexual patterns; and alternative sexual lifestyles.
Cross-listed with FSW/SOC.

WGS 232. Women Writers. (3)

Introduction to women's writing in English. Readings may include poetry, drama, fiction and non-fiction by women writers from various historical periods and national traditions. IC. PA-4B. CAS-B-LIT.
Cross-listed with ENG 232.

WGS 235. Women in Antiquity. (3)

Study of the status of women in the Greek and Roman world from Bronze age through early centuries of Christianity conducted in light of literary, artistic, and archaeological evidence in order to increase knowledge and understanding of Greek and Roman family and social life and of our own society as well. CAS-B-LIT.
Cross-listed with CLS 235.

WGS 237. GLBTQ Literature. (3)

Study of literature by and about sexual minorities, including gay, lesbian, bisexual, transgender and queer identities, cultural contexts, and social movements. IIB, IC. PA-3B, PA-4B. CAS-B-LIT.
Cross-listed with ENG 237.

WGS 277. Independent Studies. (0-6)**WGS 278. Women and (Dis)ability: Fictions and Contaminations of Identity. (3)**

Provides a critical analysis of the historical, sociological, cultural, media and educational images and representations of women with disabilities. Current research and theories from Disabilities Studies and Womens Studies will serve as the lenses for the exploration of disability as a social construct. The course will focus on exploration of oppressive social forces embedded in the re/presentations of and by women with disabilities which transform and complicate such images.
Cross-listed with DST/EDP.

WGS 287. Enter the Diva: Women in Music. (3)

American women in music from 1900 to present. Women have made considerable contributions to the various genres and traditions that define American music. From popular forms to concert music there are numerous women who have constructed a musical discourse that chronicles their experiences in America and their conceptions of womanhood. This course is designed to chronicle the experiences of these women musicians and vocalists and discuss their musical approaches. Discussions include traditional music practices as well as contemporary popular music styles. IIA, IIB. IC. PA-3A, PA-3B, PA-4B.
Prerequisite: MUS 135, 185 or 189, or permission of instructor.
Cross-listed with MUS.

WGS 301. Women and Difference: Intersections of Race, Class, and Sexuality. (3)

Investigation of the interdisciplinary theoretical approaches to the interplay of race, class, gender, sexual orientation, and other aspects of social identity in women's lives; analysis of the ways social difference is defined, used, and experienced. Emphasis on feminist and womanist theories that take into account the interdependence of multiple categories of social difference. Open to majors and minors or other students with permission of instructor. IC. PA-4B.
Prerequisite: WGS 201.

WGS 302. Geography and Gender. (3)

This class adopts a geographic approach to the study of gender relations. The role of space and place in shaping the diversity of gender relations throughout the world will be considered. Through case studies the importance of gender relations in understanding a variety of issues will be stressed. Overall, we will explore how geography shapes gender relations and how gender produces a variety of geographies. IC. PA-4B.
Cross-listed with GEO.

WGS 309. Native American Women. (3)

A survey of writings and film by and about Native American women. The objective of the course is to provide students with a broad overview of Native American perspectives on a variety of topics including indigenous viewpoints on research methods, environmental activism, politics and policy, and critical analysis. IC. PA-4B. CAS-C.
Cross-listed with GEO.

WGS 313. Marriage Across Cultures. (3)

This class engages feminist theory and gender studies to explore the consequences of different types of marital formations (polygamous as well as monogamous) for the lives of women and men in selected Western and non-Western cultures. IC. PA-4B. CAS-B.
Cross-listed with REL.

WGS 325. Identity, Race, Gender, Class. (3)

Develops conceptual tools and critical perspectives that enable students to better understand and analyze the processes through which identities are constructed and experienced. Learning activities facilitate analysis of individual identities as experienced through the life cycle and across diverse cultural and subcultural contexts, and build a systematic understanding of the processes and dynamics through which identities and identity groups develop and interact. IC. PA-4B. CAS-C.
Cross-listed with ATH/CRE/LAS.

WGS 326. Psychology of Gender. (3)

Review and integration of emerging theory and research about women and their behavior, with particular attention to uniquely female experiences throughout the life cycle and to the influences that affect women in contemporary society.
Prerequisites: PSY 221 and PSY 294.
Cross-listed with PSY.

WGS 330. Religion, Sex, & Gender. (3; maximum 6)

Do people have gender-specific ways of experiencing religious life? Learn how gender and sexuality shape a person's religious life. See how organized religion is in turn shaped by the lived experience of humans with gendered and sexualized bodies. Apply feminist and queer theory to selected case studies in order to analyze how religions respond to people and how people respond to religion. CAS-B.
Cross-listed with REL 330.

WGS 333. Religion, Dress, and Status. (3)

Displays of status through constrictive dress and gender segregation will be explored with reference to religion, gender, and class. Course will explore the topic through selected case studies, several of which involve Islamic cultures.

Cross-listed with REL.

WGS 336. Ancient Sexualities. (3)

This course examines the written and visual evidence for ancient sexual practices, as well as ancient attitudes towards these practices as found in ancient law, philosophy, love poetry, novels, and other texts. Our reading of primary sources will be informed by modern writings on gender and sexuality. We will also engage with recent debates about the ideologies reflected in ancient codes of sexual conduct. Through a close reading of a variety of ancient Greek and Roman texts and images, together with contemporary interpretive readings, we will attempt to reach not only a fuller understanding of some central features of the cultures of Greece and Rome, but also, by holding up the mirror of antiquity to our own beliefs and practices, to arrive at a more critical consideration of how we think about sex and gender today.

Cross-listed with CLS.

WGS 340. Internship. (0-20)**WGS 346. Global Gender Politics. (3)**

Examination of the role of women in political participation, political protest, and political and economic development worldwide. Explores the usefulness of gender as a conceptual tool for comparative analysis, and uses case study material from the developed and developing world to examine how women's involvement in politics both shapes and is shaped by various political contexts.

Cross-listed with POL.

WGS 348. Gender Politics & Policy in the United States. (3)

Addresses the role of gender in American politics. Topics include the history of women's rights in American politics, differences between the political behavior of men and women, the role of gender in elections and in leadership, and current policies that affect women.

Prerequisite: POL 241 or WGS 201.

Cross-listed with POL.

WGS 351. Cultural Politics of Gender and Sexuality in Asian/America. (3)

Intensive interdisciplinary study of imaginative representations of the encounters between "Asia" and "America," broadly conceived, particularly the entangled relations among their diverse constituencies in the contexts of colonialism and globalization. Key topics include feminist critique of gendered violence and human rights issues; Euro-American militarism and sex tourism; the emergence of new categories of sex, gender, and kinship as lived experiences mediated by transnational consumer culture and institutional structures; masculinity and Asian diasporic nationalisms; pan-Asian movements against racism, colonialism, and neoliberalism both in Asia and the U.S.; and the emergence of new critical, artistic and aesthetic practices. IC. PA-4B.

Cross-listed with AAA/ENG.

WGS 355. Feminist Theory. (3)

Examination of major writing by contemporary feminist thinkers. Traditional philosophical questions, such as justice, freedom, nature of a person, and relationship of an individual to society, are raised in context relevant to both male and female students.

Cross-listed with PHL.

WGS 356. Women and Gender in Film. (3)

This course explores the construction of gender and representations of women in film in two contexts: in mainstream Hollywood cinema and in experimental and independent films. While not providing an extensive history of women in film, the course provides a sampling of iconic films—from early cinema to the present—to critically examine how women are portrayed throughout the twentieth century and in various genres, in films made by both men and women.

Course readings engage theoretical and practical points of contact within cinema, including feminist film theory, postcolonial theory, psychoanalysis, queer theory, and critical race theory. IIB, IC. PA-3B, PA-4B. CAS-B-LIT.

Cross-listed with ENG/FST.

WGS 361. Couple Relationships: Diversity and Change. (3)

Investigation of intimate couple relationships in their many diverse forms. Focuses on social and psychological factors influencing development and maintenance of such couple relationships as dating, cohabitation, and marriage. General principles are discussed as well as factors that are more specific to certain age groups, relationship types, or sociocultural settings. IC. PA-4B.

Prerequisite: three hours of social science.

Cross-listed with FSW.

WGS 369. Sexuality, Youth, Education. (3)

This interdisciplinary course utilizes insights from a variety of areas - such as literature, sociology, popular culture, law, and medicine - to analyze how contemporary discourses of sexuality are viewed from multiple perspectives. The course investigates how discourses of sexuality co-mingle with discourses of youth with special attention to the intersections of race, ethnicity, class, gender, nationality and ability. Working from a Critical Youth Studies (CYS) framework and similar theoretical positions, the course privileges scholarship and community-based educational models which foreground issues of equity, social justice, and youth participatory activism.

WGS 370. Selected Topics in Women's Studies. (3)

Examines specific aspects of women's roles, status, and experiences.

WGS 375. (Dis)Ability Allies: To be or not to be? Developing Identity and Pride from Practice. (3)

Explores what it means to be ally to/in/with the disability community in America. The course emphasizes identity formation and how that formation can inform the construction of the ally identity. Through deconstructing learned values, knowledge, and images of disability that mitigate ally behavior, students discover the micro and macro structures that support ally behavior. By exploring how social control and social change have worked in other civil rights movements, students understand the necessity of identifying and including allies in the disability movement for civil rights. IC. PA-4B. CAS-C.

Cross-listed with DST/EDP/SOC.

WGS 377. Independent Studies. (0-6)**WGS 382. Women in American History. (3)**

Survey of the history of women's lives and roles in American society from colonial period to present. Emphasis on examining women's individual and collective roles in private and public spheres and on exploring how specific economic and political transformations have affected women's lives. IC. PA-4B. CAS-B. Cross-listed with AMS and HST.

WGS 383. Brazilian Women through Literature and Film. (3)

Addresses questions about gender, race, class and stereotype of women's bodies in 20th-century Brazil. IIB, IIIB. PA-3B, PA-4C. CAS-B-LIT.

Cross-listed with ENG/FST/POR.

WGS 392. Sex and Gender in American Culture. (3)

Examination of change over time in the construction of sexual norms, attitudes, and behaviors in American culture, as well as of gender roles. Covers the period just prior to the Indian-European encounter to the present. IC. PA-4B. CAS-B.

Cross-listed with AMS/HST.

WGS 401. The Role of Women in a Transforming Society. (3)

Review of current and historically significant feminist writings on the ways in which patriarchal structures of authority affect what students know about women's experiences. Students position themselves as creators of knowledge about women's experiences and as members of self-critical communities of activists who are transforming society and women's positions in that society. Includes readings, discussions, and individual and group projects. Students learn to celebrate similarities in experiences and perspectives, and to understand and appreciate differences. SC.

Prerequisite: WGS 201 and at least 12 semester hours in WGS courses, or permission of instructor.

WGS 402/WGS 502. Engaged Learning Practicum. (1-6; maximum 6)

This course connects feminist theory and practice, and is designed around Service-Learning at a practicum site. The readings explore leadership, feminist grassroots organizing, service learning and civic engagement, feminist activism, and difference and cultural competence. Students will have the opportunity to translate the knowledge, skills, and critical thinking they have learned in the classroom to actual practice, to observe and work with professionals who are addressing women's/gender issues in the field, and to reflect on their own roles as future leaders and professionals.

Prerequisite: WGS 201 or 202 or 301.

Cross-listed with CRE.

WGS 406. Indigenous Peoples and Their Sacred Lands. (3)

An in depth look at topics related to policy and land management practices that impact indigenous peoples nationally, as well as internationally. The major focus of the various case studies is on designated sacred lands of Native American tribes within the United States. The course provides students with interdisciplinary training about indigenous cultures and human rights.

Cross-listed with GEO.

WGS 422/WGS 522. Politics and Ethics of Theatre and Performance: Representation, Race, Gender, Class and Sexuality. (3)

An advanced course that foregrounds political and ethical questions in relation to theatre and performance in the areas of race, class, gender and sexuality.

Prerequisites: THE 291, THE 292 and Junior standing or permission of the instructor.

Cross-listed with THE.

WGS 432. Feminism and the Diaspora: U.S. Women of Color. (3)

Concerns issues of language, history, geography, social-psychology, and culture for U.S. women of color (black, Asian-American, Latina, American Indian, and others). Includes works by and about women on gender, ethnicity, class, sexuality, and other differences. SC. CAS-B-LIT.

Cross-listed with CRE 432 and ENG 432.

WGS 435/WGS 535. Queer Theory. (3)

Analysis of how gender and sexuality have informed our understandings of cultural texts and contexts. Emphasizes how discourses of gender and sexuality function within a variety of historical, cultural, and/or aesthetic traditions.

Cross-listed with ENG.

WGS 436/WGS 536. Women, Gender, and the Environment. (3)

Seminar discussing literature on the role of women in their relationships with natural resources as advocates, practitioners, and scholars. Ideas on ecofeminism will be introduced from more-developed "north" and developing "south" perspectives, and then directed toward the study of gender and development, and participatory tools in gender analysis. CAS-C.

Cross-listed with GEO 436/GEO 536.

WGS 437/WGS 537. Black Feminist Theory. (3)

Examines critical and theoretical issues in black feminism from slavery to the present. One of the central goals of the course is to interrogate race, gender, class, and sexuality in the context of black women's thoughts and experiences. The class will read, discuss and analyze a wide variety of texts including critical essays, films, selected fiction, print and visual media.

Cross-listed with CRE/ENG.

WGS 450/WGS 550. Topics in Women's History. (3; maximum 12)

In-depth study of a selected topic in the history of women, focusing on either a specific period and place, or a theme.

Cross-listed with HST.

WGS 451/WGS 551. Interpersonal Violence. (3)

This course examines and evaluates how interpersonal violence impacts individuals, families, groups, organizations, and communities. Using ecological/feminist framework, emphasis is placed on the examination of violence within varied contexts. Topics and class discussions will focus heavily on concepts related to prevention and intervention. Student will use critical thinking, engage with other learners, and complete personal reflections. SC.

Cross-listed with SOC 451 and FSW 451/FSW 551/551.

WGS 461. Gender, Sexuality and Media. (3)

Examines how media help to shape notions of gender in society, how gender ideologies influence mass media perspectives and practices, and how mediated representations may reinforce or challenge social hierarchies based in differences of gender, race, ethnicity, class and sexual orientation.

Cross-listed with MAC.

WGS 470. Senior Thesis in Women's Studies. (3-4)

Focuses on the production of the senior thesis. Senior theses may report the results of original research, critical analysis, activist work and/or creation of art, music, performance, fiction, or other forms. Periodic meetings provide a forum to discuss progress and problems, share with peers the process of framing and implementing a project, research, and writing, and practice presenting results. The course culminates in a public presentation of results.

Prerequisite: Senior capstone in WGS (WGS 401 or WGS 370E).

WGS 475. Women, Gender Relations, and Sport. (3)

Explores the meanings of women's participation in sport and physical activity using sociological, feminist, and cultural studies perspectives. Special consideration given to the ideological significance of sport in U.S. culture and ways in which sporting women accept and challenge contemporary gender relations.

Prerequisite: junior or graduate standing.

Cross-listed with SLM 475/SLM 575/575.

WGS 477. Independent Studies. (0-6)

WGS 601. Introduction To Women's Studies. (3)

A seminar that focuses on Women's Studies as an academic project and a force for social change in the U.S., tracing its historical development and identifying some of its central issues. Readings, discussion, and assignments help students understand the impact of Women's Studies upon academia and upon their own lives.

WGS 602. Feminist Theory & Methodology. (3)

A seminar that investigates major research methods (empirical studies, case studies, ethnographies, rhetorical analyses, textual and historical studies) as they are theorized and practiced within contemporary feminism. As an interdisciplinary project, feminist academic research includes work from psychology, sociology, literary studies, languages, the arts, anthropology, philosophy, education, mathematics, political science and law, and the sciences. This seminar highlights the ways in which research methodology and theorizing are informed by feminist analyses of institutional power, social difference, and position of the researcher.

WGS 677. Independent Studies. (0-6)

WGS 785. Theory Gender, Sex, Ed. (3)

This course examines the multiple, changing meanings and political effects of gender and sexuality in various socio-cultural and educational contexts. It foregrounds analysis of how social institutions, such as education, the law, family and economy, and cultural representations, such as literary and popular media, shape competing concepts of gender and sexuality. The course readings and collective dialogue place particular attention on feminist scholarship on women, girls and sexual minorities.
Cross-listed with EDL 785.

Awards, Scholarships, and Prizes

These are presented to outstanding students who earn special recognition. Contact the department or organization for current information.

Accountancy

Accountancy Faculty Scholarship to an undergraduate student

Albers Accountancy Scholarship to undergraduate minority students

Andersen Alumni Accounting Scholarship to seniors and graduate students

Arthur H. Carter Scholarship to undergraduate and graduate students

BKD Accountancy Scholarship to sophomore, junior, and minority students

Close Family Scholarship to students participating in the Accounting and Tax Policy Study Away Course

Crowe Horwath Scholarship to an undergraduate student

Dr. Gyan Chandra Memorial Scholarship to an undergraduate student

Deloitte & Touche Donald M. Lutz Memorial Scholarship to a junior

Deloitte & Touche Maureen R. Mushat Memorial Scholarship to a junior

Ernst & Young Accountancy Scholarship to junior, senior, minority and graduate students

Rolland L. Ewell Accountancy Scholarship to graduate students

Grant Thornton LLP Accountancy Scholarship to a junior

Harold W. Jasper Scholarship to a graduate student

KPMG Accountancy Scholarship to sophomore, junior, minority, and graduate students

Daniel Leshner Beta Alpha Psi Award to an outstanding Beta Alpha Psi member

Harry C. Lyle Scholarship to an undergraduate student

Joseph B. and Esther K. Paperman Memorial Scholarship to a senior

Marc A. Rubin Study Away Scholarship Fund to students participating in the Accounting and Tax Policy Study Away Course

PwC Accountancy Scholarship to junior, senior, minority, and graduate students

PwC Kelly Booms Memorial Scholarship to seniors

Rankin Accountancy Scholarship to a graduate student

William H. Schaefer Scholarship to a graduate student

Scott Schweinfurth & Margaret English Family Scholarship to an undergraduate student

Seth Kelling PwC Memorial Scholarship to an undergraduate student

C. Roger Stegmaier Accountancy Award to an undergraduate student

William D. Stiles/Deloitte & Touche Memorial Scholarship to junior, senior, and graduate students

William R. and Irene R. Vogel Memorial Scholarship to a graduate student

Jeffrey VonDeylen Family Scholarship to an undergraduate student

E. Ben Yager Scholarship to an undergraduate student

Anthropology

Rebecca Jeanne Andrew Memorial Award

Carol E. Kist Student Awards

Architecture

The Alpha Rho Chi Medal

The American Institute of Architects Henry Adams Medal

The American Institute of Architects Certificate of Merit

The Department of Architecture Scholastic Achievement Award

Barcus Technology Scholarship

Mildred Zurbrick Bishop Scholarship

Sterling Cook Scholarship Award

Fanning and Howey Presidential Scholarship

Rudolph Frankel Memorial Award

Sanford B. Friedman Scholarship

The Howard E. Gartner Architecture Scholarship

Herb Hodgman Scholarship

Warren & Nancy Howard Memorial Scholarship

Frank N. Meilan Memorial Scholarship

The Walter C. Pfeiffer Architecture Scholarship

Potter/Maxfield/Wertz Architectural Design Award

Richard H. and Leila Hentzen Smith Scholarship

URS Consultants Scholarship

Fred C. Whitcomb Scholarship in Interior Design

Charles E. and Elizabeth C. Stousland

John Weigand Founder's Scholarship in Interior Design

Joseph P. Veasey Award

Northwest Ohio Scholarship

Art

American Greetings Endowed Scholarship for Excellence in Design

Mary Jane Bolus Art Scholarship

Gertrude Davidson Brill Art Scholarship

Nancy Francis Cady Art Scholarship

Kathy Carroll-Bosch Family Scholarship

Frances Hanson Christian Scholarship

Sterling Cook Scholarship Award

Peter Dahoda Family Ceramics Award

Arthur B. Damon Art Scholarship

Department of Art Scholarship

Tom Effler Scholarship in Design

Alma Ekerman Jewelry Design and Metalsmithing Award

Marjorie Jeanne Evans Scholarship

Judith Paetow George Ferris Award

Clive F. Getty Art History Scholarship

Walter Gross III Art Scholarship

Barbara Hershey Memorial Scholarship (photography)

Marston D. Hodgin Art Scholarship

George R. And Galen Glasgow Hoxie Scholarship (alternates with music)

Vincent Inconiglios Art Scholarship

Edna Kelly Scholarship

Jim Killy Art Scholarship

Sinisa Lenac Graduate Studio Award

Harold & Sophie Long Art and Architecture History Scholarship

Jean McCarty Scholarship in Ceramic Arts

National Woodcarvers Association Scholarship

Fred & Molly Pye Memorial Scholarship

Mary M. Quay Scholarship

The Tara Savage Art Supplement Award

Richard H. and Leila Hentzen Smith Scholarship

Harley Franklin and Sarah Elizabeth Werth Scholarship

Robert S. and Ann Barrott Wicks Art History Scholarship

Robert Wolfe Printmaker's Award

Janice Woll Art Education Scholarship

Biology

Outstanding Master Student Awards

Outstanding Doctoral Student Awards

Chemical, Paper and Biomedical Engineering

(These scholarships are available to all students with a minor in Paper Engineering)

ABB Endowed Scholarship

Mark A. Akers/Crystal Tissue Endowed Scholarship

Alberts Endowed Scholarship

Alumni Endowed Scholarship 1997

Appvion Endowed Scholarship

William Beckett Endowed Scholarship

Beloit Corporation Endowed Scholarship

Bill Scott Honorary Endowed Scholarship

Bob and Sue Feeser Scholarship

C.E. Brandon Endowed Scholarship

Philip S. and Virginia E. Cade Memorial Endowed Scholarship

Consolidated Papers Foundation Endowed Scholarship

William J. Copeland Endowed Scholarship

Domtar Endowed Scholarship

Domtar Process Control Scholarship

Georgia Pacific Endowed Scholarship

Greif Endowed Scholarship

William O. Gutzwiller Endowed Scholarship

Honeywell Corporation Endowed Scholarship

International Paper Endowed Scholarship

Charlene C. & George T. Jewett Endowed Scholarship

Kadant Linwood G Tyler Endowed Memorial

Kemira Chemicals Inc. Endowed Scholarship

Clemie McKinney Endowed Scholarship

Merwin Miller Endowed Memorial

Miami Valley PIMA Endowed Scholarship

Nalco Chemical Company Endowed Scholarship
 Ohio TAPPI Endowed Scholarship
 Ohio TAPPI Leadership Endowed Scholarship
 OMNOVA Solutions Foundation Endowed Scholarship
 Paliwal Foundation - Dr. Bill Scott Endowed Scholarship
 Paperitalo Endowed Scholarship
 PCA Endowed Scholarship
 Penford Products Endowed Scholarship
 Pratt Industries Endowed Scholarship
 RC Peterson Endowed Scholarship
 Wyman C. Rutledge/Mead Corporation Endowed Scholarship
 Setterholm Endowed Scholarship
 Simpson Paper Endowed Scholarship
 Smurfit Stone Container Corp. Endowed Scholarship
 Solenis Endowed Scholarship
 Specialty Minerals Inc. Endowed Scholarship
 TAPPI Paper Chase Endowed Scholarship
 TEXO/Louis Lerner Endowed Scholarship
 Stanley & Ruth Trosset Endowed Scholarship
 Verso Corporation Endowed Scholarship
 Voith Paper Technology Endowed Scholarship
 WestRock Endowed Scholarship
 Weyerhaeuser Company Endowed Scholarship 1991
 Weyerhaeuser Company Endowed Scholarship 1995
 Weyerhaeuser Company Endowed Scholarship 2005
 Weyerhaeuser NR Company Endowed Scholarship
 Bob and Barbara Williams Leadership Endowed Scholarship

Chemistry and Biochemistry

Harvey Clayton Brill Scholarship
 John H. Buckingham Scholarships
 William Hale Charch Scholarship
 Chemistry Department Graduate Fellowship
 Class of 1996 Chemistry Scholarship
 J.A. Coulter Scholarship
 Joseph A. Culler Chemistry Scholarship
 R. Thomas Davidson Graduate Award in Chemistry

Gervaise O. Frost Memorial Award
 Elmer G. Gerwe Chemistry Scholarship
 Walter and Catherine Gordon Chemistry Fund
 David Hershey Memorial Scholarship
 Lester E. Imboden MD & I. Nadean Imboden Scholarship Fund
 James Hershberger Memorial Undergraduate Research Award
 Anastas Karipides Memorial Scholarship
 Lubrizol Chemistry Scholarships
 Raymond and Vonna McBride Scholarships
 J. Earl Pruden Scholarship
 William Hartmann Schwarz Scholarship
 Parke G. and Dorothy M. Smith Scholarship
 Robert A. Stalzer Memorial Scholarship
 Clyde E. and Alice W. Stiner Scholarship
 Malcolm E. Switzer, M.D., Award
 Robert W. and K. Ursula Votaw Scholarship
 E. O. and B. V. Weidner Chemistry Scholarship

Classics

Bishop Prize in Latin, in honor of Robert H. Bishop II, by alumni
Bishop-Elliott Prize in Classical Humanities, in memory of Robert H. Bishop II, class of 1831, and Professor Charles Elliott
Elliott Prize in Greek, in memory of Professor Charles Elliott, by John B. Smith, class of 1858
Henry Montgomery Classics Scholarship
Henry Montgomery Travel Award
Marilyn Wade-Duff Scholarship

College of Creative Arts

The College of Creative Arts Divisional Scholarship
Fine Arts SFA Fund
Walter L. Gross Jr. Family Presidential Scholarship
Lillian Bratton Hermann and Wilbert A. Hermann Scholarship
Larry A. and Mary Green Lutz Family Scholarship Fund
Western College Alumni Association Fine Arts Scholarship
Year of the Arts Scholarship

Commerce

A. Alberta Holden Memorial Scholarship

Commerce Advisory Council Scholarship**Commerce Scholarship****Fastenal Scholarship in Commerce****Theodore & Kathleen Light Commerce Scholarship****Computer and Information Technology****CIT Alumni Award****Carl Bishop Information Technology Scholarship****Thatcher Computer and Information Technology Scholarship****Computer Science and Software Engineering****Accenture Alumni Scholarship****Cardinal Health Scholarship****Darrel and Wilma Grothen Scholarship****Disha Patel Scholarship****Drew and Elaine Foster Scholarship****Eli Lilly Miami Alumni Scholarship****Ernest and Susan Leffler Scholarship****Eve Richards Scholarship****General Edwin W. Rawlings Scholarship****Lawrence J. Prince Memorial Scholarship****Mark R. and Jennifer M. MacNaughton Family Scholarship****Richard and Nancy Linden Scholarship****Ronald and Mary Ann Kral Scholarship****WorldPay (Vantiv) Scholarship****Economics**

Hart-Noble-Hall Award in Macroeconomics to a senior major with a strong interest in macro/monetary economics

Gerald E. Flueckiger Award to a senior economics major with a strong interest in microeconomics

William McKinstry Award to a senior majoring in business economics

James E. Rees Memorial Scholarship Award to an undergraduate major who demonstrates need, leadership traits, initiative, and academic performance

Delbert A. Snider Award to a graduating senior in international economics

The George W. Thatcher Prize for Undergraduate Excellence in Economics to a senior economics major

Paul M. Vail Award to a senior economics major

Educational Psychology

The Douglas R. Miller Scholarship Award is awarded to a full time graduate student in the department of educational psychology who has distinguished themselves academically, and has generated substantial research work in the area of educational psychology.

Special Education Scholarship Award (SESA) may be available to a limited number of qualified undergraduate Special Education majors. The scholarship is awarded (when available funding permits) to incoming first-year students and is a four-year, renewable award.

Special Education Regional Scholarship Award (SERSA) may be available to a limited number of qualified undergraduate Special Education majors from the Hamilton and Middletown campuses. The scholarship is awarded (when available funding permits) to students that transfer to Oxford and have acquired at least 30 hours of instruction. The award is provided for two years only.

Electrical and Computer Engineering**CE Power Solutions Miami University Scholarship****ECE Academic Merit Scholarship**

ECE Early Career Award to a first or second year student

ECE Academic Achievement Award**ECE Outstanding Service Award****ECE Outstanding Graduate Student Award****Emerging Technology in Business + Design****Mike and Anne AIMS Scholars****English****The Robert Almy Awards in Critical Interpretation****Terry and Chris Baehr English Scholarship**

Daniel and Margaret Bookwalter Sophomore Prizes in English, by William G. and Margaret Bookwalter Pickrel, classes of '10 and '11

The Nevin Clark Family Fund for the Capstone in English

Composition Awards:

Reflective Analysis Award

Reflective Narrative Award

Literary Analysis Award

International Student Award (for essays written in ENG 108 or ENG 109)

Digital/Multimedia Composition Award (Sponsored by Bedford St. Martins)

Reflective Portfolio Award

Craver-Overton Scholarship

Dean's Scholarships to graduate assistants and associates whose records promise achievement in literary studies

Clara Vance Fixmer Scholarship (award alternates between Theatre and English departments)

Carl R. Greer-Andrew D. Hepburn Senior Awards, in honor of Dr. Hepburn, bequest of Carl R. Greer, class of '94

Walter Havighurst Literary Prize

Carolyn W. Houtchens Scholarship, in honor of the first woman professor in the department, to a scholar and researcher in the first year of M.A. program in literature

Robert Kettler Memorial Scholarship

Jeffrey D. Keiner Scholarship for Study Abroad and Academic Enrichment

Bill Moeller Scholarship

Edward J. Montaine Jr. Awards in English, in honor of Mr. Montaine, class of '42, bequest of Carl R. Greer, class of '94

Outstanding Teacher Award to graduate assistants and associates

The Spiro Peterson Memorial Scholarship

Mary Jo Priest Awards for Professional Writing

Sinclair Award in Creative Writing to the most promising new graduate student in the creative writing program

Sinclair Fellowships to graduate assistants and associates whose records promise achievement in literary studies

Gordon D. and Mary S. Wilson Awards for best graduate paper presented at a conference during the year and best published creative work

Gordon D. and Mary S. Wilson Scholarship

Engineering Technology

Armin J. Fleck Engineering Technology Scholarship

David W. Young Engineering Technology Award

David W. Young Engineering Technology Scholarship

John and Jennifer Ridge Engineering Technology Scholarship

Entrepreneurship

Altman Internship Scholarship - Summer Internship for Entrepreneurship students

The Arthur D. Collins Social Entrepreneurship Scholarship Fund

Entrepreneurship Scholarship through the Marketing Department

Golis Entrepreneurship Scholarship - for an Entrepreneurship major or co-major in the San Francisco Entrepreneurship Program

Jill Jellinek Entrepreneurship Intern Award

Jim and Michelle Ryan Family Foundation Scholarship

Smerklo Family Scholarship

Smith Family Fund for Social Entrepreneurship

Social Entrepreneurship Internship Scholarship Fund

Stephanie J. Nelson Scholarship

Family Science and Social Work

Annitta Klipple Prize is awarded to the best all round undergraduate student in Family Science and Social Work when available funding permits. Student must be nominated by a FSW faculty member.

Jane and Dessie Rees Graduate Student Scholarship is awarded to Miami University graduate student in the MASW program when available funding permits.

Elizabeth Caughey Stegmaier Scholarship may be awarded to one Miami University undergraduate student who is majoring in Family Science or Social Work when available funding permits. Preference is given to juniors and seniors.

Emma Waldhauer Family Studies and Social Work Scholarship is awarded to an undergraduate student majoring in Family Science or Social Work when available funding permits. Student must be nominated by a FSW faculty member.

Family Science and Social Work Graduate Scholarship may be awarded to students in the Masters of Art in Social Work (MASW) program when available funding permits.

Fred Whitcomb Graduate Scholarship is awarded to Miami University graduate students in the Masters of Art in Social Work (MASW) program when available funding permits. Student must be nominated by a FSW faculty member.

Finance

J. Belden Dennison Award for scholastic achievement, by the department

Joseph C. Pillion Memorial Scholarship to a senior finance major

French

Edgar Ewing Brandon Senior Prize in French

The Naomi Miller Cox Memorial Outstanding French Student Prize

The Charlotte Meyer Crawford Junior Scholarship

L.P. Irvin Award for Overseas Study

The W. Marion Miller Alumni Scholarship

The Cynthia Robinson First Memorial Scholarship

Laurence Harvey Skinner Junior Prize in French

Geography

Henry M. Kendall Award to an outstanding junior major

Richard G. Lieberman Memorial Award to an outstanding senior

Arthur "Art" Limbird Award to an outstanding sophomore major

Geology & Environmental Earth Science

Jack M. Brownstein to a student attending the Geology Field Station based on merit and financial need

Geology Graduate Student Professional Travel Fund awards support graduate student travel to professional meetings

Wayne D. Martin Field Fund, awards for field travel and field research

David L. Morrow Geology Field Study Fund to a student attending the Geology Field Station, based on financial need

Rocky Mountain Petroleum Geology Research Fund awards support student field-based research/studies in Rocky Mountain region

Wells Scholarship to a student enrolled in GLG 411A/GLG 511A, for academic performance and need

Gerontology

Colonial Senior Services Research Award to a graduate student for outstanding research or program development in long-term care

Hamilton Campus

John P. Williams Family Teacher Licensure Fund

Carl A. and Katharine Densford Dreves Scholarship

Dr. Bernard and Margaret Phelps Scholarship

Hamilton Campus Financial Aid Fund

Adeline Zoller Scholarship

Vaden and Grace Fitton Scholarship

John A. Shafer Scholarship

Nancy Sohngen Cottrell Scholar-Leader

Richard Fitton Scholar-Leader

Dr. Edward Kezur Financial Aid Fund

Harry T. Wilks Scholarship

U.S. Bancorp Scholarship

Karen S. House Scholar Leader Scholarship

Carl and Freda E. Jennewein Memorial Scholarship

Marian Hawk Peabody Scholarship

Miami Hamilton Upper Division Scholarship

Kathy Burton Memorial Scholarship

Russell W. Leedy Scholarship

Elizabeth H. Burgoon Scholarship

John L. Burgoon Scholarship

Dr. Howard and Connie Epstein Scholarship

Marge Addington Scholarship

T. Michael Smithson Scholarship

Winifred and John Dolibois Scholarship

Howell C. Lloyd Scholarship

James McBride Scholarship

Miami University Hamilton General Scholarship Fund

Grace Fitton Scholarship

Amvets Auxiliary Post 1983 Scholarship

Miami University Hamilton Faculty and Staff Scholarship

Miami Regionals Merit Scholarship - Hamilton

Dr. Robert Baer Award for Academic Achievement

Ted and Vada Shell Stanley/O'Tucks Scholarship

Harold Don Gabbard Family/O'Tucks Scholarship

Miami Hamilton Student Government Assn Leadership Schp

Huntington Parrish Scholarship

John L. Thompson Scholarship

O'Tucks Expendable Scholarship

Blount Family Scholarship

ACDA/O'Tucks Scholarship

O'Tucks Endowed Scholarship

Donald and Loraine Gent/O'Tucks Scholarship

Joyce B. Thall/O'Tucks Scholarship

Vaden Fitton Hamilton Campus Scholarship

Olga F. Gmoser/O'Tucks Scholarship

Robert H. Rusbosin Student Leadership Award

Jeweldene Baker O'Tucks Scholarship

Fritzi Mueller Beckett Peabody Scholarship

History

Mary Eleanor Brandon Lincoln Essay Award

A. Dane Ellis Scholarship

Fred Joyner History Scholarship

Boyd & Carol Shafer Scholarship

James Watson and Lois George McDonald Scholarship

Humanities and Creative Arts

BLM Student Art Fund

Information Systems and Analytics

Academic Excellence certificates to an analytics minor and an information systems minor

Center for Analytics and Data Science Scholarships to undergraduate students

Donald L. and Jane Dawley Management Information Systems Scholarship to one or more ISA majors

Ernst and Young Scholarships to undergraduate students

FIS/Worldpay Scholarship to outstanding students

Frank Begalke Scholarship to one or more ISA majors

Hopkins Family Scholarship to one or more ISA majors

ISA Advisory Board Scholarship to outstanding students

KPMG Scholarships to undergraduate students

Roy Sandquist Family Department of Information Systems and Analytics Awards to the outstanding senior major

T.M. & Vadivu Rajkumar ISA Scholarship to one or more ISA majors

Integrative Studies

James E. Paulus Scholarship

Harry T. Wilks Scholarship in Integrative Studies

Italian

Amira Akrabawi Giesecke Scholarship

Peter N. Pedroni Summer Language Institute in Italy Fund

Joseph A. Russo Scholarship

Journalism

Emily Cordes Memorial Scholarship

The Michael Kelly Prize in Journalism

Lawler-Galeese Scholarship

Memorial Tournament Journalism Scholarship

Timothy J. Rogers Memorial Journalism Scholarship

Justice and Community Studies

Cpl. Nicholas Olivas Valor Award

Criminal Justice Student Scholar Award

Student Opportunity Award-Criminal Justice

Women in Criminal Justice Award

Languages, Literatures, and Writing

Diana Royer Scholarship

Malcolm M. Sedam English Scholarship and Writing Award

Management

Academic Achievement in Management and Leadership Award to a senior

Academic Achievement in Supply Chain and Operations Management Award to a senior

Frederick Puff Scholarship to a junior and senior Supply Chain & Operations Management major

Thomas W. Speh Innovation Scholarship to a junior Supply Chain and Operations Management major

Marketing

Adelaide and Jeffrey Lazarus Retail Scholarship to two seniors

Mathematics and Statistics

J. Paul & John P. Albert Scholarship

Alumni Senior Prize

Zoltan Balogh Memorial Award in mathematics

Osmond Barton Prize in Mathematics

Robert F. and Mary Sexauer Beyerly Memorial Scholarship

The Halbert C. Christofferson Mathematics Education Awards

Cincinnati Chapter of the American Statistical Association Comer-Reynolds Memorial Awards in statistics

Eric Erickson Scholarship

Faculty Prize

Mary Jeanette and Clifford Harvey Scholarship

Koehler Prizes

Kenneth Last Scholarship

Frederick A. Luecker Scholarship

McFarland Prize in Mathematics

Ohio National Scholarship

Patterson Prizes

Pi Mu Epsilon Awards

Byron Smith Mathematics Award

Corwin Smith Prizes in Mathematics

Western and Southern Scholarship

Journal Award

Alberta L. Wolfe Fellowship

Mechanical and Manufacturing Engineering

Robin A. David Award to a student for outstanding service in department laboratories.

Mechanical and Manufacturing Engineering Department Scholarship Award to an outstanding junior

Mechanical and Manufacturing Engineering Department Service Award

Mechanical and Manufacturing Engineering Scholarships to freshmen

Ken Shinn/SAE Engineering Scholarship to a freshman

Thomas T. Peyton Scholarship

Microbiology

Dr. and Mrs. J.K. Bhattacharjee Microbiology Scholarship to an undergraduate

Donald C. Cox Awards for excellence in graduate studies

Lawrence Day Award to a junior

Fisher Award to an outstanding undergraduate research proposal

Edward Kezur Scholarship to an upper-class pre-med student majoring in chemistry, microbiology, or zoology, \$1,000 scholarship

Susan W. Rockwood Memorial Scholarship Award to a female graduate student

Orton K. Stark Awards to a senior and a graduate student, plaques and cash awards

Orton K. Stark Awards to a first-year student, a sophomore, and a junior

Middletown Campus

W. Lynn Darbyshire Student Leadership Award

Harry and Ethel Brakeman Memorial Scholarship

Dale E. Converse Memorial Scholarship

Middletown Rotary Club Foundation Scholarship

Isidor A. Casper Memorial Scholarship

Cynthia Yang Memorial Scholarship

William C. and Mary E. Akers Scholarship

Roger and Ginny Dillman Scholarship

Audrey Canfield Neel Scholarship

Miriam Knoll Non-Traditional Student Scholarship

Miami University Middletown Faculty and Staff Scholarship

Venus and Ruth Maupin Scholarship

Miami University Middletown Community Service Scholarship

Mr/Mrs Daniel J. Whitner and Lillian J. Whitner Merit Schp

Ryan K. Green Memorial Scholarship

Roger W. Conner, AFID Scholarship

MUAA Middletown Area Chapter Scholarship

Bill and Barbara Howe Scholarship

Robert and Tina Breitenbach Social & Human Services Schp

Rosa Lean Lindsey Scholarship

Fusako M. Gelwick Scholarship At Miami University Middletown

Robert A. Gelwick Scholarship At Miami University Middletown

Greg Lansaw Memorial Leadership Scholarship

David and Janet Sauter Scholarship

Roland P. (Ron) and Ella M. Ely Scholarship at MUM

Arthur B. Casper Bridge Scholarship at MUM

Dr. James B. Ewers, Jr. Multicultural Scholarship at MUM

Sen. Barry and Marilee Levey Scholarship at Miami University

Miami Regionals Merit Scholarship - Middletown

Elke Sue Holt Merit Scholarship

Middletown Campus Need Based Scholarship

Dr. James R. Myers Regional Merit Scholarship

Dr. James R. Myers Continuing Student Scholarship

Robert Breitenbach/Middletown Rotary Club Fdn Leadership Scholarship

Paul and Linda Matus Service and Leadership Abroad Scholarship

Gardner Scholars

First to Fifty Scholarship

Ted Clark Award

AAUW Adult Education Fund

Bill and Pat Schaefer Scholarship

John and Teresa Sawyer Miami Middletown Scholarship

Music

Alice Mattmueller Alexander Memorial Voice Award

Alumni Music Award

George Barron Music Scholarship

Jeffrey J. Blank Scholarship

Nina J. Boyd Music Education Scholarship

Bradley Richard Cambridge Endowment Award

Campus Owls Scholarship
Frances Cole Memorial Scholarship
W.C. Cummings Memorial Endowment
Louise Glasgow and Eric E. Erickson Piano Scholarship
William and Susan Failor Scholarship Fund
Cynthia Boeke Fisher Memorial Award
Lee and Rosemary Fisher Glee Club Scholarship
Adon Foster Scholarship
Friends of Opera Award
Virginia Pierce Glick Music Education Scholarship
Virginia Dolohan Goebel-Fisher Music Education Scholarship
Darrell and Wilma Grothen Music Scholarship
The L. Eugene Hill Composition Prize
George R. and Galen Glasgow Hoxie Scholarship (alternates with art)
Jean Hartsock-Palmer Scholarship
Christopher B. Huff Memorial Award
Andrew Hummel Memorial Scholarship
Alberta Lutz Ittel Music Education Scholarship
Lacey/Strimple Highland Band and Drum Scholarship
Lois D. Lehmkuhl Owl Award
Everett Nelson and 1965-1967 Music Faculty Honorary Scholarship
Everett Nelson Performance Scholarship
NFMC Herman and Mary Neuman Music Award
Ohio Music Teachers Association Scholarship
Nicholas and Phyllis Poccia Wind Ensemble Scholarship
Pam Eileen Poccia Award
Elizabeth Potteiger Cello Award
Presser Foundation Scholarship
Kapra MeridethQuain Memorial Scholarship
Nina Palmer Quay Memorial Scholarship
Mary Evans Rees Memorial Scholarship
Richard L. Schilling Music Education Scholarship
Marcia R. Seaman Memorial Scholarship
Dona Clare Sheley Presidential Scholarship

Mary E. Shirk Bevan Western College Musical Scholarship
Steven Shumway String Scholarship
Jerome and Josette Stanley Music Scholarship
Richard A. Steuk Music Award
Jane Scott Hayes Telfair Music Education Scholarship
Barbara J. Tuttle Memorial Scholarship
Fred Wayne Music Scholarship
Stanley A. and Donna B. Wernz Vocal Music Education Scholarship

Nursing

Ruth Ann Busald Nursing Awards to graduating B.S.N. students
Carl and Katherine Densford Dreves Scholarships to B.S.N students
Marion L. Kagler and Kim Kagler Carroll Award to a Hamilton campus B.S.N. student
Jessie Myers-Eeles Scholarships to B.S.N. students
Marjorie Ryan/Ann Farnsley Fund
Coombs Family Memorial Scholarship
Joan McNelly Teckman Scholarship
Carolyn Turnbull Jaeger Nursing Scholarship
Eugenia M. Mills Scholarship
Nancy and David Stroupe Nursing Scholarship
Leo H. Munick, M.D. Scholarship in Nursing
Middletown Campus Scholarship in Nursing
Douglas and Anne McNeill Health Sciences Scholarship
Nursing Alumni Scholarship
Hall Family Scholarship
Philip Mynhier Nursing Scholarship
Kenneth and Bernice Kinnaird Nursing Scholarship
Marjorie A. Ryan Scholarship
Ken and Joan Frankel Nursing Scholarship
Dr. F. Jean Dockery Scholarship
Barbara Jean (Duckett) Craycraft Nursing Memorial Scholarship
Sara & Brent Arter Endowed Scholarship for Undergraduate Nursing
Premier Health-Atrium Medical Center Externship Scholarship
Patricia Ann McCandless Aldridge Nursing Scholarship

Philosophy

Hall Prize in Philosophy for best essay in philosophy

Linda Singer Scholarship to a junior or senior philosophy major

Physics

George and Carolyn Arfken Scholarship

Andrew Wolf Bylenga Scholarship

John E. Cocanougher Scholarship

Joseph A. Culler Prizes in Physics for excellence in first- and second-year physics; bequest of Dr. Culler

Drake Family Scholarship

R. L. Edwards Scholarship

Carl and Harriet Frische Scholarships to entering students

Hughes Memorial Scholarship

Dr. Benjamin Lee Memorial Scholarship

Philip A. and Cora G. Macklin Scholarship

William E. Shoupp Memorial Scholarship

John and Genny Snider Scholarship

Society of Physics Students Award to a senior, a science book

Robert W. and K. Ursula Votaw Presidential Scholarship

Political Science

Atlee Pomerene Prize

Gary Best Memorial Scholarship

The Engel Prizes in Political Science

Sara C. Glosik Scholarship

Irma Karmol Memorial Scholarship

David Koschik and Izumi Hara Student Enrichment Fund

Robert "Ron" Hall Undergraduate Student Enrichment Fund for the Study of U.S. Civil Liberties

The Ernst G. Siefert Capstone in Political Science

Howard White Awards in Government

David S. McLellan Award

Maher/Zouhary Undergraduate Fund

Psychology

The Elizabeth Burckhardt Capstone in Psychology

Patrick J. Capretta Memorial Scholarship, by alumni and friends

Clark Crannell Undergraduate Research Award, by alumni and friends

E. F. Patten Senior Prize in Psychology, by alumni and friends

Rich/Ivens Scholarship (alternates with sociology)

Regional Campuses

Zachary Kent Lutz Memorial Scholarship

Miami Veterans Legacy Scholarship Fund

David P. Rahm Regional Merit Scholarship

Regional Campus Study Abroad Support Scholarship

Catherine Herr Mulligan Scholarship

Miami Regionals Difference Scholarship

ELC Regional Study Abroad Opportunity Scholarship

Richard M. Sollman Financial Assistance Scholarship

Helen Gerrard Scholarship

E.A.W.M. Scholarship

Barbara Chappell Family Scholarship

Bishop Family Scholarship

College Credit Plus/SEOP Alumni Scholarship

Engineering Technology Opportunity Scholarship

Donald W. Watson Scholarship- Regional Campuses

Anna T. Hamilton Regional Urban Cohort Scholarship

Allen and Colleen Norris Scholarship

Freedom Summer Scholarship

Sara & Brent Arter Endowed Scholarship for Undergraduate Nursing

Drs. Robert A. and Lee K. Sanders Scholarship

WCAA Peabody Scholarship

Social and Behavioral Sciences

Subedi Family Scholarship

ROTC Awards, Air Force

AFROTC sponsored awards: **AFROTC Valor Award, AFROTC Field Training awards (Distinguished Graduate Award, Superior Performer Award, "Ironman" Award, Warrior Spirit Award), AFROTC Achievement Award, AFROTC Commendation Award, Academic Honors Award, College Scholarship Recipient Ribbon, Physical Fitness Award, Recruiting Award, AFROTC Expert Marksmanship Award.**

Arnold Air Society Awards: **Arnold Air Society ribbon, Eagle Trophy ribbon, Hagan Trophy ribbon, LBJ Cup ribbon**

Awards from patriotic and aerospace organizations: **Air Force Association Award, Armed Forces Communication and Electronics Award, American Legion Award, American Veterans Award, Daughters of Founders and Patriots of America Award,**

Daughters of the American Revolution Award, Military Order of the Purple Heart Award, Military Order of the World Wars Medal, National Defense Industrial Association Award, National Defense Transportation Award, National Sojourners Award, Reserve Officers Association Award, Scottish Rite Southern Jurisdiction Award, Society of American Military Engineers Award, Society of the War of 1812 Award, Sons of the American Revolution Award, Veterans of Foreign Wars Award.

Other awards: **Air Force Historical Foundation Award, Armed Forces Insurance Scholarship Award, Army and Air Force Mutual Aid Association AFROTC Scholarship, Col. Pat R. Paxton Memorial Award, First Command Educational Foundation Scholarship Award, Guy Pulliam Leadership Award, Lt. Col. Grissom Memorial Award, Lt. Col. Jay Smith Memorial Scholarship Award, Melissa Massaro Memorial Award, Order of Daedalians AFROTC Scholarship, United Services Automobile Association Scholarship Award, Wells Fargo Worldwide Bank Scholarship Award**

ROTC Awards, Navy and Marine Corps

American Legion Military Excellence Awards to a senior, junior, sophomore, and freshman with a military aptitude ranking within the top 25% of their respective class

American Legion Scholarship Awards to a senior, junior, sophomore, and freshman within the top 25% of their respective class academically

American Veterans Award to a senior who possesses scholastic excellence, a positive attitude, exemplary appearance, initiative, dependability, judgment, and confidence

Donovan Black Memorial Scholarship to sophomore and junior Marine-option midshipmen who excel in academic, physical and military performance

Captain Frederick Brower Honorary Award to a top Marine-option graduate, a Marine officer's sword and uniform stipend

Burke Distinguished Senior Award, in memory of Jane Doubet Burke, to a graduating female midshipman who demonstrates most outstanding potential for commissioned service, an officer's sword or \$500

Burke Distinguished Student Award, in memory of Jane Doubet Burke, to a female junior, sophomore, or freshman midshipman who demonstrates highest qualities of scholarship, leadership, and devotion to duty, \$1,000 scholarship

Cincinnati Navy League Award, in honor of Senator Robert A. Taft Jr., to a senior chosen as the overall outstanding Navy-option midshipman, a Naval officer's sword

Cincinnati Navy League Remembering Jack Schiff Award to a graduating midshipman who started the NROTC program as a college program student and has demonstrated sustained outstanding performance

Daughters of Founders and Patriots of America Award to a sophomore student who shows leadership, patriotism and the most improvement in physical fitness

Daughters of the American Revolution Award to a senior who exhibits excellent dependability, good character, and leadership qualities

CDR Theodore J. Ehlers Memorial Award to a Navy-option senior who demonstrates superior performance and motivation toward a career as a Surface Warfare Officer, a Naval officer's sword

Chief of Naval Operations Distinguished Graduate Award to a graduating senior who demonstrates the highest standards of leadership, academic, and military performance

James Clifford Garland Honorary Scholarship to the outstanding member of the junior class who best embodies the highest qualities of leadership and commitment

Colonel William R. Higgins Memorial Award to the standout Marine-option who best exemplifies professionalism, achievement, and devotion to duty for other students to emulate

Larry Holland Memorial Scholarship to an undergraduate student planning to serve in the U.S. Navy

Joseph T. Lukens Memorial Scholarship to a Navy-option midshipman who excels in academic, physical and military performance

Military Officers Association of America Award to midshipmen who have demonstrated an exceptional level of leadership, initiative and responsibility

Ohio Reserve Officers Association Awards to a senior, junior, sophomore, and freshman for excellence in academic and military pursuits

Outstanding Navy Graduate Award to a top Navy option graduate who displays the highest ideals of academic and leadership excellence, a Naval officer's sword

Reserve Officer Association League Award to a midshipman who not only demonstrates excellent leadership and scholarship but also dedicates themselves to volunteerism in the community and University

Sons of the American Revolution Award to a midshipman who personifies the ideals upon which this Nation was founded

Sons of the Union Veterans of the Civil War Award to a midshipman who shows a high degree of patriotism to the Nation and has demonstrated a high degree of academic performance and leadership

The USAA Spirit Award to the student who displays the greatest spirit in the service of others

Capt. Michael M. Vagedes Memorial Award to a senior Marine-option midshipman possessing the most potential for service as an officer, a Marine officer's sword

Veterans of Foreign Wars District Four Award to a midshipman for academic and military excellence

Sociology

Betty Kent Scholarship

Rich/Ivens Scholarship (alternates with psychology)

Spanish

Glenn A. Barr Scholarship in Spanish

L.P. Irvin Essay Prize in Spanish

Willis Knapp Jones Memorial Scholarship

Robert K. Newman Award for Excellence in Spanish

Timothy J. Rogers Memorial Scholarship

Teaching, Curriculum, and Educational Inquiry

Annabel Cathcart McGuffey Miami Award to an undergraduate student in social studies education

Arlene D. Maurer McGuffey Scholarships to juniors and/or seniors in early childhood/primary education

Barbara Carlisle Early Childhood Education Fund to students in early childhood/primary education

David L. and Sallie A. Killian Scholarship to an undergraduate student in TCE

Dickinson Thetford Guiper Scholarship to Student Teachers to a student who is student teaching

Don and Deborah Snyder Scholarships to juniors and/or seniors in early childhood/primary education

DuDois UTC Student Scholarship

Eileen Tway Memorial Fund to graduate students in reading/language arts education

TCE Travel Abroad Fund to undergraduate students traveling abroad

Georgina H. Silliman Scholarships to an outstanding undergraduate student in early childhood/primary education

Glenn and Betty Julian Graduate Student Teaching Award to a graduate student in physics education

Halbert C. Christofferson Scholarships to outstanding juniors in mathematics education

Harry T. Philips Memorial Scholarship to outstanding senior in science education

Hedrick Family Student Teaching Award to undergraduate students awarded during student teaching

Jean K. Mate Memorial Scholarship to an outstanding undergraduate student

John A. Whitesel Scholarship to an outstanding senior student in teacher education

John E. Shank '75 Scholarship to an outstanding undergraduate student in early childhood/primary education

Joyce A. Hagedorn Scholarships to undergraduate students majoring in early childhood/primary education

Juanita E. Carter Scholarships

Kappa Delta Pi Scholarship to undergraduate students in TCE

Kenneth Furrier Scholarship to an outstanding student in the Urban Teaching Cohort

Lester W. Maurer McGuffey Scholarships to juniors and/or seniors in early childhood/primary education

M. F. Foss Teaching Excellence Prize to an outstanding undergraduate student in TCE

Mary Ann Moorman McGuffey Scholarship to an outstanding undergraduate student in early childhood/primary education

Nancy Humbach Scholarship to an outstanding junior or senior student in TCE majoring in French, German, Latin, or Spanish education.

Nancy Maurer Kole McGuffey Scholarships to juniors and/or seniors in early childhood/primary education

Pearl May Corl English Award to a student preparing to teach English

Peter C. and Nancy Maurer Kole Scholarship to outstanding juniors or seniors in early childhood/primary education

President David and Ambassador Valerie Hudge Teacher Education Scholarship

Robert D. Hartung, Jr. and Nancy G. Hartung Math Education Scholarship to juniors and/or seniors in integrated mathematics education

Roseanna Van Gorden Prize to a Talawanda High School graduate in English education

Sandra K. Hormel Scholarship to undergraduate students in TCE

THA Foundation Scholarships to outstanding students in early/primary and/or middle childhood education

Thomas L. Feeney Scholarship Fund to students in TCE

Theatre

Homer N. Abegglen Theatre Scholarship

Homer and Henrietta Abegglen Theatre Scholarship

Paul K. Bryant-Jackson Memorial Scholarship

Biz and Bob Campbell Theatre Scholarship

Sherry Darling Theatre Award

Clara Vance Fixmer Scholarship (with journalism)

David Gallagher Playwriting Award

Loren Gates Memorial Theatre Scholarship

Hallas Family Scholarship for Professional Development in Design, Technology and Stage Management

Hurst Family Scholarship for Theatre

Ronald C. Kern Scholarship in Theatre

Emmanuel Kladitis Theatre Scholarship

Guido and Agnese Vincenti Scholarship

Mollie Weller Memorial Award

Willa S. Yeck Scholarship

Women's Studies

The Mina Burckhardt Capstone in Women's Studies

Barbara E. Nicholson Prize

Women's Studies Essay Prize

Graduate Awards

Award Information

Students must be admitted to the Graduate School with regular standing to be considered for a graduate award.

If the minimum undergraduate grade point average required for admission with regular standing is met, students may be appointed to a graduate assistantship for one semester with reappointment contingent upon achievement of a 3.00 graduate grade point average for that semester and satisfactory performance of graduate assistant duties. Students may not hold more than one graduate award for any given semester or academic year.

A graduate award holder cannot hold any other employment at Miami University during the term of the graduate award unless recommended by the department chair and approved by the Dean of the Graduate School via a graduate student petition. International students (those with F-1 and J-1 visas) are allowed to work a maximum of 20 hours per week while classes are in session (this includes assistantship duties). An international student who holds a graduate assistantship with duties of eight hours per week may request permission to hold additional employment as long as that employment does not exceed 12 hours per week.

A graduate assistantship award for one year involves no commitment for continued support by the university for subsequent years.

To Apply for a Graduate Award

To receive a graduate award students must be recommended by the department following application and admission to the Graduate School. Contact the department to which you are applying for specific application requirements and deadlines. For a listing of graduate programs, visit the Graduate School website.

Types of Awards

Most award recipients work in departments of their field of study. Graduate assistantships, however, are also available in other offices, such as the Bernard B. Rinella Jr. Learning Center, and intercollegiate athletics. Information is available from Academic Personnel Services, 513-529-6724, and the Graduate School, 513-529-3734.

Graduate assistantships are for holders of a baccalaureate degree seeking an advanced degree. The stipend associated with this award is for a maximum of half-time duties in two regular semesters. In addition to the stipend, graduate assistants receive up to 100% waiver of the instructional fee and 50% of the basic general fee for two semesters as determined by the department of appointment for the period of appointment and for the summer session immediately preceding or following the year of appointment. A tuition waiver and stipend for a graduate assistantship can vary with the work expectations proportionally. For instance, a student might receive half of a tuition waiver and half of a full stipend, and would be expected to work half the hours. See the Miami University Policy Library for additional information on stipends and waivers.

Students will also be required to pay reduced technology, facilities, and metro fees. Fee increases will be determined at the June meeting of the Board of Trustees. For additional information regarding fees,

charges, and regulations regarding refunds see MiamiOH.edu/OneStop. Graduate assistants have two options for payment of fees: pay in full at the start of each semester, or use the payroll deduction program. Some programs have additional fees.

Graduate assistants must carry between 9 to 18 credit hours of graduate courses each semester. Full assistantship duties normally occupy 18 to 20 clock hours per week.

Dissertation scholarships, for doctoral candidates at dissertation stage, are service free and provide a stipend determined by the student's department. Dissertation scholars must enroll in between 9 to 18 hours of graduate courses each semester they receive the award. In addition to the stipend, graduate assistants receive 100% waiver of the instructional fee and 50% of the basic general fee for the period of appointment. You will also be required to pay the general fee (reduced), technology fee, facilities fee (including Armstrong Center), and transit fees. Fee increases will be determined at the June meeting of the Board of Trustees. For additional information regarding fees, charges, and regulations regarding refunds see the following link: MiamiOH.edu/OneStop. Fees must be paid in full at the start of each semester.

Graduate grants-in-aid are waivers of instructional fee and out-of-state tuition. There is no cash stipend. No duties are required. These grants are available for one or both semesters and/or summer terms to U.S. and international students who are in need of financial assistance, have strong academic records, and show considerable promise of future attainment. These grants are for students in continuous full-time study leading to a degree; they are not available to part-time students, CGS students, and students whose full-time study is limited to summer terms. Continuance or renewal of a grant is dependent upon satisfactory progress toward a degree. To apply for this grant, visit the Graduate School website or contact the Graduate School at gradschool@miamioh.edu. Students must apply for this award annually.

Academic Responsibilities

Students must maintain satisfactory progress toward the degree in order to assure continuance as an award holder. Satisfactory progress means meeting minimum registration requirements, maintaining a cumulative grade point average of at least 3.00, and fulfilling academic requirements for the degree as determined by the department or program. Failure to achieve such progress may result in the revocation of the award. For more information see the Miami University Policy Library.

Award Acceptance

The university adheres to the resolution adopted by the Council of Graduate Schools in the United States. The resolution provides that if an award recipient accepts an award before April 15, the recipient will have complete freedom through April 15 to resign in order to accept another appointment. After April 15, however, the recipient may not accept another award without obtaining a formal release from the first commitment.

Index

A

About Miami	12
Academic Planning	55
Accountancy (ACC)	436
Accountancy Minor	309
Accountancy- Bachelor of Science in Business	303
Accountancy- Master of Accountancy	361
Actuarial Science Minor	168
Admission for Graduate Students	354
Admission for Undergraduate Students	27
Advanced Business Analytics Certificate	362
Advanced Manufacturing and Materials Evaluation Certificate	298
Advanced Manufacturing and Materials Evaluation Certificate	362
Aerospace Studies (AES)	438
Aerospace Studies Minor	168
American Culture & English Program (ACE)	439
American Studies (AMS)	440
American Studies Minor	169
American Studies- Bachelor of Arts	94
Analytics Certificate	363
Analytics Co-Major	96
Analytics Co-Major	304
Anthropology (ATH)	442
Anthropology Minor	169
Anthropology- Bachelor of Arts	97
Applied Biology - Bachelor of Science	323
Applied Communication (APC)	446
Applied Social Research (ASO)	446
Arabic (ARB)	447
Arabic Minor	170
Archaeology Minor	170
Architecture - Bachelor of Arts in Architecture	202
Architecture & Interior Design (ARC)	447
Architecture and Interior Design Studies Minor	226
Architecture- Master of Architecture	363
Art and Architecture History - Bachelor of Arts in Art and Architecture History	202
Art and Architecture History - Bachelor of Arts in Art and Architecture History	205
Art and Architecture History Minor	227
Art (ART)	451

Art Education- Bachelor of Science in Art with Multi-Age Visual Arts Licensure	206
Art, Studio- Master of Fine Arts	366
Art Therapy Co-Major	207
Art Therapy Minor	228
Arts and Science (CAS)	459
Arts Management and Arts Entrepreneurship - Bachelor of Arts in Arts Management and Arts Entrepreneurship	199
Arts Management Co-Major	200
Arts Management Minor	227
Arts Management Minor	310
Asian/Asian American Studies (AAA)	460
Athletic Training - Master of Athletic Training	367
Awards, Scholarships, and Prizes	711

B

Biochemistry- Bachelor of Arts	99
Biochemistry- Bachelor of Science	99
Bioinformatics Minor	171
Bioinformatics Minor	292
Biological Sciences (BSC)	461
Biological Sciences- Master of Arts in Teaching	368
Biology (BIO)	462
Biology- Bachelor of Arts	100
Biology- Bachelor of Science	101
Biology- Master of Arts, Master of Arts in Teaching, Master of Science, Doctor of Philosophy, Certificate	369
Biomedical Engineering- Bachelor of Science in Engineering	269
Biomedical Science - Master of Medical Science	371
Botany- Bachelor of Arts	102
Botany- Bachelor of Science	103
Botany- M.A., M.S., Ph.D.	372
Business Administration- Master of Business Administration	373
Business Analysis (BUS)	472
Business Analytics Minor	311
Business Analytics- Bachelor of Science in Business	305
Business Analytics- Master of Science in Business Analytics	374
Business in the Global Market Certificate	317
Business Legal Studies (BLS)	473
Business Management Certificate	374
Business Minor	310
Business-Economics- Bachelor of Science in Business	305

C

Cell, Molecular and Structural Biology (CMSB)- M.S., Ph.D.	375
---	-----

Chemical and Biomedical Engineering- Master of Science in Chemical and Biomedical Engineering	376	Computer Engineering- Bachelor of Science in Engineering	272
Chemical Engineering- Bachelor of Science in Engineering	270	Computer Science - Bachelor of Arts in Computer Science	274
Chemical, Paper, & Biomedical Engineering (CPB)	474	Computer Science - Master of Computer Science, Master of Science in Computer Science	381
Chemistry & Biochemistry (CHM)	478	Computer Science & Software Engineering (CSE)	491
Chemistry- Bachelor of Arts	104	Computer Science Minor	293
Chemistry- Bachelor of Science	105	Computer Science- Bachelor of Science in Computer Science	276
Chemistry- Master of Science, Doctor of Philosophy	378	Computer Technology- Associate in Applied Science	342
Child Life Specialist Certificate	264	Conservation Biology Certificate	383
Child Life Specialist Certificate	379	Course Registration and Other Regulations	64
Child Studies and Youth Development Minor	259	Courses of Instruction	433
Chinese (CHI)	482	Creative Arts (CCA)	497
Chinese Education- Bachelor of Science in Education	249	Creative Arts Minors	225
Chinese Minor	171	Creative Writing Minor	172
Classical Studies Minor	172	Creative Writing- Master of Fine Arts	384
Classical Studies- Bachelor of Arts	106	Creativity Entrepreneurship Certificate	319
Classics (CLS)	484	Criminal Justice Minor	348
Climate Accounting and Engineering Minor	292	Criminal Justice Studies (CJS)	498
Climate Accounting and Engineering Minor	312	Criminal Justice- Associate in Applied Science	343
Clinical Engineering - Master of Science in Clinical Engineering	379	Criminal Justice- Bachelor of Science in Criminal Justice	326
Clinical Engineering Minor	293	Criminology Minor	173
Coaching Minor	259	Critical Race and Ethnic Studies - Bachelor of Arts	107
College of Creative Arts	197	Critical Race and Ethnic Studies (CRE)	501
College of Education, Health and Society	237	Critical Race and Ethnic Studies Minor	174
College of Engineering and Computing	267	Curriculum and Instruction - Master of Education	384
College of Liberal Arts and Applied Science	322	Cybersecurity - Bachelor of Science in Cybersecurity	279
College Teaching Certificate	380	Cybersecurity Administration Minor	348
Commerce (CMR)	485	Cybersecurity (CYB)	504
Commerce Minor	347	Cybersecurity Management for Accountancy Certificate	320
Commerce- Associate of Applied Business	346	Cybersecurity Management Minor	312
Communication Design Minor	229	D	
Communication Design- Bachelor of Fine Arts	208	Dance Minor	229
Communication Studies Minor	347	Data Analytics - Bachelor of Arts	108
Communication Studies- Bachelor of Arts in Applied Communication	325	Data Analytics Minor	175
Community Arts and Cultures - Bachelor of Arts	325	Data Intelligence through Information Technology Minor	348
Community Arts (CMA)	488	Data Science and Statistics- Bachelor of Science	110
Community-Based Leadership Minor	260	Deals Certificate	320
Comparative Media Studies (CMS)	488	Degree and Certificate Requirements	357
Comparative Religion Minor	172	Department of Architecture and Interior Design	200
Computer and Information Technology (CIT)	488	Department of Art	203
Computer and Information Technology- Associate in Applied Science	341	Department of Educational Leadership	238
		Department of Educational Psychology	240

Department of Emerging Technology in Business + Design	213	Energy Co-Major	115
Department of Family Science and Social Work	241	Engineering & Computing (CEC)	533
Department of Kinesiology, Nutrition, and Health	242	Engineering Management (EGM)	535
Department of Music	216	Engineering Management- Bachelor of Science in Engineering	281
Department of Sport Leadership and Management	245	Engineering Technology (ENT)	535
Department of Teaching, Curriculum, & Educational Inquiry	248	Engineering Technology- Associate in Applied Science	344
Department of Theatre	224	Engineering Technology- Bachelor of Science in Applied Science ...	327
Digital Commerce - Bachelor of Science in Commerce	327	English (ENG)	538
Digital Commerce Minor	349	English Literature Minor	175
Digital Innovation Minor	230	English Studies - Bachelor of Arts	332
Digital Marketing Minor	230	English Studies (EGS)	548
Diplomacy and Global Politics- Bachelor of Arts	112	English Studies Minor	349
Disability Studies (DST)	504	English- Master of Arts, M.A. in Teaching, Ph.D.	400
Disability Studies Minor	261	English:Creative Writing- Bachelor of Arts	116
E		English:Literature- Bachelor of Arts	117
East Asian Languages and Cultures- Bachelor of Arts	113	Entrepreneurship and Emerging Technology - Master of Entrepreneurship and Emerging Technology	402
Ecology Certificate	385	Entrepreneurship and Emerging Technology Certificate	401
Ecology, Evolution and Environmental Biology- Doctor of Philosophy	385	Entrepreneurship Co-Major	306
Economics (ECO)	505	Entrepreneurship (ESP)	549
Economics Minor	175	Entrepreneurship Minor	313
Economics Minor	313	Environmental Earth Science - Bachelor of Science	119
Economics- Bachelor of Arts	114	Environmental Engineering Minor	294
Economics- Master of Arts	385	Environmental Science - Master of Environmental Science	402
Education, Health and Society (EHS)	522	Environmental Science Co-Major	120
Education Studies - Bachelor of Science in Education Studies	239	Environmental Sciences (IES)	552
Education, Teacher Education- Master of Education, Master of Arts in Teaching	386	Esports Management - Master of Esports Management	404
Education, Teaching, and Learning Minor	261	Esports Management Certificate	404
Education- M.A., M.A.T., M.Ed., M.S., Specialist in Education, Ph.D., Ed.D.	386	Esports Management Undergraduate Certificate	236
Educational Leadership (EDL)	508	Ethics, Society, and Culture Minor	176
Educational Leadership- Master of Education, M.S., Ph.D., Ed.D.	396	F	
Educational Psychology (EDP)	515	Family Relationships Minor	262
Electrical & Computer Engineering (ECE)	522	Family Science and Social Work (FSW)	556
Electrical and Computer Engineering Technology- Associate in Applied Science	343	Farmer School of Business	300
Electrical and Computer Engineering- Master of Science	398	Fashion Co-Major	209
Electrical Engineering Minor	294	Fashion (FAS)	562
Electrical Engineering- Bachelor of Science in Engineering	280	Fashion Minor	230
Emerging Technology in Business + Design (IMS)	525	Fees and Expenses	71
Emerging Technology in Business and Design - Bachelor of Arts in Emerging Technology in Business and Design	213	Film Studies Co-major	122
Emerging Technology in Business and Design Minor	230	Film Studies (FST)	563
		Film Studies Minor	177
		Finance (FIN)	565

Finance Minor	313	Global Readiness Certificate	194
Finance- Bachelor of Science in Business	306	Grades	69
Financial Aid, Awards and Scholarships	73	Graduate Awards	724
Food Systems and Food Studies Co-Major	122	Graduate Awards and Other Financial Assistance for Graduate Students	78
Foreign Language Education- Master of Arts in Teaching	388	Graduate Fields of Study	361
Forensic Investigation Minor	349	Graduate School Community (GSC)	581
Fostering Just Communities Certificate	265	Greek Language and Literature (GRK)	581
Foundations of Business Analytics Certificate	320	H	
French Education- Bachelor of Science in Education	250	Health Behavior Minor	262
French (FRE)	567	Health Communication- Bachelor of Science in Applied Communication	333
French Minor	177	Health Information Technology- Bachelor of Science in Information Technology	334
French- Bachelor of Arts	123	Healthcare Sales Certificate	265
French- Master of Arts	405	Healthcare Sales Certificate	321
G		History (HST)	581
Games + Simulation - Bachelor of Science	216	History Minor	181
Games + Simulation Minor	231	History- Bachelor of Arts	127
General Course Information	433	History- Master of Arts	408
General Information	11	Honors (HON)	586
General Studies- Associate in Arts	346	Horticulture Minor	182
Geographic Information Science (GIS) Certificate	193	Hospitality Management - Bachelor of Science in Commerce	335
Geographic Information Sciences Certificate	406	Hospitality Management Minor	349
Geography and Sustainable Development- Bachelor of Arts	124	Human Capital Management and Leadership Minor	314
Geography (GEO)	569	Human Capital Management and Leadership- Bachelor of Science in Business	307
Geography Minor	178	Humanitarian Engineering and Computing Minor	295
Geography- Master of Arts	405	Humanities Center (HUM)	586
Geology (GLG)	572	I	
Geology Minor	178	Inclusive Special Education- Bachelor of Science in Education with Licensure	240
Geology- Bachelor of Science	125	Individualized Studies Minor	182
Geology- Master of Arts, Master of Science, Doctor of Philosophy ..	406	Individualized Studies- Bachelor of Arts	128
German Education- Bachelor of Science in Education	250	Information and Cybersecurity Management - Bachelor of Science in Business	307
German (GER)	575	Information Systems & Analytics (ISA)	587
German Minor	179	Information Systems Minor	314
German- Bachelor of Arts	126	Information Technology- Bachelor of Science in Information Technology	335
Gerontology (GTY)	577	Instructional Design and Educational Technology Certificate	409
Gerontology Minor	179	Instructional Design and Technology- Master of Arts, Master of Education	409
Gerontology- Master of Gerontological Studies, Doctor of Philosophy ..	406	Integrated English Language Arts Education- Bachelor of Science in Education	253
Global & Intercultural Studies (GIC)	580		
Global and Intercultural Studies Co-Major	126		
Global Health Minor	180		
Global Health Studies (GHS)	580		
Global Perspectives on Sustainability Minor	180		

Integrated English Language Arts Education- Master of Arts in Teaching	391	Liberal Studies- Bachelor of Arts/Bachelor of Science	337
Integrated Mathematics Education- Bachelor of Science in Education	254	Linguistics (LIN)	605
Integrated Mathematics Education- Master of Arts in Teaching	393	Linguistics Minor	184
Integrated Science Education - Bachelor of Science in Education ...	254	Linguistics- Bachelor of Arts	135
Integrated Social Studies Education- Bachelor of Science in Education	256	Literacy and Language- Master of Education	388
Integrated Social Studies Education- Master of Arts in Teaching	394	Luxembourg (LUX)	605
Integrative Studies (BIS)	590	M	
Integrative Studies- Bachelor of Integrative Studies	337	Management - Master of Science in Management	413
Interdisciplinary (IDS)	591	Management (MGT)	606
Interior Design - Bachelor of Fine Arts	203	Management Minor	316
International Business Minor	315	Manufacturing Foundations Certificate	350
International Studies (ITS)	591	Marketing Minor	316
International Studies- Bachelor of Arts in International Studies	128	Marketing (MKT)	608
Italian (ITL)	592	Marketing- Bachelor of Science in Business	308
Italian Minor	182	Mathematics and Statistics- Bachelor of Science	141
Italian Studies- Bachelor of Arts	132	Mathematics Minor	185
J		Mathematics (MTH)	610
Japanese (JPN)	593	Mathematics- Bachelor of Arts	137
Japanese Minor	183	Mathematics- Bachelor of Science	139
Journalism (JRN)	594	Mathematics- Master of Arts in Teaching, Master of Science	413
Journalism Minor	183	Mechanical & Manufacturing Engineering (MME)	615
Journalism- Bachelor of Arts	133	Mechanical Engineering Minor	296
K		Mechanical Engineering Technology- Associate in Applied Science .	345
Kinesiology, Nutrition, and Health - Master of Science in Kinesiology, Nutrition, and Health	411	Mechanical Engineering- Bachelor of Science in Engineering	284
Kinesiology, Nutrition, and Health (KNH)	596	Mechanical Engineering- Master of Science	414
Kinesiology- Bachelor of Science in Kinesiology, Nutrition, and Health	243	Media and Communication - Bachelor of Arts	143
Knowledge in Action	46	Media and Communication (MAC)	620
Korean (KOR)	602	Media, Journalism & Film Studies (MJF)	622
L		Medical Humanities Minor	185
Latin American Latino/a & Caribbean Studies Minor	183	Medical Laboratory Science- Bachelor of Science	144
Latin American, Latino/a & Caribbean Studies- Bachelor of Arts	134	Medical Science (MMS)	623
Latin American Studies (LAS)	603	Mental Health Intervention Graduate Certificate	415
Latin Education- Bachelor of Science in Education	251	Microbiology (MBI)	623
Latin Language & Literature (LAT)	604	Microbiology- Bachelor of Arts	145
Leadership Certificate	299	Microbiology- Bachelor of Science	146
Learning Sciences and Human Development - Master of Education	412	Microbiology- M.S., Ph.D.	415
Liberal Arts & Applied Science (CLA)	604	Middle Childhood Education- Bachelor of Science in Education	257
Liberal Education at Miami	37	Middle East, Jewish, and Islamic Studies Minor	186
Liberal Studies (LST)	604	Military Science (MSC)	626
		Minors	259
		Molecular Biology Minor	186
		Museums and Society Minor	231

Music Composition - Bachelor of Music	219	Political Science (POL)	660
Music Composition Minor	232	Political Science- Bachelor of Arts	150
Music Education- Bachelor of Music	220	Political Science- Master of Arts	422
Music in Culture Minor	232	Portuguese (POR)	666
Music (MUS)	627	Pre-Law Studies (PLW)	666
Music Performance - Master of Music	417	Prekindergarten Education- Associate in Applied Science	345
Music Performance Minor	232	Premedical and Pre-Health Studies Certificate	195
Music Performance- Bachelor of Music	223	Premedical and Pre-Health Studies Co-Major	151
Music Theatre Minor	233	Premedical Studies (PMD)	666
Music- Bachelor of Arts in Music	217	Primary Education PK-5 - Bachelor of Science in Education	258
N		Primary Special Education Minor with Licensure	263
Naval Science Minor	187	Process Control Minor	297
Naval Science (NSC)	642	Professional Writing- Bachelor of Arts	152
Neuroscience Co-Major	147	Psychological Science Minor	350
Neuroscience Minor	187	Psychological Science (PSS)	667
Nonprofit and Community Studies (NCS)	643	Psychological Science- Bachelor of Arts	340
Nursing (NSG)	644	Psychology (PSY)	667
Nursing, Nursing Practice - Master of Science in Nursing, Doctor of Nursing Practice	419	Psychology- Bachelor of Arts	154
Nursing- Bachelor of Science in Nursing	338	Psychology- Master of Arts, Doctor of Philosophy	423
Nutrition Minor	262	Public Administration- Bachelor of Arts	156
Nutrition- Bachelor of Science in Kinesiology, Nutrition, and Health	243	Public Health- Bachelor of Arts	157
O		Public Health- Bachelor of Science in Kinesiology, Nutrition, and Health	245
Organizational Leadership (ORG)	649	Q	
Organizational Leadership- Bachelor of Arts	148	Quantitative Economics- Bachelor of Science	158
Other Requirements	52	R	
P		Reading Endorsement Certificate	423
Paper Engineering Minor	296	Real Estate - Bachelor of Science in Business	309
Paper Science Minor	297	Real Estate Minor	317
Perspectives Areas	38	Regulatory Affairs Minor	297
Philosophy and Law Minor	188	Religion, Comparative (REL)	672
Philosophy (PHL)	650	Religion- Bachelor of Arts	158
Philosophy- Bachelor of Arts	149	Remote Teaching for K12 Certificate	265
Philosophy- Master of Arts	420	Resources	13
Photography Minor	233	Rhetoric/Writing Minor	189
Physician Associate Studies - Master of Medical Science	421	Robotics Engineering - Bachelor of Science in Engineering	286
Physician Associate Studies (PAS)	652	Russian, East European, and Eurasian Studies- Bachelor of Arts ...	159
Physics Minor	188	Russian Minor	189
Physics (PHY)	657	Russian (RUS)	674
Physics- Bachelor of Science	149	S	
Physics- Master of Science	421	Sales Management - Bachelor of Science in Commerce	341
Political Science Minor	188	Sales Management Minor	350

School Psychology- Master of Science, Specialist in Education	424	Statistical Methods Minor	191
Science Education Areas- Master of Arts in Teaching	395	Statistics - Master of Science in Statistics	430
Signature Inquiries	45	Statistics Minor	192
Small Business Management- Bachelor of Science in Commerce ...	341	Statistics (STA)	689
Smart Manufacturing Engineering - Bachelor of Science in Engineering	288	Strategic Communication (STC)	691
Social Entrepreneurship Certificate	321	Strategic Communication- Bachelor of Arts	163
Social Justice - Bachelor of Arts	160	Student Affairs in Higher Education- Master of Science	431
Social Justice Minor	190	Studio Art - Bachelor of Arts in Studio Art	210
Social Justice Studies (SJS)	675	Studio Art - Ceramics, Metals, Painting, Photography, Printmaking, and Sculpture- Bachelor of Fine Arts	211
Social Work - Master of Social Work	425	Studio Art Minor	234
Social Work- Bachelor of Science in Social Work	241	Supply Chain and Operations Management- Bachelor of Science in Business	309
Sociology Minor	190	Supply Chain Management Minor	317
Sociology (SOC)	676	Sustainability Co-Major	164
Sociology- Bachelor of Arts	160		
Software Engineering- Bachelor of Science in Software Engineering	290	T	
Spanish Education- Bachelor of Science in Education	252	Teaching, Curriculum, & Educational Inquiry (TCE)	693
Spanish Minor	191	Teaching English to Speakers of Other Languages (TESOL) Endorsement Certificate	266
Spanish (SPN)	679	Teaching English to Speakers of Other Languages (TESOL) Endorsement Graduate Certificate	431
Spanish- Bachelor of Arts	161	Teaching of Writing Certificate	431
Spanish- Master of Arts	426	Technical Study- Associate of Technical Study	347
Special Education Minor	263	The College of Arts and Science	88
Special Education- Master of Education	426	The Graduate School	352
Special Opportunities and Programs	81	Theatre - Bachelor of Arts in Theatre	224
Speech Pathology & Audiology (SPA)	682	Theatre Arts Minor	234
Speech Pathology and Audiology- Bachelor of Science	162	Theatre (THE)	702
Speech-Language Pathology - Master of Arts, Master of Science	427	Transfer Student Admission	30
Sport Analytics - Master of Sport Analytics	429	Transformative Education- Master of Education	388
Sport Analytics Certificate	266		
Sport Analytics Certificate	428	U	
Sport Analytics Minor	263	Undergraduate and Graduate Majors and Degrees	19
Sport Coaching - Bachelor of Science in Sport Leadership and Management	245	Undergraduate Certificate in Foundations of Analytics	321
Sport Communication and Media - Bachelor of Science in Sport Leadership and Management	246	University Studies (UNV)	705
Sport Leadership and Management - Master of Science in Sport Leadership and Management	429	Urban and Regional Analysis Minor	192
Sport Leadership and Management (SLM)	684	Urban and Regional Planning- Bachelor of Arts	165
Sport Management - Bachelor of Science in Sport Leadership and Management	247	Urban Design Minor	235
Sport Management Certificate	430		
Sport Management Minor	264	W	
Sport Psychology Certificate	430	Western Program (WST)	706
StartUp Entrepreneurship Certificate	321	Women's, Gender & Sexuality Studies (WGS)	706
		Women's, Gender, and Sexuality Studies Certificate	431
		Women's, Gender, and Sexuality Studies Minor	193
		Women's, Gender, and Sexuality Studies- Bachelor of Arts	166

Z

Zoology- Bachelor of Arts	167
Zoology- Bachelor of Science	167