The purpose of this bulletin is to provide information about CMU’s academic programs available in the 2016-17 academic year and information concerning admissions, academic regulations and requirements, services available to students, and CMU staff and faculty.

Students are responsible for ensuring that all requirements for graduation have been met. It is expected that students will regularly discuss their plans of study with academic advisors. Central Michigan University reserves the right to modify curricula, rules, policies, fees, program requirements, and courses offered and other information contained in this Bulletin at any time, without notice. The provisions of this bulletin do not constitute a contract, express or implied.

CMU, an AA/EQ institution, strongly and actively strives to increase diversity and provide equal opportunity within its community.

Tobacco-Free Policy: Central Michigan University (CMU) is committed to the health and wellness of its students, faculty, staff and visitors. The tobacco-free policy will ensure that every student, employee and visitor has a healthy living, learning, and working environment.
# Table of Contents

Welcome 3
General Information 5
Admission and Special Admission Considerations 26
Academic Information and Support 31
Registration 32
Financial Information 33
Scholarships and Financial Aid 39
General Academic Policies and Procedures 46
Degree Candidacy and Requirements 53
Requirements for Graduation 56
Departments and Programs 58
School of Accounting 58
Department of Art and Design 58
Department of Biology 58
School of Broadcast & Cinematic Arts 60
College of Business Administration (MBA) 63
Department of Business Information Systems 64
Department of Chemistry and Biochemistry 66
Department of Communication and Dramatic Arts 68
Department of Communication Disorders 69
Department of Computer Science 73
Department of Counseling and Special Education 74
Department of Earth & Atmospheric Sciences 77
Department of Economics 77
Department of Educational Leadership 78
School of Engineering & Technology 85
Department of English Language & Literature 86
Department of Finance and Law 90
Department of Foreign Languages, Literatures, and Cultures 90
Department of Geography 92
School of Health Sciences 93
Department of History 98
Department of Human Environmental Studies 102
Department of Journalism 105
Department of Management 106
Department of Marketing and Hospitality Services Administration 106
Department of Mathematics 106
College of Medicine 112
School of Music 114
Department of Philosophy & Religion 116
Department of Physical Education and Sport 116
Department of Physics 117
Department of Political Science and Public Administration 118
Department of Psychology 122
Department of Recreation, Parks, and Leisure Services Administration 130
School of Rehabilitation and Medical Sciences 130
Department of Sociology, Anthropology, and Social Work 133
Department of Teacher Education and Professional Development 133
Interdepartmental and Interdisciplinary Degrees 138
Master of Arts in Education 138
Master of Science in Administration 140
MSA Graduate Certificates 147
Master of Arts in Cultural Resource Management 151
Certificate in Cultural Resource Management 152
Master of Arts in Humanities 153
Neuroscience (M.A. and Ph.D.) 154
Certificate in Data Mining 156
Master of Arts in Teaching Integrated Science 156
Ph.D. in Earth and Ecosystem Science 157
Ph.D. in the Science of Advanced Materials 159
Course Descriptions 160
Appendix I - Code of Student Rights, Responsibilities and Disciplinary Procedures 218
Appendix II – Policy on Academic Integrity 226
Appendix III - Standards Leading to Teaching Certification 230
Index 232

See the Index for Specific Topics
Welcome to Central Michigan University

From the President...

It is my honor to welcome you to Central Michigan University.

From the day you begin at CMU, our sole focus is to prepare you to succeed in your professional and personal lives. You will discover our commitment when you take advantage of the countless educational opportunities available for you here. We'll support you on your personal path to learning as you gain real-world leadership experiences and develop career-related skills.

Founded in 1892, CMU continues its mission to help students learn both inside the classroom and beyond, through student organizations, internships and volunteer programs, to name just a few.

We demonstrate educational excellence in many ways. Our $95 million Biosciences Building, for example, is the largest construction project in CMU history and will open for classes in January 2017. This facility and its programs will address escalating student demand and deliver state-of-the-art education and research.

There are many areas for which CMU is a nationally recognized leader, thanks to the efforts of faculty and students like you. Central sales students have been No. 1 in the United States three years running, its fashion merchandising and design program is ranked in the top 25 nationally, our undergraduate neuroscience program has been named best in the country, and Ford Motor Co. executives have recognized CMU as one of 20 premier recruiting universities worldwide.

No matter which academic programs you pursue, you will learn from accomplished professors who are dedicated to your success. You will gain the skills and knowledge you need to take your next steps, and whichever path you choose, you will join the proud network of more than 212,000 CMU alumni worldwide.

Education has the power to transform lives, communities, nations and the world. On behalf of the entire university family, I welcome you to CMU and am excited to see how you will put your stamp on the world.

George E. Ross, Ph.D.
President
From Graduate Studies and Enrollment & Student Services...

We would like to welcome new and returning graduate students to Central Michigan University and encourage potential students to consider one of our many outstanding programs at the graduate certificate, master and doctoral levels.

An advanced degree is increasingly required for jobs that lead to professionally and financially rewarding careers. CMU is classified by the Carnegie Foundation as a doctoral research university and is one of America’s 100 largest universities. Located in the classic college town of Mount Pleasant, CMU offers a friendly, safe and accessible campus.

Almost every academic department in CMU’s seven colleges offers at least one M.S. degree in addition to interdisciplinary programs. Ph.D. degrees include Educational Leadership, Earth and Ecosystem Science, Mathematics, Science of Advanced Materials, History, and several degrees in Psychology. Professional degrees include a Master in Professional or School Counseling, Business Administration, and Nutrition, as well as doctorates in Audiology, Physical Therapy and Medicine.

In addition to our on-campus programs, CMU serves students across the U.S. and around the world, either online or at one of more than 45 off-campus locations. This includes our most popular program, the Master of Science in Administration, with concentrations such as Engineering Management, Human Resources Administration and Public Administration.

Beyond the classroom, the CMU experience includes hands-on research opportunities, outdoor recreation, 18 Division I sports teams that have won 40 Mid-American Conference championships in the past decade, and nearly 400 student organizations.

As you use this Graduate Studies Bulletin to explore all the details related to graduate school, please know that help is only a phone call or e-mail away. From our offices, to the graduate coordinator of your program, to your faculty thesis-supervisor for research-based programs, we’re here to support you.

Thank you for choosing CMU. Our senior administration, graduate staff and, most importantly, hundreds of outstanding faculty members are dedicated to guiding you through this stage of your education. In return, you’ll take away a valuable graduate degree and lasting, fond memories of your experience as a Chippewa.

David E. Ash
Interim Vice President for Research
and Dean of Graduate Studies

Steven L. Johnson
Vice President for Enrollment
and Student Services
Board of Trustees

Mr. John D. Hurd, Petoskey
Mr. William R. Kanine, Petoskey
Ms. Tricia A. Keith, Royal Oak
Ms. Patricia E. Mooradian, Bloomfield Hills
Ms. Sarah R. Opperman, Midland
Mr. Richard K. Studley, Grand Ledge
Mr. Robert F. Wardrop II, Grand Rapids
Mr. William H. Weideman, Midland

Term Expires
December 31, 2016

2018
2020
2018
2016
2022
2022
2020

Administration 2016

George E. Ross (2002)* President; B.A., M.B.A., Michigan State University; Ph.D., University of Alabama
David E. Ash (2005) Interim Vice President for Research and Dean of Graduate Studies, B.S., Pennsylvania State University; Ph.D., University of Pennsylvania
Raymond L. Christie (1998) Senior Vice Provost for Academic Administration; B.A., Saginaw Valley State University; M.B.A., Central Michigan University; Ph.D., Georgia State University
Roger L. Coles (1973) Interim Associate Vice Provost for Community Engagement; B.A., Western Washington State College; M.A., Ed.S., Central Michigan University; Ed.D., Columbia Pacific University
Charles T. Crespy (2010) Dean, College of Business Administration; B.S., M.A., M.B.A., Ph.D., University of New Mexico
Ian R. Davison (2008) Dean, College of Science and Engineering; B.Sc., University of London; Ph.D., University of Dundee
Claudia B. Douglass (1976) Vice Provost for Academic Effectiveness; B.S., M.A.T., Indiana University; Ph.D., Purdue University
Carolyn M. Dunn (2014) Associate Vice President/Institutional Diversity and Inclusion; B.A., Humboldt State University; M.A., University of California - Los Angeles; Ph.D., University of Southern California
Pamela S. Gates (1987) Dean, College of Humanities and Social and Behavioral Sciences; B.S., M.A., Central Michigan University; Ph.D., Michigan State University
Michael A. Gealt (2013) Executive Vice President/Provost, B.A., Temple University; Ph.D., Rutgers University
David Wood Heeke Jr. (2006) Associate Vice President/Director Of Athletics; B.A., Albion College; M.A., Ohio State University
Lori L. Hella (1996) Associate Vice President/Human Resources; B.A., Alma College; M.S.A., Central Michigan University
Janet Hethorn (2015) Dean, College of Communication and Fine Arts; B.A, B.A.Ed., Central Washington University; Ph.D., University of Minnesota
Mary Moran Hill (1986) Associate Vice President/Financial Services & Reporting/Controller; BSBA, Central Michigan University
Kathy M. Irwin (2013) Interim Dean/Libraries, Libraries - Dean's Office; B.S.Ed., Concordia College; M.S.I.S., Wayne State University; M.P.A., University Of Michigan-Dearborn
Steven L. Johnson (2012) Vice President for Enrollment and Student Services; A.B., Davenport University; B.B.A., Davenport University; M.A., Eastern Michigan University
George Kikano (2015) Dean, College of Medicine; B.S., American University of Beirut; M.D., American University of Beirut
Sherry S. Knight (2012) Associate Vice President of University Communications; B.A., Central Michigan University
Robert K. Martin (2016) Vice President for University Advancement; B.A., Lipscomb University; M.A., St. Mary's University of Minnesota
Thomas J. Masterson, Jr. (1999) Dean/Health Professions, The H.H. & G.A. Dow College Of Health Professions; B.A., University Of Wisconsin At Madison; M.A., University Of Wisconsin At Madison; Ph.D., University Of Wisconsin At Madison
Dale-Elizabeth Pehrsson (2012) Dean, College of Education and Human Services; B.S., University of the State of New York; M.Coun., Ed.D., Idaho State University
Roger E. Rehm (1975) Vice President/Technology/CIO; B.M., M.M., Cleveland Institute of Music
Peter G. Ross (1991) Vice Provost/Academic Development; B.A., Polytechnic Of Wales; M.S., Southern Illinois University At Carbondale; Ph.D., Southern Illinois University At Carbondale
Manuel R. Rupe (2009) Vice President and General Counsel; B.A, Kalamazoo College; J.D., DePaul University; Ph.D., Western Michigan University
Anthony A. Voisin (1985) Associate Vice President for Student Affairs; B.A.A., M.A., Central Michigan University
Kathleen M. Wilbur (2002) Vice President for Development and External Relations; B.A., Michigan State University, M.A., Michigan State University
Barrie J. Wilkes (1992) Vice President for Finance and Administrative Services; B.A., Michigan State University

*The year in parentheses indicates the date first employed by the university.
Accreditation and Assessment

Accreditations

Regional accreditation has been granted to more than 2,500 higher education institutions throughout the United States. This accreditation must be awarded by one of six organizations, each focusing on a specific region of the country. Accreditation is recognized by the United States Department of Education and federal financial aid is available to students attending schools that are accredited.

Central Michigan University was first accredited in 1915 by the North Central Association of Colleges and Schools (NCA) as Central State Teachers College and has been accredited since, with the exception of 1922-23. NCA accredited the first master’s program in 1957 and approved the offering of doctoral programs in 1992. The last comprehensive evaluation took place in 2005-2006, at which time CMU was reaccredited for 10 years. The current accrediting body is now known as The Higher Learning Commission (HLC) and is located at 230 South LaSalle Street, Suite 7-500, Chicago, IL 60604-1411; www.hlcommission.org

A number of CMU programs have been reviewed and accredited by one or more specialized accrediting organizations. The teacher education programs are accredited by the Teacher Education Accreditation Council (TEAC). CMU’s health education programs leading to certification are also approved by the National Commission for the Accreditation of Health Education Programs (NCAHEP). The College of Business Administration is accredited by the AACSB International - The Association to Advance Collegiate Schools of Business. This accreditation covers all undergraduate and master’s degree programs in business offered by the College. AACSB International is the premier accrediting agency and service organization for business schools.

Other programs hold national accreditation by one or more of the following organizations: Commission on Accreditation of Athletic Training Education; Council on Academic Accreditation in Audiology and Speech-Language Pathology; American Chemical Society; Engineering Accreditation Commission of Accreditation Board for Engineering & Technology (ABET) (http://www.abet.org); National Environmental Health Science and Protection Accreditation Council (EHAC); National Council on Family Relations; Association of University Programs in Health Administration; Council for Interior Design Accreditation; Accrediting Council of Education in Journalism and Mass Communication; Liaison Committee on Medical Education; National Association of Schools of Music; Accreditation Council for Education in Nutrition and Dietetics; Council on Accreditation of Parks, Recreation, Tourism, and Related Professions; Commission on Accreditation in Physical Therapy Education; Accreditation Review Commission on Education for the Physician Assistant, Inc. (see the Graduate Studies Bulletin regarding this accreditation); American Psychological Association; National Association of School Psychologists; Network of Schools of Public Policy, Affairs and Administration; Council on Social Work Education; Commission on Sport Management Accreditation; Association of Technology, Management and Applied Engineering. The National Association for the Education of Young Children (NAEYC) accredits CMU’s Human Growth and Development Pre-School lab.

CMU is also on the approved list of the American Association of University Women of Michigan.

Individuals who wish to review the accreditation documents should contact the office of Academic Effectiveness. Further information regarding specific program accreditation status is located at: https://www.cmich.edu/office_provost/AcademicAffairs/Accreditation/.

Student Learning Outcomes Assessment

To assure that Central Michigan University’s programs are strong and that students in them are attaining appropriate levels of knowledge, skills, beliefs and attitudes, the faculty and staff of Central Michigan University have developed ongoing processes to assess the learning and academic achievement of students in academic programs. Through this process, faculty carefully articulate program goals and learning outcomes while focusing experiences and assignments to prepare students to achieve those outcomes. An assessment plan is developed to measure progress toward the student learning outcomes, data are collected, and annual reports are developed and discussed by department faculty, chairs, and deans. An action plan is designed to drive program improvement.

Students participate in a wide range of assessment activities designed to provide useful information about the effectiveness of academic programs. From time to time during their courses of study, CMU students may be asked to demonstrate the breadth and depth of their knowledge, skill, beliefs and attitudes. We ask alumni their views about programs and their careers since graduation with regard to how well CMU’s programs have met their needs. In addition, we ask employers what qualities they desire and expect of CMU’s graduates. These efforts all combine to improve student learning and program quality and form the basis of our culture of continuous improvement in support of CMU’s commitment to excellence.

Questions related to Psychology programs’ accredited status should be directed to:
Commission on Accreditation;
Office of Program Consultation and Accreditation
American Psychological Association
750 First Street, NE, Washington, DC 20002
Phone: 202-336-5979
E-mail: apaaccred@apa.org
Web: www.apa.org/ed/accreditation
### Summer Sessions

**First Session (Six Weeks)**
- Classes Begin: May 16, May 15, May 14
- Registration - Drop/Add Ends: May 17, May 16, May 15
- Memorial Day Recess: May 30, May 29, May 28
- Classes End: June 23, June 22, June 21

**Second Session (Six Weeks)**
- Classes Begin: June 27, June 26, June 25
- Independence Day Recess: July 4, July 4, July 4
- Classes End: Aug. 4, Aug. 3, Aug. 2

### Fall Semester

- Classes Begin: Aug. 29, Aug. 28, Aug. 27
- Registration - Drop/Add Ends: Sept. 2, Sept. 1, Aug. 31
- Labor Day Recess: Sept. 5, Sept. 4, Sept. 3
- Thanksgiving Recess: Nov. 23-28, Nov. 22-27, Nov. 21-26
- 5:00 p.m. Wed - 8:00 a.m. Mon.
- Classes End: Dec. 10, Dec. 9, Dec. 8
- Semester Ends: Dec. 17, Dec. 16, Dec. 15
- Commencement: Dec. 17, Dec. 16, Dec. 15

### Spring Semester

- Classes Begin: Jan. 9, Jan. 8, Jan. 7
- Registration - Drop/Add Ends: Jan. 13, Jan. 12, Jan. 11
- Martin Luther King Jr. Day (no classes): Jan. 16, Jan. 15, Jan. 21
- Spring Recess: March 4-13, March 3-12, March 2-11
- 1:00 p.m. Sat - 8:00 a.m. Mon.
- No Classes: March 30-31, April 5-6, April 4-5
- Classes End: April 29, April 28, April 27
- Examination Week: May 1-5, April 30-May 4, April 29-May 3
- Semester Ends: May 6, May 5, May 4
- Commencement: May 6, May 5, May 4

See [www.cmich.edu/registrar_office/RegistrarCalendars](http://www.cmich.edu/registrar_office/RegistrarCalendars) for updates to the calendar.
Central Michigan University is in its second century as an institution of higher learning focused on creating a caring and engaging environment for students to achieve success.

Central opened its doors on September 13, 1892, as the Central Michigan Normal School and Business Institute, with classes in teaching, business and stenography. At that time, few of the state's teachers received any formal training in teaching, so school founders made teacher training their mission in founding the state's second normal school.

Thirty-one students attended classes in second-floor rooms over an office on the corner of Main and Michigan streets in downtown Mount Pleasant. Most students at the time were eighth-grade graduates, attending the “Normal” for a few weeks or months prior to beginning their careers as teachers. Within the first two years, land was acquired and a $10,000 Normal School Building was constructed where Warriner Hall now stands.

In 1895, the Michigan State Board of Education assumed control of the school, which had grown to 135 students, renaming it Central Michigan Normal School. By 1918, the campus consisted of twenty-five acres with five buildings, one of which — Grawn Hall — is still in use, though substantially remodeled. Enrollment had more than tripled in ten years to 450 students. In 1925, a fire destroyed the school’s main building, and Warriner Hall was built to replace it.

Throughout this time, Central’s educational offerings also were growing more comprehensive. Students completing two years of schooling beyond high school began receiving their life teaching certificates in 1903. The school was accredited by the North Central Association for the first time in 1915. In 1918, the Bachelor of Arts degree was first awarded, followed by the Bachelor of Science in 1927. Central’s first graduate courses were offered in 1938.

Prior to World War II, the school’s name changed again — first to Central State Teachers College, then to Central Michigan College of Education — while enrollment rose to more than 1,800 students.

In the post-war years of 1949-59, the first large student residence halls were built, and Central’s first master’s degree was accredited by the North Central Association.

In September 2014, CMU broke ground for its four-story, 169,000-square-foot Biosciences Building. This $95 million facility is the largest capital project in CMU’s 120-plus year history. It will address escalating student demand and dramatically improve the quality and quantity of instructional learning and scientific research space. Forty research-active faculty members will be housed in the facility as well as classrooms and laboratories. Students will start taking classes in the new building beginning in January 2017.

And even though so much has changed over the last two centuries, Central Michigan University’s values today do not stray from those inscribed upon its seal in 1892: Sapientia, Virtus, Amicitia — wisdom, virtue, and friendship.
Central Michigan University is among the nation’s 100 largest public universities, with more than 19,000 students on its Mount Pleasant campus. CMU also has nearly 9,000 students enrolled online and at more than 50 locations across North America, including 16 centers and sites across the state of Michigan.

CMU offers academic programs at the undergraduate, master’s, specialist and doctoral levels, including nationally recognized programs in entrepreneurship, journalism, music, audiology, teacher education, psychology and physician assistant medical and health sciences. CMU also established a College of Medicine in 2012, which has already been recognized across the nation for its life sciences program and prime location.

With accomplished professors, there are countless opportunities for students to engage in applied research in world-class facilities. CMU is committed to providing students with a superior learning environment and global perspective to compete in an increasingly complex world.

CMU’s impact and influence extend far beyond its main campus into the state, nation and world.

• CMU has been nationally recognized for its Leadership Institute and academic minor in leadership, the first one to be offered by a Michigan university.
• The award-winning Honors Program administers the prestigious Centralis Scholarship Program and oversees approximately two hundred faculty-mentored honors undergraduate research projects annually.
• CMU ranks 14th in the country for the number of Native Americans earning baccalaureate degrees and 15th for the number of African Americans earning graduate and professional degrees.
• Thousands of students work through the Mary Ellen Brandell Volunteer Center to help others locally, nationally and around the world with nearly 70 percent of students volunteering each year. CMU ranks third in the nation for number of Alternative Breaks trips taken for number of participants, according to Break Away’s 14-15 National Chapter Survey.
• The 2015 Leadership Safari program, a five-day leadership experience for new students, had a total of 2,002 participants. Student staff volunteers numbered 271.
• CMU is the nation’s foremost university authorizer of charter public schools, with 62 schools educating more than 30,000 students in grades K-12.
• CMU’s academic residential halls enhance learning and community in business, education and human services, health professions, science and engineering, music, honors, leadership and public service.
• Thirty new academic, athletic and residential buildings have been built on CMU’s campus in the last 14 years, including the College of Medicine Building, which opened in September 2012; the Graduate Housing Apartments, which opened in July 2013; and the Biosciences building, which is under construction.
• CMU is classified by the Carnegie Foundation for the Advancement of Teaching as a Doctoral Research University and currently provides more than 70 graduate programs at the master’s, specialist, and doctoral levels. CMU also provides 10 Accelerated Master’s Degree Programs, which allow undergraduate students at CMU to reduce the total number of credits required to complete their undergraduate and graduate degrees by applying up to 12 credit hours at the 500-600 level toward graduation requirements of both degree programs.
• CMU is ranked in the top-25 in the U.S. News’ best online MBA programs for veterans.

Cutting-edge Student Research
Students have helped conduct cutting-edge research in Parkinson’s and Alzheimer’s diseases, the creation of biofuels and longer-lasting batteries, and developing improved methods of water purification. In addition, through the university’s Institute for Great Lakes Research, CMU researchers acquired the only unmanned helicopter in Michigan equipped with a hyperspectral camera to advance research imaging of Great Lakes wetlands – the world’s largest group of freshwater lakes.

Culture, Community, Resources
CMU is located in Mount Pleasant, Michigan, a classic college town at the heart of central lower Michigan. Mount Pleasant serves as the county seat for Isabella County and is home to 26,000 of the county’s more than 70,000 people and growing. Mount Pleasant offers a blend of natural features, family attractions and small-town life complemented by university culture. Friends, family members, siblings and visitors are always welcome to come explore CMU’s park-like campus or to attend plays, concerts, speeches, athletic events, library exhibits, summer camps and much more. Features include:

Culture and Entertainment. University Theatre, University Events, the School of Music and the student-run Program Board offer year-round world-class plays, entertainment and other exciting activities. With more than 94,000 square feet of available space, the Events Center serves the cultural and entertainment needs of the campus and community, hosting a wide variety of events, from commencement to concerts and speaking engagements to business expos.

Athletics. Central Michigan University competes in 7 men’s and 11 women’s sports. CMU’s NCAA Division I student-athletes are accomplished both on the field and in the classroom. CMU has won more than 80 MAC championships in 15 different sports and the football program has participated in a postseason bowl game seven of the past ten years. The Chippewas won the league’s top award, the Cartwright Award for overall program excellence, in 2009 and 2015. CMU’s soccer and field hockey programs have had unprecedented success in the classroom as both squads have posted the nation’s highest GPA among all NCAA Division I programs in the past few seasons.

Charles V. Park Library. Central Michigan University library houses more than one million print volumes on 33 miles of electronically movable shelving, but it doesn’t take a personal visit to acquire these resources. The library’s Global Campus Library Services is a well-established model of extended electronic access for higher education. The Clarke Historical Library, located along the main corridor of the library, regularly displays items from its extensive list of historical holdings.

Tours of campus are available weekdays and many Saturdays and are arranged through the Admissions Office. Call 989-774-3076 or 888-292-5366.
Mission, Vision, Values, and Priorities

Vision Statement
Central Michigan University, an inclusive community of scholars, is a national leader in higher education inspiring excellence and innovation.
Adopted by the Board of Trustees, December 6, 2012

Mission Statement
At Central Michigan University, we are a community committed to the pursuit of knowledge, wisdom, discovery, and creativity. We provide student-centered education and foster personal and intellectual growth to prepare students for productive careers, meaningful lives, and responsible citizenship in a global society.
Adopted by the Board of Trustees, December 2, 2010

Core Values
To achieve our mission, we adhere to the core values of integrity, respect, compassion, inclusiveness, social responsibility, excellence, and innovation.
Adopted by the Board of Trustees, December 2, 2010

Definition of Mission Statement Core Values
- **Integrity**: A steadfast adherence to the principles of honesty, trustworthiness, reliability, transparency, and accountability.
- **Respect**: Consideration of the rights, opinions, and ideas of others in a civil, fair, and thoughtful manner.
- **Compassion**: Empathy, concern and support for the needs and challenges of others.
- **Inclusiveness**: Conducting the activities of the university in a way that embraces shared governance, inspires tolerance, and welcomes diversity into our community.
- **Social Responsibility**: Fostering citizenship to promote the public good, environmental sustainability, global understanding, and informed political engagement.
- **Excellence**: Expectation that all activities are conducted with attention to quality and the highest levels of academic and professional standards.
- **Innovation**: Supporting progressive and meaningful research, creative activity, and teaching. Addressing challenges and issues from multiple perspectives to solve problems and advance knowledge.

Strategic Priorities

**Priority 1: Student Success**
Challenge our students to develop the knowledge, skills, and values to be successful and contributing global citizens.

**Priority 2: Research and Creative Activity**
Promote excellence in research and creative activities.

**Priority 3: Quality Faculty and Staff**
Foster a vibrant, innovative, intellectual community of high quality faculty and staff who value inclusiveness, diversity, shared governance, and respect.

**Priority 4: Community Partnerships**
Develop and strengthen learning experiences through collaboration with local, national, and global partners to enhance cultural awareness, the natural environment, health and wellness, and local economies.

**Priority 5: Infrastructure Stewardship**
Align university resources and infrastructures to support the university’s mission and vision.
Adopted by the Board of Trustees, December 6, 2012

The Enduring Philosophy
In its more than 120 years as an institution of higher learning, Central Michigan University has supported a liberal arts education as the common base for all degree programs. In the words of a founder, “Education in its best and truest sense is a much larger thing than any or even all of the so-called practical uses that may be made of it. Accordingly...the school shall stand squarely and strongly for the larger idea, that education is a rightful heritage of the human soul... Breadth and liberality of scope will always prove the better investment in the long run.”
Academic Overview

**Doctoral Degrees**
- Audiology (Au.D.)
- Earth and Ecosystem Science
- Education: Educational Leadership (Ed.D.)
- Educational Leadership
- Educational Technology
- Health Administration* (D.H.A.)
- History
- Mathematical Sciences
- Medicine (M.D.)
- Neuroscience
- Physical Therapy (D.P.T.)
- Psychology, Applied Experimental
- Psychology, Clinical
- Psychology, Industrial/Organizational
- Psychology, School
- Science of Advanced Materials

**Specialist’s Degrees**
- Education: General Educational Administration
- Psychological Services: School Psychology

**Master's Degrees**
- Administration (M.S.A.)
- Apparel Product Development and Merchandising Technology
- Applied Statistics and Analytics
- Biology
- Broadcast and Cinematic Arts
- Business Administration (M.B.A.)
- Chemistry
- Chemistry, Teaching College
- Communication
- Computer Science
- Counseling
- Cultural Resource Management
- Early Childhood Education
- Economics
- Education*
- Educational Leadership
- Educational Technology
- Engineering
- English Language and Literature
- English Composition and Communication
- Exercise Physiology
- Geographic Information Sciences
- Health Administration (M.H.A.)
- Higher Education Administration
- History
- History, Joint
- Humanities
- Information Systems
- Integrated Science, Teaching (M.A.T.)
- Mathematics
- Music (MM)
- Neuroscience
- Nutrition & Dietetics
- Physician Assistant
- Physics
- Political Science
- Psychology, Experimental

**Specialty Programs**
- Psychology, Industrial/Organizational
- Public Administration (M.P.A.)
- Public Health (M.P.H.)
- Reading and Literacy (K-12)
- Spanish
- Special Education: The Master Teacher
- Speech-Language Pathology
- Sport Administration
- Teaching English to Speakers of Other Languages (TESOL)

**Accelerated Degrees (Bachelor's and Master's)**
- See page 28 for more information.
- Administration (MSA - Any Concentration)*
- Apparel Product Development and Merchandising Technology
- Applied Statistics and Analytics
- Business Administration (MBA) - Accounting Emphasis
- Computer Science
- Economics
- Engineering
- Geographic Information Sciences
- Higher Education Administration
- History
- Mathematics
- Political Science
- Psychology, Experimental
- Spanish

**Graduate Certificates**
- Acquisitions Administration
- Actuarial Science
- Citizen Engagement
- College Teaching
- Cultural Resource Management
- Cybersecurity*
- Data Mining
- Educational Technology
- Engineering Management*
- Enterprise Systems*
- European History
- General Administration
- Health Services Administration
- Health Systems Leadership
- Human Resources Administration
- Information Resource Management
- International Administration
- International Health
- Leadership
- Logistics Management*
- Modern History
- Nutrition and Dietetics
- Philanthropy and Fund Raising
- Professional Development in Public Administration
- Public Administration
- Recreation and Park Administration
- Research Administration
- Training and Development
- United States History

*Many graduate programs listed here are also offered online or at Global Campus locations. See [http://global.cmich.edu](http://global.cmich.edu). Programs with an asterisk are only offered through Global Campus.
General Information

College of Graduate Studies

The College of Graduate Studies

The College of Graduate Studies is the primary administrative unit for graduate students enrolled at CMU. On a daily basis, the College of Graduate Studies and Graduate Student Services handles all types of issues affecting graduate students, from admission through the awarding of graduate certificates and degrees.

The Office of Research and Graduate Studies is the academic authority for the College of Graduate Studies. Working in partnership with CMU’s six other colleges, the Vice President for Research and Dean of Graduate Studies works to ensure the highest academic quality in all graduate programs, promotes and supports graduate student research and creative endeavors, as well as a myriad of other efforts to support the academic mission of the College of Graduate Studies and Central Michigan University.

Graduate Student Services assists prospective, new, and current graduate students throughout their graduate career at CMU. Whether you are applying for admission, applying for graduation or somewhere in between, Graduate Student Services is here to assist and support your educational endeavors.

The staff of the College of Graduate Studies is here for you. If you have questions of an academic nature, we encourage you to contact your academic program, or the Office of Research and Graduate Studies. If you have general questions about graduate education at CMU, your application, or graduation, please contact the Graduate Student Services office. However, any of our staff in the College of Graduate Studies are happy to be of assistance.

Contact information:
College of Graduate Studies
Central Michigan University
Mount Pleasant, Michigan 48859
www.grad.cmich.edu
grad@cmich.edu

Office of Research and Graduate Studies
Foust 251
989-774-6777

Graduate Student Services
Ronan 260
989-774-4723

Campus Visits

Graduate Studies welcomes visits from prospective students and their families to Mount Pleasant and the CMU community. Graduate Student Services can provide campus maps and information. Students should contact the academic departments before their visit and set up appointments to meet with faculty members, department chairs, or graduate coordinators.

If you arrive by car, stop first at CMU Parking Services located in the CMU Police office in the Combined Services Building on East Campus Drive (between Broomfield and Preston streets), for assistance with visitor parking.

Using this Bulletin

Take time to carefully read the general and academic information sections of this 2016-2017 Graduate Studies Bulletin. These explain university policies and procedures that govern your academic degree and you are expected to know. This section also describes services and programs available to you. To find the department in your area of interest, consult the Index of this Bulletin. Each departmental description begins with the chairperson’s office address and telephone number.
Global Campus

Peter Ross, Vice Provost/Academic Development
989-774-4456; e-mail: cmuglobal@cmich.edu;
Website: global.cmich.com

A major goal of Central Michigan University is to provide academic programs for students whose career or personal circumstances limit their access to traditional forms of higher education. Global Campus was established in 1971 to help meet that goal.

Global Campus uses flexible scheduling, compressed class formats and a sophisticated and comprehensive network of program centers in nearly 20 states and in Canada and Mexico to offer graduate and undergraduate degree programs to thousands of adult students each year.

Global Campus combines the university's high academic standards with innovative teaching technologies and strategies. Global Campus is prepared to:

1. Translate career and other forms of prior learning into academic credit.
2. Provide flexible instructional, curricular and scheduling patterns.
3. Tailor programs through individualized advising.
4. Provide for wide use of internships, independent study, and other forms of individualized study.
5. Utilize various distance education media.

In addition to complete degree programs, students may also earn credit for individual courses offered off campus each semester at locations across Michigan and online. Many of the courses are designed to assist professionals in meeting certification regulations, to provide credit-bearing in-service opportunities, and to offer convenience to working adults who want to take courses toward various campus degree programs. The schedule for CMU Online courses has been combined with the schedules of educational opportunities at the various off-campus sites in Michigan and together they provide enrollment, registration, advising, and other pertinent information for Global Campus students.

Curricular Offerings

Academic programs available through Global Campus provide a wide range of educational experiences necessary for the attainment of undergraduate degrees, graduate degrees, certificates, and doctorate degrees.

Prior Learning Assessment Program

The Prior Learning Assessment Program provides academic recognition of college-level skills and knowledge acquired outside the formal college classroom. Credit may be earned for learning acquired through career and personal experiences in job-related activities, in community participation, or from training experiences through related on-the-job instruction or special schools.

Students who apply for Prior Learning credits submit a comprehensive portfolio which describes and documents their learning experiences. Evaluation is dependent on performance criteria established by a team of university faculty members.

Students who earn credit through the Prior Learning Assessment Program must complete five (5) semester hours of credit from CMU before the prior learning credits will be recorded on their transcripts. On-campus undergraduate students may also apply for Prior Learning Assessment Credit.

Planned Experiences

Planned experiences, available to undergraduate students, provide an individualized learning experience which synthesizes the theoretical and practical in one learning context. The planned experience is a student-formulated project on an approved topic (or topics) in the student's area of study. The project integrates experience with principles and theories in the field. Projects are formulated with the assistance of an advisor, and both the proposal and the final form are reviewed by the Undergraduate Extended Degree Programs Council.

CMU Online Courses

Online course delivery provides each student with a virtual classroom where lectures, multimedia study materials and class discussion are all provided using the latest technology, over the Internet. Interactive online tools offer students the opportunity to connect with faculty and peers to discuss course content in cyberspace. Online courses still have specific start and end dates and assignment/exam due dates. Careful review of the course syllabus prior to the enrollment of a course will provide these dates. Questions regarding online courses should be directed to staff at cmuonline@cmich.edu or 989-774-1129. See Online Courses in the Index for more information.

Online Learning Environment

To ensure success in online classes, CMU encourages students to familiarize themselves with the online learning environment prior to enrolling in CMU Online courses. Preview a sample online class, run a diagnostics check on your computer and take the Online Learning Assessment on our website at: http://global.cmich.edu/cmuonline/assessment./

Drop and Withdrawal Policy for Online Courses

All CMU Online courses start on a Monday and end on a Friday. Students are encouraged to frequently and consistently log into their online course, ideally every day. Tuition refunds requested prior to the start date of the course shall be made in full. The start time for CMU Online courses is 12:01 a.m. on the first day of class. Drop/withdrawal requests received after that will be assessed a $50 fee. Each new week for an online class begins on Monday at 12:01 a.m. and ends on the following Sunday at 12:00 midnight. The amount of tuition refunded is based on the week the request is received within. Holidays do not have any effect on this definition of a week. Students may not withdraw after the midpoint of the course.

Students who cease/fail to attend (virtual or otherwise) and have not formally withdrawn from the course will receive a grade of “E.” A charge-back for financial aid may be incurred based on student’s last date of academic participation in the class. See Scholarships and Financial Aid section of this Bulletin for additional information.
Faculty and Advisors

The distinctive character of flexible offerings and course scheduling by Global Campus attracts recognized leaders in a number of fields who serve as instructors and advisors. Instruction is provided by university faculty and by faculty drawn from universities throughout the nation. Instructors are also selected from the executive ranks of government, business and industry and are individually appointed on a contract basis for each class.

In addition to its full-time advising staff, Global Campus specially selects academic advisors from its pool of qualified instructors, all of whom are approved to teach based on the same rigorous standards applied to campus faculty. Academic advisors are official representatives of the university. Advisors work closely with students to create an individual program plan each student must use as a guide to attain his or her academic goals.

Library Services

Global Campus makes the extensive CMU libraries’ resources available to students and faculties through its Global Campus Library Services (GCLS) Program.

GCLS is staffed with professional librarians, support staff and student assistants who work closely with Global Campus students and faculty to meet their information needs. GCLS librarians provide reference assistance including direction to appropriate materials for course research assignments; explanation of the use of library print materials and electronic databases and answers to specific reference questions. Librarians also visit classes to explain GCLS and to provide instruction in research methods.

GCLS provides toll-free telephone and fax numbers, e-mail and fax addresses which enable students to request the loan of any circulating book in the library, photocopies of articles in journals held in the library, and reference assistance from the librarians. Requests for specific materials are processed with the goal of meeting a 24-hour turnaround time from the time the request is received until it is ready to be mailed from campus.

Servicemember’s Opportunity College

Central Michigan University recognizes the unique nature of the military lifestyle and is committed to ensuring the transfer of relevant credits, scheduling courses at convenient times and locations, offering online courses, and providing credit opportunities for prior learning experiences and military education relevant to the degree. In keeping with these goals, CMU supports the Servicemember’s Opportunity College (SOC) Consortium, an organization jointly developed by educational representatives of each of the Armed Services, the Office of the Secretary of Defense and a consortium of leading institutions of higher education, to provide flexibility to service members, their families, and veterans seeking college degrees.

Bulletin

Students participating in programs offered through Global Campus should refer to the current Global Campus Bulletin for regulations and fees.

Non-Degree and Non-Credit Programs

Global Campus provides an opportunity for educators and educational administrators to earn credit toward certificate renewal and provides individuals interested in personal development with a range of non-credit programs. Broad in its offerings, there is something for everyone across the lifespan.

Non-Degree Credit for the Education Market

Through the District Designed Professional Development (DDPD) program, school districts and ISDs can design a university credit component for site-based professional development programs. The DDPD program offers educators and administrators with an opportunity to earn credits toward certificate renewal. For further information about the DDPD program, please contact Global Campus at 800-950-1144, ext. 4477.

Non-Credit Options

Corporate and Executive Development

Global Campus Programs is able to partner with corporations to assist them with the learning and development needs within their organizations. Services include training, content collaboration, consulting services, organizational assessments and more. For further information, please contact 800-950-1144, ext. 7137

Community Programs

What you are looking for may be offered through Global Campus. A variety of offerings are available for youngsters and high school students including community music school, summer music camp, and color guard/drum major camps. For further information, please contact 800-950-1144, ext. 7137.

Life-Long Learning

If you are interested in adventures in lifelong learning, look no further than active travel programs through Road Scholars. International in scope, learners of at least 55 years of age come together as a group of travelers to share a common destination and a passion for learning. For more information about CMU offerings, please contact 800-950-1144, ext. 7129
Multicultural Academic Student Services
The Office of Multicultural Academic Student Services (MASS) provides assistance to students with academic, personal, social concerns and cultural support. To empower and retain students, the staff provides and enhances a campus environment where diversity is understood and celebrated. The office coordinates student activities and retention services and serves as a representative voice for CMU's multicultural students. The office also keeps a resource file of educational, social, and cultural diversity programs and initiatives, including the Multicultural Award of Distinction. In addition, Institutional Diversity and Inclusion monitors progress of CMU's academic, social, and cultural diversity programs and initiatives, including the Multicultural Plan for Advancing Diversity.

The main campus offices, which report to the Associate Vice President for Institutional Diversity, are located in the Center for Inclusion and Diversity (CID - Bovee University Center 108; 989-774-3711). The CID includes a conference room and a space for exhibits and receptions. Students are encouraged to visit the Center during the week to learn about program offerings and view the exhibits.

For the following departments, go to the website above and click on Diversity Units.

Native American Programs
The cultural and social programs offered by the Native American Programs office allows the campus community to come together to learn about Native American people and share in a rich culture and traditions. The office serves several purposes. NAP attracts American Indian students to CMU and helps them achieve their educational goals; builds student leaders through a mentoring program and internship program; serves as a liaison to Michigan's Indian communities to determine their educational needs; and sponsors programs that provide opportunities for everyone to experience Native cultures through activities, organizations and events. Contact Information: Bovee University Center 110C; 989-774-2508; e-mail: NAP@cmich.edu.

Office of Lesbian, Gay, Bisexual, Transgender, and Queer Services
The purpose of the Office of Lesbian, Gay, Bisexual, Transgender, and Queer Services is to coordinate programs, to participate in educational forums to raise awareness of lesbian, gay, bisexual, transgender and queer (LGBTQ) concerns, and to meet the needs of CMU's LGBTQ community. Programs address issues of heterosexism, homophobia, transphobia, coming out and other issues related to the experience of sexual orientation and gender identity/gender expression. The office also keeps a resource file of educational, social, and political articles and brochures of interest to LGBTQ individuals and the university community. Contact Information: Bovee University Center 110A; 989-774-3637.

MI GEAR UP Program
MI GEAR UP (Michigan Gaining Early Awareness & Readiness for Undergraduate Programs) is a grant-funded program at Central Michigan University designed to significantly increase the number of low-income students who are prepared to enter and succeed in postsecondary education. It is funded by the Michigan Department of Talent and Economic Development, King-Chavez-Parks (KCP) Initiative. The pre-college program facilitates student tutoring, mentoring, and offers workshops on college preparation, and financial aid. It also assists schools and teachers to better prepare middle and high school students for college studies. The MI GEAR UP grant serves over 800 students in four schools. MI GEAR UP coordinates with CMU departments to provide on campus experiences for project students. Contact information: Bovee University Center 108-B; 989-774-1585; e-mail: gearup@cmich.edu.
Pathways to Academic Student Success
Pathways (Pathways to Academic Student Success) is a grant funded program at Central Michigan University designed to increase the retention and graduation rates of first generation and Pell grant eligible students. It is funded by the King-Chavez-Parks Initiative Michigan Department of Talent and Economic Development. The program will serve a cohort of 150 low-income and/or first generation CMU students each year with the goal of achieving increased grade point averages, advancement of academic standing, increased acceptance into majors and increased graduation rates. Pathways coordinates with campus partners to provide academic guidance, leadership development and mentoring. Contact information: Office for Institutional Diversity & Equity, Bovee University Center 108; 989-774-3630.

Upward Bound
The CMU Upward Bound is a federally funded pre-college program through the U.S. Department of Education and is designed to help economically disadvantaged and/or first generation college-bound students complete high school and prepare for college. CMU is the host institution for Upward Bound. The program intent is to encourage youth to complete high school and enter post-secondary education. Resource and assistance is offered in all aspects of the college admissions process, including, but not limited to, financial aid and scholarships completion, college applications and visits, as well as academic support workshops. It is here that students are offered free tutoring in all subjects. Weekly programs that highlight education, career, and social awareness are provided to open the eyes, hearts, and minds of the students. The Upward Bound motto is "Where Preparation Meets Opportunity!" We strive to give each student opportunities to allow them to be prepared for every opportunity and assist them in their ambitions toward a college education. Contact information: 313-215-0738.

Student Transition Enrichment Program (STEP)
The Student Transition Enrichment Program (STEP), a MiCUP (Michigan College University Partnership) grant funded by the King-Chavez-Parks Initiative Workforce Development Agency, provides support services for first-generation and/or Pell Grant-eligible students who transfer into Central Michigan University. Programs and events include: Academic Advising, Summer Conference, CMU Campus Visits, and Academic Workshops. The goal of STEP is to promote knowledge of the transfer process, academic programs and resources at CMU; build relationships; and develop academic, self-confidence, and career planning skills. Contact information: Bovee University Center 110C; 989-774-2508; e-mail: micup-step@cmich.edu.

For more information
To see more information on any of these programs, see cmich.edu/office_provost/OID.

Office of International Affairs

William Holmes, Executive Director
Ronan Hall 330; 989-774-4308;
www.oia.cmich.edu

Mission
The mission of the Office of International Affairs (OIA) is to support the University’s central purpose of educating students who will be responsible global citizens and effective world leaders. OIA provides campus-wide leadership in coordinating, planning and developing international programs and initiatives.

OIA’s role includes international student recruitment, undergraduate international student and English language student admissions, services to international students and faculty, and coordination of linkage agreements with universities and other educational institutions outside of the United States.

To achieve its goals, OIA:
1. develops recruiting strategies to increase the number of international students studying at CMU, as well as the cultural diversity of the international student population;
2. provides comprehensive support services to international students and faculty so that they will have a smooth transition to CMU life and a successful stay at CMU;
3. enhances the level of international understanding among members of the CMU community by sponsoring, organizing, and developing international programs that are academically, culturally, and socially beneficial; and
4. maintains an up-to-date CMU International Education Information Clearinghouse.

The OIA serves as a resource to the international community at Central Michigan University by providing orientation services for new international students, serving as an advocate on campus and providing support for its needs. The office assists international students, scholars and faculty in understanding immigration regulations and maintaining valid legal status in the United States. The OIA is responsible for maintaining university compliance with federal reporting regulations for international students and scholars.
CMU’s Office of Study Abroad (OSA) offers a variety of opportunities abroad for graduate students. Study abroad provides students with opportunities to expand their view of the world and prepares them for a career in the global workforce. International study enhances students’ education in many ways; students have an opportunity to meet people with diverse cultural backgrounds, to gain global knowledge that is highly valued by modern employers, and to develop a sense of independence and self-confidence that leads to a lifetime of success.

In addition to academic year and semester programs, CMU offers short-term programs in summer as well as faculty-led short-term programs around the world. Other short-term programs around the world are also available in summer. Students wishing to study a foreign language have a significant number of options available that include intensive language programs, academic subjects in a foreign language, as well as an option to learn languages not taught at CMU. Knowledge of a foreign language is not a requirement to study abroad because there are many programs around the world that offer courses taught in English. Course credit approval may be obtained in advance from the academic department. For the full list of options, please visit the Study Abroad website.

Studying abroad does not have to be expensive. There are a number of resources available to help fund study abroad. OSA offers study abroad scholarships each year to full-time, matriculated graduate students. In addition, there are scholarships available through colleges and/or academic departments and from sources outside the university to help students fund their international study. Students participating in a CMU-approved study abroad program may also continue to receive financial aid through the Office of Scholarships and Financial Aid, and may apply for additional assistance to cover the study abroad program costs. See the Fund Study Abroad section of our website for the list of scholarships available.
The Office of Student Affairs provides coordination of student service programs and serves as an advocate for students and their concerns. The student services staff promotes a campus atmosphere that fosters intellectual and personal growth of students. Student Affairs encourages students to communicate their needs and interests to enhance the quality of programs, services, and student life. Students may contact the Office of Student Affairs for assistance with courtesy notifications to instructors regarding extended absence from campus due to illness or other personal issues.

Office of Student Activities and Involvement

Students connect with many aspects of university life through the Office of Student Activities and Involvement.

Student Activities and Organizations. CMU provides students with opportunities to become involved in hundreds of student organizations. Activities outside the classroom are an integral part of the total development process, and students are encouraged to take part in activities of interest to them. A wide range of interests can be pursued through organizations that focus on social issues, student governance, pre-professional development, entertainment, community service, hobbies, club sports, or religion. Involvement in student organizations is an excellent way to develop leadership skills. Many academic departments sponsor student organizations and honor societies.

Student Government Association (SGA). SGA is recognized as the representative governing body for CMU students. By becoming active in SGA, any student may participate in the formation of policies, procedures, and programs which affect his or her education. The major function of the Student Government Association is to represent the interests and needs of all students, including new ideas or concerns of the university community. People who have an interest in working with an issue that relates to the student body or are interested in serving on university committees may contact SGA for information. SGA elections are held every year to select officers and representatives, however, any student may participate in committees without being an elected member.

Student Organization Center (SOC). SOC is located on the lower level of the Bovee University Center and houses about thirty student organization offices. Among the major groups are: Student Government Association, International Club, Organization for Black Unity (OBU), Hispanic Student Organization (HSO), Residence Hall Assembly (RHA), Mortar Board, and the Interfraternity Council, Panhel Council, and National Panhellenic Council, which govern fraternities and sororities.

Students interested in participating in campus activities should contact the Office of Student Activities and Involvement. Assistance will be given to students who are interested in starting a new group. See http://cmich.orgsync.com/home for more information.

Program Board. Program Board is a student committee which reports to the Office of Student Activities and Involvement. It is a learning experience for students interested in all aspects of the entertainment field, such as contract negotiations, marketing, promotions, graphic design, and special events. Program Board plans, schedules, and conducts social and educational events that occur outside of the classroom, and complement the academic curriculum. Programming includes performing artists and speakers, as well as major concerts and films. Students have the opportunity to participate in selecting which performers come to campus, and to learn how to effectively plan and co-sponsor events with other campus organizations.

Office of Student Conduct

The Office of Student Conduct upholds the Code of Student Rights, Responsibilities and Disciplinary Procedures (the Code). The Office of Student Conduct is committed to ensuring students due process through a fair and just educational experience. Located Ronan Hall, you may contact the Office of Student Conduct to ask questions, file a disciplinary report, or to make an appointment with a Conduct Proceedings Officer. Contact 989-774-1345 or StudentConduct@cmich.edu.

University Policy for Student Conduct. The university’s philosophy of a student’s relationship to CMU is expressed in the Code of Student Rights, Responsibilities, and Disciplinary Procedures (see Appendix 1).

Sexual Aggression Services

The Sexual Aggression Services Director, through the Office of Student Affairs, coordinates services and educational programs on campus relating to sexual assault, stalking, and dating violence. The university encourages a proactive approach to this problem through educational programs and counseling to both men and women. Concerns and reports of sexual aggression should be made to the Office of Student Conduct, the CMU Police Department, the Office of Civil Rights and Institutional Equity Title IX Coordinator, a counselor in the Counseling Center, or SAPA (Sexual Aggression Peer Advocates). For more information, see https://www.cmich.edu/ess/studentaffairs/SAPA/Pages/default.aspx.

Civil Rights & Institutional Equity

CMU is an affirmative action/equal employment (AA/EO) institution, providing equal opportunity to all persons, including minorities, females, veterans and individuals with disabilities. CMU strongly and actively strives to increase diversity and provide equal opportunity within its community. CMU encourages diversity and provides equal opportunity in education, employment, all of its programs, and the use of its facilities. CMU is committed to protecting the constitutional and statutory civil rights of persons connected with the university.

The Office of Civil Rights and Institutional Equity coordinates and monitors CMU’s AA/EO efforts and programs to assure compliance with Americans with Disabilities Act, Titles VI and VII of the 1964 Civil Rights Act, Title IX of the Education Amendments of 1972, Executive Order 11246, Section 504 of the Rehabilitation Act of 1973, the Violence Against Women Reauthorization Act of 2013, Elliott-Larsen Civil Rights Act and other relevant state and federal statutes. The Office of Civil Rights and Institutional Equity also supervises the maintenance of related reports and records, provides and develops related educational programs and materials, offers guidance and advice to all community members on CMU’s nondiscrimination and affirmative action policies and procedures, and assists departments with recruitment and retention activities. For more information, contact the Office of Civil Rights and Institutional Equity, Bovee UC 306, Central Michigan University, Mt. Pleasant, MI 48859, 989-774-3253 (fax: 989-774-2022); https://www.cmich.edu/office_president/OCRIE/Pages/Contact_Information.aspx.

Nondiscrimination Policy

CMU’s Nondiscrimination Policy and Equal Opportunity and Affirmative Action Protocol prohibit acts of discrimination or harassment on the basis of age, color, disability, gender, gender identity/ gender expression, genetic information, familial status, height, marital status, national origin, political persuasion, race, religion, sex, sexual orientation, veteran status, or weight by members of the university community. Prohibited acts of discrimination or harassment include discrimination or harassment in employment, education, housing, public accommodations, public services, and telecommunications. In addition, retaliation for the participation in a protected activity is also expressly prohibited under CMU’s policies.
The Office of Civil Rights and Institutional Equity receives and resolves complaint of discrimination and harassment from students, employees, and others. To file a complaint of harassment or discrimination, contact the Office of Civil Rights and Institutional Equity (see above). To view the Board of Trustees Nondiscrimination Policy, see https://www.cmich.edu/office_president/OCRIE/Pages/Nondiscrimination-Statement.aspx. To view CMU’s Equal Opportunity and Affirmative Action Protocol, see https://www.cmich.edu/office_president/OCRIE/Pages/Equal_Opportunity_and_Affirmative_Action_Protocol.aspx.

Sexual Misconduct Policy

CMU’s Sexual Misconduct Policy prohibits sexual misconduct, including dating violence, domestic violence/intimate partner violence, sexual assault, sexual exploitation, sexual harassment, stalking, and retaliation by members of the university community. CMU employees, except those named as a confidential resource in the Sexual Misconduct policy, are responsible employees who are required, under CMU’s policies, to report any information they know about possible sexual misconduct to the CMU Title IX Coordinator. Individuals who do not want their concerns reported to the Title IX Coordinator may contact confidential resources identified in the Sexual Misconduct policy, such as the CMU Sexual Aggression Peer Advocates or the CMU Counseling Center. To file a complaint of sexual misconduct or to learn more information about the policy, contact the Executive Director of the Office of Civil Rights and Institutional Equity, who is the Title IX Coordinator for CMU. To view CMU’s Sexual Misconduct Policy, https://www.cmich.edu/office_president/ocrie/documents/Sexual-misconduct-policy-w-appendices-webcopy.pdf.

Student Ombuds Office

The Student Ombuds Office assists in resolving conflicts or disputes within the University and helps staff members, instructors, and administrators sort through university rules and regulations that might apply to specific student issues and concerns. In addition, CMU’s Ombudspersons identify policies that might need revision, referring them to the appropriate committee for review.

All matters presented to the Student Ombuds Office are handled in a neutral, confidential, informal, and independent manner. CMU Ombudspersons are not advocates for any individual or group; they are advocates for fairness. Talking to an Ombudsperson does not constitute filing a formal complaint or notice since the purpose of the Student Ombuds Office is to provide a confidential forum to support review and consideration of options.

Following a request for assistance, an Ombudsperson will take one or more of the following actions after listening carefully to the concern: 1) explain relevant student rights and responsibilities; 2) review relevant university policies or regulations; 3) suggest fair and equitable options; 4) identify and provide referral to appropriate university resources; or, 5) investigate, when necessary.

An Ombudsperson will also assist students who want to file formal complaints and grievances, which is often the final step in a student’s effort to resolve a dispute. There are systems in place at CMU to receive and hear a student’s formal grievance. Which system is used depends on the nature and location of the grievance. Although it is not required, Ombudspersons identify policies that might need revision, referring them to the appropriate committee for review. Following a request for assistance, an Ombudsperson will take one or more of the following actions after listening carefully to the concern: 1) explain relevant student rights and responsibilities; 2) review relevant university policies or regulations; 3) suggest fair and equitable options; 4) identify and provide referral to appropriate university resources; or, 5) investigate, when necessary.

An Ombudsperson will also assist students who want to file formal complaints and grievances, which is often the final step in a student’s effort to resolve a dispute. There are systems in place at CMU to receive and hear a student’s formal grievance. Which system is used depends on the nature and location of the grievance. Although it is not required, a consultation with an Ombudsperson is strongly recommended before submitting a formal complaint or grievance.

The Student Ombuds Office does not provide legal services, represent students or instructors at academic grievance or disciplinary hearings, mediate disputes between students, faculty, staff and external agencies, or mediate disputes between or among faculty or between faculty and administrators.

Members of the CMU community may contact the Student Ombuds Office by e-mail (ombuds@cmich.edu), by phone (989-774-3010), or online at https://www.cmich.edu/ess/ombuds/Pages/contact.aspx.

Student Disability Services

Central Michigan University is committed to providing students with disabilities the academic accommodations and auxiliary aids necessary to ensure access to all university services, programs and activities. In addition to the university’s campus wide efforts to promote access and inclusion, students with disabilities are further accommodated based on specific individual needs. The Office of Student Disability Services is responsible for determining these accommodations. Our office is part of the Division of Enrollment and Student Services, and we provide services and assistance to enrolled students who are either permanently or temporarily disabled.

Decisions regarding specific accommodations are made on a case-by-case basis. A list of typically provided accommodations is located on the department website.

For additional information, please contact the SDS office via mail at 120 Park Library, Mt. Pleasant, MI 48859; via phone at 989-774-3018 (V); or refer to the SDS office web page at https://www.cmich.edu/ess/studentaffairs/SDS/Pages/default.aspx.

University Libraries

The University Library in the Charles V. Park Library building offers a broad range of collections and services for CMU students, faculty, and staff. Its collections contain more than 1,000,000 books and other print items, 100,000 electronic books, 125 electronic periodical article databases, electronic access to the full-text content of more than 70,000 journals, and more than 15,000 multimedia items. Electronic collections are accessible around the clock, on or off campus, at library.cmich.edu. Additionally, the Park Library is a selective federal and state government document depository library, providing access to federal items published by the United States Government and the State of Michigan. Items not owned by the library may be obtained from other institutions through the library’s interlibrary loan service, Documents on Demand.

More than just a collection of materials, the University Library provides a wide array of library services and study spaces. Librarians are available to assist students, faculty, and staff with research projects and to help users effectively access library resources. Users may consult with a librarian in person on the second floor of the library and also by email, chat, and telephone. The librarians also provide formal, course-specific library instruction to classes upon request by a faculty member.

Over 300 computer workstations (both Windows and Macs) are available within the building, and wireless access is available for laptops and mobile devices. Printers, photocopiers and scanners are also available. Students can check out study rooms for individual and group study; some rooms include multimedia equipment. The building is open nearly 100 hours/week, and an extended-hours study room offers additional hours of study space.

Several academic support services are located in the library: the Writing Center, the Mathematics Assistance Center, the Statistical Consulting Center, Student Disabilities Services, the Test Proctoring Center, and the Center for Excellence in Teaching and Learning.

Hours of service are posted in the library, at the entrances, and online at https://www.cmich.edu/library/hours/. For more information about the library, visit us online at library.cmich.edu or call 989-774-1100.

Clarke Historical Library

The Clarke Historical Library collects print and manuscript items regarding Michigan and the Old Northwest Territory. The Library’s holdings are extensive. Over 76,000 printed items, 3,570 manuscript collections, 11,000 reels of microfilm, 16,000 visual images, and 2,300 maps document all aspects of life in Michigan. In addition to this main area of concern, the Clarke Historical Library has also developed a variety of “special” collections. These include the Lucile Clarke Memorial Children’s Library, one of the finest collections of children’s literature in the country, the Class of 1967 Presidential Campaign Biographies collection, Native American material, the Central Michigan University archives, and the Wilbert Wright Collection of Africana and Afro-Americana. Because of the uniqueness of much of the material in the Clarke Historical Library, items in the Library are not available for circulation but must be consulted in the Clarke Historical Library’s (continued)
reading room located in 142 Park Library. Hours of service are posted, but patrons may dial 774-3352 for Library hours or 774-3864 for reference assistance.

The Clarke Historical Library was established in 1954 with the gift of 1,575 volumes from Dr. Norman E. Clarke Sr., who received his bachelor's degree from Central in 1920. In subsequent years Dr. Clarke Sr. supported the Library through the donation of a large number of books, the establishment of the Lucille M. Clarke Memorial Children's Library, named in honor of his first wife, and the creation of an endowment to partially underwrite the Library's ongoing needs. Dr. Clarke Sr. died in 1984 but his family continues to be actively engaged in the Library's work.

Office of Information Technology
Central Michigan University has a wide variety of technology resources and technology support available for students, faculty, and staff. The Office of Information Technology (OIT) is responsible for providing the CMU community with a diverse and technologically rich learning and research environment. CMU and OIT support innovative learning and teaching and maintain a planned investment strategy to keep CMU technology resources at their highest level possible and available to students and faculty. In addition, CMU is working to fully enable mobile computing for its students and faculty with efforts focused on these areas:

• CMU is expanding and strengthening an already robust wireless network.
• CMU students receive a printing allocation that is usable in labs and print stations across campus.
• CMU students receive 1 TB of cloud-based storage through CMU's partnership with Microsoft.
• CMU is employing a number of strategies to deliver required software to its students and faculty.
• CMU services are being designed for delivery to a variety of mobile devices
• CMU provides cross-platform text chat and automated remote support tools that allow students to access technical support directly from their personal computers.
• CMU provides cost-effective student purchase plans for laptop computers and other mobile devices.

E-mail Services for Students: Upon acceptance to CMU, students are assigned a CMU e-mail address. This e-mail address is the official address to which course-related correspondence and billing notices are sent. It is very important that students check their CMU e-mail address regularly, and they will be held responsible for mailings issued to that address.

CentralLink: Central Michigan University offers a web portal located at: https://www.cmich.edu/centrallink. CentralLink is designed with CMU students, faculty and staff in mind, and provides the CMU community comprehensive information in a number of different areas, such as activities, academics, employment, available services and access to a variety of individual records.

OIT Help Desk: The Office of Information Technology Help Desk is housed in the first floor of Park Library, and is the first point of contact for all technology related questions. The OIT Help Desk assists students, faculty, and staff with university-sponsored technology services, general computing questions, and computer repairs. Contact the Help Desk at 989-774-3662, by email at helpdesk@cmich.edu, or visit http://it.cmich.edu and click the remote chat button.

The CMU Network: CMU maintains a very comprehensive networking infrastructure to support the work of its students, faculty and staff. In addition to the traditional wired Ethernet network, wireless access is available in all of CMU’s residence halls and academic buildings. Computer users are required to register their machines to use the network and are presented with the online registration process when they first access the CMU network.

Emergency Notification System: CMU has implemented measures to enhance communication in the event of an emergency. Students, faculty, and staff can register to receive phone calls, text messages, or alternative email address alerts through CMU’s Central Alert system. Registration for this system is accessed by going to https://www.cmich.edu/centrallink and accessing My Account and going to “My Profile.”

Cellular Phone Services: OIT offers Verizon, AT&T, and Sprint cellular phone service and equipment through the Telecom Service Center. Competitive rates are available to all students, faculty, and staff. For information, contact the Telecom Service Center at 989-774-3087, or visit or visit http://connect.cmich.edu.

Computer Purchases: CMU offers discounted and highly competitive purchasing opportunities with several major computer manufacturers. Two opportunities available to all CMU students, faculty, and staff. Find out more by visiting http://purchasing.cmich.edu and choose “purchasing” from the menu on the right.

Public Computer Labs: State of the art instructional and student technology labs are strategically located throughout the campus to provide easy access for students and faculty. Many of the instructional and student labs operate extended daily hours and weekends. Find out more by visiting http://labs.cmich.edu.

Acceptable Use Policies: All users who operate or use any of the computing systems and networks of the university must abide by the Responsible Use of Computing policy. The Responsible Use of Computing policy and other OIT policies are published on the OIT website (visit http://it.cmich.edu). The policies are intended to supplement other existing university and external policies, regulations and laws.

For more information, call the OIT Help Desk at 989-774-3662 or visit http://it.cmich.edu.

CMU Police
Chief Bill Yeagley, Jr., Director of Police Services
Combined Services Building; 989-774-3081

The Central Michigan University Police Department works in partnership with the entire university community to maintain a safe, secure and orderly living and learning environment. The CMU Police Department offers a diverse group of highly trained sworn police officers who are certified by the State of Michigan. For more information, see https://www.cmich.edu/fac/policy/Pages/default.aspx.

University Policy for Use of Motor Vehicles
Students must register any motor vehicle which they park on the university campus with the CMU Police Department. Parking permits must be displayed by the first day of classes. Students parking only for Saturday classes and evening classes between 4:00 p.m. and 2:00 a.m., Monday through Friday, are exempted from registering their vehicles, although they may not park at Washington Apartments at any time.

Any student who has a vehicle on campus is expected to become familiar with, and abide by, university traffic and parking regulations. Regulations and designation of parking areas for specific groups are published with the campus map in a brochure available at the CMU Police Department. Bicycles are also registered free at the CMU Police Department.

Counseling Center
Ross Rapaport, Director
Michelle Bigard, Associate Director
Foust Hall Suite 102, 989-774-3381

To make an appointment, call 989-774-3381. Hours are 8 a.m. to 5 p.m., Monday through Friday during Fall and Spring semesters. When the University is open during Summer sessions and other periods, the hours are 8 a.m. to noon and 1 to 5 p.m. The Counseling Center’s website (www.counsel.cmich.edu) provides information on center services, counselors, student support groups, community resources, confidential on-line mental health screening, emergency services, and links to a variety of mental health information, including self-help resources and suggestions on how to assist others.
Free confidential individual and group counseling services are provided on the Mount Pleasant campus to currently enrolled CMU students dealing with various issues and concerns that may negatively impact academic success, interpersonal relationships, health, or safety. Services are provided by licensed professional counselors, psychologists, social workers, and trainees (advanced graduate students in various counseling-related graduate programs).

Counseling Center services include: short-term/time limited individual counseling, group counseling, consultation and referral for (1) dealing with personal issues such as an urgent situation or crisis, safety, anxiety, depression, loneliness, transition to college, identity, alcohol/drug abuse, eating concerns, stress management, relationship concerns, couples concerns, family stress, loss, relapse prevention, sexual orientation, strengthening coping skills, and personal growth and development; (2) improving academic success by reducing stress and focused anxiety (e.g., test, math, speech), and learning time management skills; and (3) assisting primary and secondary survivors of sexual assault, domestic violence, intimate partner violence, stalking, and harassment. Group counseling services are designed to address many topics and vary from semester to semester depending upon students’ needs.

Other Counseling Center services include providing consultation and referral information for students, parents, faculty, and staff; groups and workshops; limited in-service training; limited outreach programs; referral to on-campus and off-campus agencies and services; providing a supervised practicum or internship site for psychology, counselor education, and social work students; and selected mental health screening.

Regularly scheduled appointments and same day/urgent appointments are available. When calling the Counseling Center to schedule an appointment, please specify what type of appointment best meets your needs and contact the center as early in the day as possible.

During Fall and Spring semesters counselors are on-call after hours and weekends to assist students, faculty, and staff when there are urgent/emergency student mental health concerns. Call the CMU Police at 989-774-3081 or 911 to contact the on-call counselor.

There is no charge for counseling, consultation, referral, and related services.

**Residence Life Counselors in Residence**

Counseling assistance may also be obtained through Counselors in Residence who work in offices at various residence hall locations. Counselors in Residence may be contacted at the:

- East Area Student Success Center (989-774-1879)
- North Area Student Success Center (989-774-3947)
- South Area Student Success Center (989-774-3089)
- Towers Student Success Center (989-774-6601)

Sponsored by the Office of Residence Life, the Counselors in Residence program places licensed professional counselors and/or social workers directly in the residence halls. Their mission is to provide staff consultation, support, crisis intervention, and proactive prevention efforts addressing mental health issues, and to act as a bridge to partner offices supporting the personal growth and academic progress of students.

**University Health Services**

**Emergencies:** Dial 911 on campus for CMU police and ambulance assistance. Care for life threatening emergencies is provided by the McLaren Central Michigan Hospital.

**Mission:** The mission of University Health Services is to focus on improving the health and wellness of CMU students and the University community by providing personalized medical care, disease prevention and health promotion services tailored to their dynamic needs.

**Eligibility:** All regularly enrolled CMU students, CMU faculty, staff, their spouses and dependents 14 years of age or older, and other authorized users are eligible to use University Health Services.

**Location and Parking:** University Health Services is located in Foust Hall at the corner of Preston Street and East Campus Drive, and offers easy access to services. Free parking for UHS patients is available at designated signs in Lot 29 on the east end of Foust Hall. Parking is also available in Lot 33 on the south side of Foust and metered parking is located in Lot 28 at the west end of Foust. There are automatic doors at the north and west entrances.

**Clinical Hours:** There are two locations for your health care needs:

- **Campus Health Clinic** is located in 200 Foust Hall and is open Monday-Friday from 8:00 a.m. to 5:00 p.m. To schedule an appointment (same day or future appointment) call 989-774-6599. A registered nurse is also available at 989-774-6599 to answer questions about health-related concerns, including the quickest and most appropriate ways to obtain care.
- **Towers Health Clinic** is located in 103 Troutman Hall. This satellite clinic operates on a walk-in basis for urgent care needs and is normally open Monday – Thursday from 12:30 p.m. to 4:30 p.m.

**Clinical Services Available:** Our staff consists of physicians, physician assistants and nurse practitioners who are all board-certified and are fully qualified to provide primary care services. Our medical staff is here to help you get the treatment you need when you need it. We’ll work with your family doctor or specialist as necessary.

Our emphasis is on educating the student to become an informed health care consumer as well as an active partner in their treatment plan, and on supporting healthy decision making. Services include the diagnosis and treatment of the following: illnesses (sore throat, flu, infections, etc.); injuries (sprains, cuts or wounds, etc.); immunizations; travel health clinic: before traveling abroad; physical exams; anxiety, depression, sleep disturbances management; allergy shots; acute and chronic care management; laboratory testing; prescriptions; sexual health services: such as gynecological exams, birth control, pregnancy testing and sexually transmitted infection testing.

There is a laboratory and pharmacy on site. Both accept orders from outside providers. X-rays and other diagnostic imaging services are available through an agreement with a local radiology clinic. Some services are available at Foust location only.

**Clinical Services Not Available:** Major or elective surgery; hospital inpatient care; emergency room care for life-threatening injuries and illnesses; obstetrical care; physical therapy; fitting of glasses or vision care; and dental care are not provided. Referrals to specialists and other health care providers are arranged as needed.

**Health Education Services Available:** A Health Educator is available to assist with programs and to act as a resource for students. RA’s, MA’s and other students may request presentations on various health topics by visiting the Health Services website and clicking on the “request presentation” link. Emphasis is on creating and maintaining an environment that fosters healthy decision making and lifestyles. Self-ordered HIV testing and light therapy appointments are also available. Check out our Facebook page and website regularly for information on our free monthly educational health and wellness presentations.

**Payment:** There are fees for the care provided, but payment is not required on the date of service. The charges may be paid by cash, check, money order, credit or debit card in the Business Office within three business days or be placed on the student’s personal CMU account and paid by the student directly. The student provides proof of current health insurance coverage (a health insurance card or photocopy of it) and signs an authorization permitting Health Services to bill the health plan for the services, insurance billing is provided. The student remains responsible for payment of any co-pays, deductibles and non-covered services. Health Services participates with a number of health insurance and prescription drug plans. For additional information, contact the Business Office at 989-774-6599.

**Student Health Insurance:** It is highly recommended that all CMU students carry health insurance coverage. While college students are generally a healthy population, an accident or serious illness can happen to anyone at any time and can result in a significant financial burden. Insurance helps protect the student’s physical and financial health.

The student should carry their health insurance card or a photocopy of it and have at least a basic understanding of how the plan works, e.g., benefits, exclusions, pre-authorization requirements, co-pays (continued)
General Information

and deductibles. A national health insurance provider offers and administers a health insurance plan for CMU students, their spouses and dependents at a very competitive cost. Plan benefits, premium costs, enrollment deadlines and application forms are available at the Health Services Business Office.

Medical Records: Medical records are maintained for students and other authorized users of University Health Services. At age eighteen, students are legally adults. The information in their medical record is confidential and will not be released to anyone without the student’s knowledge and written authorization, except as required or permitted by law. Students are asked to complete a pre-entrance health history report and pre-matriculation immunization record to provide a baseline of important health information to help assure safe, effective, and appropriate care when the student is seen at Health Services or in the event of a medical emergency.

Concerns, Comments, Suggestions: University Health Services seeks to continually improve services. Feedback from CMU students is valuable in that process. Concerns, comments and suggestions regarding the services may be shared by completing a Patient Satisfaction Survey at the time of the visit, speaking with a staff member or unit manager, or contacting the Director by calling 989-774-6599 or sending an email to healthservices@cmich.edu.

Additional Information: For additional information about University Health Services visit the UHS website at www.healthservices.cmich.edu.

Residence Life

Graduate students may live in housing of their own choice. CMU does offer a variety of housing accommodations with or without meal plans for single students or students with families.

Main campus university-owned apartment housing is available for graduate students: single or married, with or without children.

Graduate students may also live in residence halls. Residence Life staff will identify a roommate for those who wish to share an apartment but do not have a particular person in mind.

In order to create a community of graduate students, the Office of Residence Life, when possible, places graduate students residing in university-owned apartments in close proximity to one another.

Rates for the 2014-15 academic year may be found at www.reslife.cmich.edu or by contacting Residence Life at 989-774-3111 or reslife@cmich.edu.

One, two, three, and four-bedroom university family apartments are assigned according to date of application for apartment housing. Most units are furnished.

Graduate students may also live in residence halls. Residence halls provide several lifestyle options, as well as many amenities including fitness areas, Study Success Centers, study lounges, and computer labs.

Room and board rates vary depending on the meal plan chosen. See the Campus Dining website for more information concerning meal plans. All students residing on- or off-campus are eligible for residence hall meal options. Several areas in the Bovee University Center serve meals on a daily basis.

Application for all university housing should be made well in advance. Questions concerning available housing and board arrangements should be addressed to the Office of Residence Life, Ronan Hall, Room 270, Central Michigan University, Mt. Pleasant, MI, 48859-0001; 989-774-3111; reslife@cmich.edu.

Bovee University Center

The Bovee University Center is located in the center of campus, which makes it a popular gathering place for students, faculty and staff. The Center provides the University community opportunities for involvement in group discussions, meetings, conferences, informal conversations, and social activities, with meeting and conference rooms and catering services available. A variety of entertainment and special events are sponsored in the University Center throughout the year, making it an exciting place to be.

Services and offices that are located at the Bovee University Center include the Campus Information desk, Student Service Court, the Centennial Office, the Office of Student Activities and Involvement, Student Employment Services, the Mary Ellen Brandell Volunteer Center, Civil Rights and Institutional Equity, and the Center for Inclusion and Diversity. First Impressions (free attire for CMU students) is also located in the UC. The Student Government Association, Program Board and many other student organizations are housed there as well.

Several retail operations are offered, such as the Bookstore, which carries a full line of required class materials, student supplies, CMU clothing, and gift items; Independent Bank; MEDIAgaphix, a post office, and a copy center.

Complete food service operations are offered, including the Down Under Food Court (open Monday-Friday) and Quiznos® Subs, Freshens EnergyZone® smoothies, Pretzel Logic, and Starbucks® Coffee.

Printing Services

Printing Services is a full service, four color operation equipped to handle the university’s on- and off-campus printing needs. Printing Services also offers full pre-press services, including computerized image assembly, and full bindery services with various options in finish work. The university’s standard class bulk mailing operations are also a part of Printing Services. Classes interested in printing are welcome to arrange tours of the printing facility. Copy Centers to accommodate faculty, staff, and students are located in the Bovee University Center, and the main printing facility located in the Combined Services Building. See https://centrallink.cmich.edu/services/business_facilityservices/printing.

University Recreation (URec)

University Recreation (URec) manages the Student Activity Center (SAC), the Outdoor Sports Complex, the outdoor tennis courts, two satellite fitness facilities in the Towers and East Area residence halls and an 18-Hole Championship Disc Golf Course.

The SAC is 180,000 square feet of recreation space and has hosted more than 13 million visitors since it opened in 1990. With a spacious and dynamic environment, the SAC provides fitness and recreation programming meeting the needs of our diverse student population. URec is dedicated to providing outstanding recreation, leisure and wellness programs, services and facilities for our students, members and guests in a safe environment that promotes healthy lifestyles, values diversity, and contributes to co-curricular learning and leadership opportunities.

In addition, URec offers comprehensive fitness programs designed to meet all fitness levels and wellness interests. URec offers over thirty group fitness classes and personal trainers are available to provide assessments, goal-setting and specialized programs. Learn to Swim programs (USwim) are available throughout the year. The SAC manages two pools, one in the SAC and one in the Rose Center.

The Intramural Sports program offers more than thirty leagues with something for everyone, from one-day special events to semester long individual and team sports. Activities are offered in three divisions: men, women, and co-recreational. Club Sports compete at an extramural level with over thirty sports offered, providing an excellent opportunity to practice leadership, organization and teaching skills.

URec offers a wide variety of employment opportunities, employing over 300 students during the academic year.

Special events are held in the SAC, including Special Olympics Michigan, Alumni events, SIBS weekend, CMU Up All Night and Leadership Safari. We are a premier recreation provider with a national reputation for excellence. For more information about URec programs and facilities, contact University Recreation at 989-774-3686 or see http://www.cmich.edu/about/leadership/finance_admin_services/University_Recreation/Pages/default.aspx.
Varsity Athletics

Many students participate in the men's and women's athletic programs under the guidance of experienced coaches. It is our intention to field teams composed of student athletes who compete with excellence, integrity, intensity, and teamwork.

The men's and women's programs have Division I classification in the NCAA and the University complies with the code of that association. All CMU teams are affiliated with the Mid-American Conference.

The men's program sponsors baseball, basketball, cross country, football, indoor and outdoor track, and wrestling.

The women's athletic program includes basketball, cross country, field hockey, golf, gymnastics, lacrosse, soccer, softball, indoor and outdoor track, and volleyball.

Students must be enrolled full time and be in good standing with the university to participate in intercollegiate athletics for CMU. Contact the head coach for additional information on any particular sport. See www.cmuchippewas.com.

Child Care Options

The Child Development and Learning Laboratory, through the Department of Human Environmental Studies, offers several options. For more information please call 989-774-3760 or visit www.cmich.edu and search for Child Development and Learning.

The Student Employment Office (989-774-3881) assists in finding qualified students for at-home child care. There are a variety of home and center based child care options in the community. For information concerning child care in Clare, Gladwin, Gratiot, and Isabella Counties, see http://greatstartforkids.org/connect/.

Student Enrichment

Biological Station on Beaver Island

Central Michigan University Biological Station (CMUBS) is located on Beaver Island in northern Lake Michigan about 32 miles northwest of Charlevoix. These facilities, nestled among 48 acres of pristine habitat, are located on the eastern shore of Beaver Island, and are about six miles south of the island's only village, St. James. CMUBS offers a diversity of academic courses during the spring and summer months and provides research facilities throughout the year. A spacious Academic Center with state-of-the-art teaching laboratories, computer laboratory, library, and full-mediated lecture room is available and equipped to accommodate courses that rely on both laboratory and field experiences. A bookstore, natural history museum and research buildings are also provided as classroom support. Additionally, CMU owns 310 acres elsewhere on the island that serve a variety of field courses offered at the station by providing highly diverse sites for field trips, research and other activities. CMU also owns the completely renovated former Coast Guard boathouse, located on Whiskey Point in St. James at the north end of the island, which houses research vessels and a state-of-the-art experimental mesocosm facility.

Students reside in either dormitories or rustic cabins in the modern CMU campground, eat in the cafeteria and relax and study in the spacious Matt and Ellie Hohn main lodge. Its location among a variety of natural habitats makes CMUBS an ideal location for a biological station. For more information, contact cmubs@cmich.edu or see https://www.cmich.edu/colleges/cst/cmubs/Pages/default.aspx.

Neithercut Woodland

Neithercut Woodland, an area of approximately 252 acres, is located about four and a half miles northwest of the village of Farwell on Michigan Route 115. This natural woodland area was a gift to CMU by William A. Neithercut, class of 1909. The Woodland contains three hiking trails. Exhibits, demonstrations, and experimental facilities for developing innovative approaches to environmental education are also available at Neithercut Woodland. The McNeel Center building is constructed of cedar logs and its 1,900 square feet of floor space provides a central meeting room, kitchenette, laboratory, storage area and rest rooms. Up to 50 people can be accommodated in the center. Neithercut Woodland is available for students and the public on a year-round basis. For information, call 989-774-3227.

Brooks Observatory

The Brooks Astronomical Observatory, located atop Brooks Hall, is administered by the Department of Physics. The dome contains a modern 16-inch telescope and an observation platform for naked eye or small telescope observing. It offers an excellent view of the campus.

The observatory facilities are open to students and the public one evening each month during the academic year. Weather permitting, visitors can view celestial objects with the telescope. Contact the Department of Physics for open night schedules or to arrange special viewing sessions for groups. Further information about the observatory and the open nights can be found at: www.cmich.edu/colleges/cst/physics.
The Museum of Cultural & Natural History

The Museum of Cultural & Natural History in Rowe Hall is devoted to formal and informal learning through the study of real objects. The museum's foundation rests on its extensive collections of anthropology and archaeology, geology, Michigan history, and zoology. Collection items are available for use by faculty, staff and students to enhance classroom learning and are loaned to school groups in the region. The museum also serves as the home for the Museum Studies minor program.

Faculty in anthropology, art, biology, geology and history regularly make use of collections, exhibits and learning laboratories. In addition, programs are scheduled in the Gerald L. Poore School Museum, a one-room schoolhouse located at the corner of Preston and West Campus Drive. Museum exhibits and visual collections storage are located in Brooks Hall, Beaver Island Biological Station, and Neithercut Woodland as well as the main exhibit hall and temporary exhibit gallery in Rowe Hall.

For more information, visit the website at https://www.cmich.edu/colleges/chsbs/mcnh/Pages/default.aspx or call 989-774-3829.

Mary Ellen Brandell Volunteer Center

The Mary Ellen Brandell Volunteer Center is dedicated to developing active citizenship among CMU students by providing unique and dynamic programs, coordinating civic engagement efforts and facilitating networking among service leaders across campus. The Volunteer Center houses a searchable online database (OrgSync) of volunteer opportunities for CMU students, coordinates civic engagement efforts across campus, and offers many programs, including America Counts and Reads, Lunch Buddies, Alternative Breaks, the Safer Sex Patrol, the David Garcia Project Disabilities Awareness Program, and Adopt-a-Grandparent. Additionally, the Volunteer Center provides leadership for special events throughout the academic year, including: Issue Day, MLK Jr. Day of Service, Valentines for Veterans, Be My Neighbor Day, and various other events.

For more information: Bovee UC 106; 989-774-7685; volunteer.center@cmich.edu; www.volunteer.cmich.edu.

Special Olympics Michigan

Since 1972, Special Olympics Michigan has been headquartered on the campus of CMU. Special Olympics Michigan provides year-round sports training and athletic competition in 23 sports for children and adults with intellectual disabilities. CMU students can help change lives by volunteering at the State Summer Games held on campus in June or at the State Winter Games in February, being a Unified Sports team athlete for inclusive opportunities, becoming an intern, or serving as a general office assistant at the Special Olympics Michigan headquarters. CMU volunteers can become involved in the local Special Olympics program either in Mount Pleasant or in their home communities. For more information or to become a volunteer, call 989-774-3911 or visit the website at www.somi.org; Be a Fan of Special Olympics.

Musical Events

The School of Music offers a wide variety of musical events, most of which are available at no charge to students and the general public. For a listing of upcoming events, see https://www.cmich.edu/colleges/CCFA/CCFAArtGallery/Pages/default.aspx.

University Theatre

Each year, the University Theatre presents a season of productions offering a range of periods and styles. Open auditions are held for every area of the production. Audiences enjoy discounts on multiple ticket purchases, and there are special student rates for performances. For information, call Ticket Central at 989-774-3000 or see https://www.cmich.edu/colleges/CCFA/CCFAArtGallery/Pages/default.aspx.

University Art Gallery

The mission of the University Art Gallery is to provide an opportunity for the University community and mid-Michigan communities to view exhibitions of contemporary art. UAG generates and provides educational access to exhibitions featuring both emerging and established regional, national, and international artists. UAG works to promote the discussion of contemporary art through artist lectures, residencies, and workshops. As part of the Department of Art & Design, the gallery serves as a unique classroom for students, providing opportunities for exhibitions, hosting a juried student exhibition, and providing internships. Central Michigan University faculty and alumni are routinely exhibited. In addition, the UAG provides exhibition tours and works with area schools to develop appropriate educational outreach programs for K-12 students.

The University Art Gallery is located in the A-Frame building at the corner of Franklin and Preston Streets. The gallery is open Tuesday through Friday, 11 a.m. to 6 p.m. and Saturday, 11 a.m. to 3 p.m. or by appointment (989-774-3800). For a schedule of exhibitions, please see https://www.cmich.edu/colleges/CCFA/CCFAArtGallery/Pages/default.aspx.

Student Media

Student Publications

Moore Hall 436
989/774-3493
Fax: 989/774-7805
www.cm-life.com

David Clark, Director of Student Publications
Kathy Simon, Assistant Director of Student Publications

• Central Michigan Life

Celebrating 96 years on campus, CM Life is a nationally-recognized, student-run media company that employs more than 100 students. Editors and reporters publish university, local and state news on cm-life.com, in print editions twice per week and produce podcasts. The company also employs advertising students who sell print and digital products, public relations students who offer promotional services and a creative services team that offers graphic design solutions. Advertising students also staff Social Café, an ad agency that offers print, digital and social media products to campus and community customers. Follow CM Life on Twitter, Facebook, Instagram, Snapchat, Pinterest and iTunes.

• The Central Review

The creative arts magazine of the university, the Central Review, is edited and published by students. It is published each semester and contains commentary, poetry, and creative writing. The magazine’s website is http://www.thecentralreview.com/.

Cocurricular Electronic Media

Located in Moore Hall, the School of Broadcast and Cinematic Arts operates the following facilities to provide BCA students with a broad spectrum of professional training opportunities:

• Moore Hall Television

is a full-time cable television station transmitting to the campus on channel 34 and the community on channel 189. MHTV offers practical experience in all phases of television programming, including News Central 34, mid-Michigan’s only daily television newscast. Other featured series regularly include sports, game and reality shows, as well as scripted entertainment productions.

• WMHW-FM

is a two-service HD station broadcasting digitally and at 91.5 and 101.1 on the analog band. Moore Rock 91.5 provides multiple counties with cutting edge music and extensive sports coverage. Mountain 101 offers the greater Mt. Pleasant area an Album Adult Alternative format. Both stations are streamed worldwide at www.wmhw.org and provide student broadcasters with intensive immersion in every aspect of programming and managing a dual station cluster.
University Advancement

Robert K. Martin, Vice President
Carlin Alumni House; 989-774-7161

Advancement

Advancement serves as the administrative home of the CMU Alumni Association and generates private gift revenues from individuals, corporations and foundations in order to accomplish the purposes and objectives of Central Michigan University. In pursuit of its mission, Advancement provides fundraising leadership to complement, encourage, and support university wide efforts to achieve comprehensive objectives for resource acquisition. At the same time, Advancement seeks to ensure the continuity of the fundraising effort and to achieve a continual and substantial growth in gift revenues throughout the university. For assistance or additional information, contact the Vice President of Advancement at 989-774-7161.

Alumni Relations

The Alumni Relations Office exists to perpetuate and enhance the lifelong relationship between the university and its graduates. The office develops multiple avenues to involve graduates and current students with CMU in a productive and positive manner.

Alumni are encouraged to return to campus and participate in traditional campus activities such as Homecoming and Alumni Reunion Weekend. Additionally, we encourage CMU alumni to get involved in their local Alumni Association chapters and clubs.

The Alumni Office helps foster a sense of spirit and pride in Central Michigan University students through the Future Alumni Association. The association was established to create opportunities for both alumni and students to build relationships and assist with the growth and development of CMU.

The Alumni Relations Office also publishes Centralight, the alumni magazine, four times yearly and online as a source of campus and alumni news to communicate with graduates of CMU.

CMU encourages alumni to enjoy an ongoing relationship with the university and to remain active with their alma mater. In recognition of this lifelong relationship, Central Michigan University has dedicated the Carlin Alumni House on campus to welcome over 210,000 graduates. For further information, please contact the Executive Director of Alumni Relations, located in the Carlin Alumni House at telephone 989-774-3312 or toll free 800-358-6903.

Government and External Relations

Kathleen M. Wilbur, Vice President
Warriner 208; 989-774-3871

Governmental Relations

The Government Relations office works closely with state, federal and local officials on funding and policy issues that impact the CMU community. The office also works closely with students, faculty and administrators, in planning and developing CMU’s response to proposed legislation, agency policies and developing relationships with key policy makers. The office also facilitates meetings with policy makers and handles inquiries from legislators regarding CMU’s academic and research activities on campus. For additional information please contact the Governmental Relations Office at 989-774-3871.

Public Broadcasting

Central Michigan University operates the largest university-owned public broadcasting network in the United States. With five television and eight radio stations, CMU Public Broadcasting is one of the university’s primary public service initiatives.

Television. Central Michigan University owns and operates public television stations WCMU-TV, channel 26, Mt. Pleasant; WCML-TV, channel 24, Alpena; WCMW-TV, channel 21, Manistee/Ludington; and WCMV-TV, channel 17, Cadillac, and WCMZ-TV, channel 28, Flint.

CMU Public Television broadcasts 24 hours per day, the year around, servicing a potential audience of over 5 million people. The stations are also on cable systems throughout the state.

Radio. CMU Public Radio operates eight transmitters serving central and northern Michigan, and portions of Ontario, Canada. These include: WCMU-FM (89.5 MHz) from Mt. Pleasant; WCML-FM (91.7 MHz) from Alpena; WCMB-FM (95.7 MHz) from Oscoda; WWMRT (96.9MHz) from Standish; WUCX-FM (90.1 MHz) from Bay City; WCMZ-FM (98.3 MHz) from Sault Ste. Marie; W236BU (95.1 MHz) from Traverse City; and WCMW-FM (103.9 MHz) from Harbor Springs.

The stations broadcast 24 hours a day, 365 days a year, providing programming of an informational and cultural nature. The broadcast schedule includes NPR news, and classical music, traditional music, jazz, opera, and radio drama.

CMU Public Television and Radio are staffed by professional personnel, as well as by students seeking a practical background in broadcasting. The network is affiliated with the Public Broadcasting Service and National Public Radio. CMU Public Broadcasting is located in the Public Broadcasting Center on the corner of Mission and Broomfield.

University Communications

Sherry Knight, Associate Vice President
West 202; 989-774-3197

University Communications promotes university activities such as scholarly achievements, groundbreaking research and public service initiatives to broad audiences throughout the state, region and world. Three units in UComm provide strategic communications services across campus. Our public relations team leads the university’s external and internal communications, including news releases, electronic news digests and official CMU social media channels. The integrated marketing team combines strategy and analysis to increase awareness and familiarity with CMU’s brand and reputation, whether that’s through our digital advertising campaigns, billboards or our official CMU websites. The creative services team produces and provides consultation on print and other visually engaging communication products, including college and alumni magazines and admissions materials. These three units collectively assist offices, departments and colleges with strategic communications planning, collaborate in creating promotional materials and help develop the messaging and stories that connect with intended audiences.
Admission and Special Admission Considerations

This section describes the university’s policies and procedures that affect graduate students and graduate programs. It is important to remember that these are the general policies; individual programs may have more rigorous standards for admission, program completion, or graduation. It is also important to remember that policies are not static. They are reviewed periodically, and sometimes, following appropriate university procedures, they are changed. When changed, they are printed annually in this Graduate Bulletin, and made immediately in the online version when necessary. The University recognizes that individual circumstances may create a situation in which it is appropriate to grant an exception to a policy given in this Bulletin.

Admission

College of Medicine Admission

Admission applications to the College of Medicine are completed through the American Medical College Application Service (AMCAS) at www.aamc.org/students/amcas. Additional information about the College of Medicine application requirements is available on the College of Medicine website www.cmich.edu/med. The admission office email address is cmmedadmit@cmich.edu.

Applying for Admission to Graduate Study

1. Graduate Application. Complete the online graduate application (apply.cmich.edu) or submit the application for admission located in the front of this Bulletin. Printed applications must be signed; unsigned applications are not processed.

2. Application Fee. Applications are not processed without payment of the application fee. If you have already received a graduate degree or certificate and are applying to another graduate program/certificate or if you were denied admission to a graduate program/certificate and you are reapplying or applying to a different graduate program you must submit another application fee.

3. Official Transcripts. All transcripts and diploma copies become the property of CMU. All applicants must hold a baccalaureate or equivalent degree from a regionally accredited U.S. college or university (accredited at the time the student attended), or in the case of institutions outside the U.S. a degree from an institution recognized by the government of that country at the time of attendance.

   • International students - As part of the admission process, students who have earned credit or had degrees awarded from an institution outside the United States must have their transcripts and diplomas evaluated by a credential service. CMU recommends World Education Services, Educational Credential Evaluators, or Josef Silny for credential services. A course-by-course evaluation and credential verification must be completed by the credential service and submitted to CMU via email GRAD-EDATA@cmich.edu or sent directly to the following address:

   Central Michigan University
   Graduate Student Services
   260 Ronan Hall
   Mount Pleasant, MI 49959.

   These documents will not be returned to the student. All other admission documents for the program the applicant is applying to must be submitted prior to an admission decision being made.

   Websites and application site: Transcripts/individual mark sheets/diplomas. Applicants must provide a third party course-by-course credential evaluation and document verification. World Education Services (www.wes.org), Educational Credential Evaluators (www.ece.org) and Josef Silny (www.jsilny.com) offer this service. Please have the complete evaluation and verification emailed to GRAD-EDATA@cmich.edu or sent directly to: Central Michigan University, Graduate Student Services, 260 Ronan Hall, Mount Pleasant, MI 48859

   4. Statement of Purpose. A brief, one-page statement describing your purpose and general plan for graduate study at Central Michigan University. The statement should include information about your future career plans, or any past or current activities or achievements which are related to your proposed field of specialization including any research or teaching experience you may have had.


Application Deadlines and Processing Time

Applying.

• Domestic applicants: apply 6 weeks prior to the registration period for the semester they plan to enroll.

• International applicants: students living within the United States should apply 6 weeks prior to the registration period for the semester they plan to enroll. Students outside the United States should apply 6-12 months prior to the registration period for the semester they plan to enroll.

• Non-degree seeking domestic applicants: apply 2 weeks prior to the registration period for the semester they plan to enroll. See Non-Degree Admission under Types of Admission for information and restrictions.

Decision Timeframe. Arrange for one official copy of all undergraduate and graduate transcripts to be sent directly to Graduate Student Services from the Registrar’s Office of each college or university attended (except CMU).

Applicants are normally notified of an admission decision six weeks after the completed application, fee, and supporting documentation (including any required by the department) are received. If any portion of the required or department supplementary materials are delayed, the process can take longer. Students who have not received an admission decision six weeks after their complete admission file is received should contact Graduate Student Services (989-774-GRAD) for assistance.

Application Deadlines. Some departments have application deadlines and consider all graduate applications after a certain date. Requirements may change, so all applicants, regardless of their field of specialization, should contact their specific departments to find out what, if any, application deadlines may exist.

CAUTION: Before coursework may be started, a student must apply for and be admitted to a program or be admitted as a non-degree/certificate student. Courses taken as a non-degree student may or may not be counted toward a graduate degree program. (See section titled “Types of Admission”)
### Application Deadline

<table>
<thead>
<tr>
<th>Program</th>
<th>Application Deadline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apparel Product Development and Merchandising Technology</td>
<td>March 1 (Fall Admission)</td>
</tr>
<tr>
<td></td>
<td>August 1 (Spring Admission)</td>
</tr>
<tr>
<td>Audiology</td>
<td>January 15</td>
</tr>
<tr>
<td>Communication</td>
<td>Spring Semester: October 15</td>
</tr>
<tr>
<td></td>
<td>Fall Semester: March 15</td>
</tr>
<tr>
<td>Counseling</td>
<td>Fall Semester: February 1</td>
</tr>
<tr>
<td></td>
<td>Spring Semester: September 1</td>
</tr>
<tr>
<td>Educational Leadership (Ed.D. &amp; Ph.D.)</td>
<td>Priority: Feb. 1; Regular: April 1</td>
</tr>
<tr>
<td>Educational Technology (DET)</td>
<td>March 1 until full</td>
</tr>
<tr>
<td>Health Administration (DHA)</td>
<td>April 11</td>
</tr>
<tr>
<td>Global Campus Only</td>
<td></td>
</tr>
<tr>
<td>History:</td>
<td></td>
</tr>
<tr>
<td>Joint M.A./Ph.D.</td>
<td>January 3</td>
</tr>
<tr>
<td>Traditional M.A.</td>
<td>Spring: November 1</td>
</tr>
<tr>
<td></td>
<td>Fall: July 15</td>
</tr>
<tr>
<td>Mathematics</td>
<td>February 15</td>
</tr>
<tr>
<td>Neuroscience</td>
<td>March 1</td>
</tr>
<tr>
<td>Physical Therapy</td>
<td>October 1</td>
</tr>
<tr>
<td>Physician Assistant</td>
<td>September 1</td>
</tr>
<tr>
<td>Psychology:</td>
<td></td>
</tr>
<tr>
<td>Applied Experimental</td>
<td>January 15</td>
</tr>
<tr>
<td>Clinical</td>
<td>December 1</td>
</tr>
<tr>
<td>Experimental</td>
<td>January 15</td>
</tr>
<tr>
<td>Industrial/Organizational</td>
<td>January 1</td>
</tr>
<tr>
<td>School</td>
<td>November 15</td>
</tr>
<tr>
<td>Science of Advanced Materials</td>
<td>March 15</td>
</tr>
<tr>
<td>Speech-Language Pathology</td>
<td>January 15</td>
</tr>
</tbody>
</table>

### Certificate of Admission

Graduate Student Services alone determines non-degree admission. Admission to a degree or certificate granting program is always contingent upon departmental approval. Only the Graduate Student Services has the authority to admit graduate students. Department and programs recommend admission or denial. Graduate Student Services issues the final decision. Using the department’s admission or denial recommendation, Graduate Student Services either denies admission or sends the student an official Certificate of Admission indicating the student’s admission status (regular, conditional, non-degree, provisional, or concurrent) as well as other pertinent information. The Certificate of Admission is valid for one calendar year following the effective admission date. If a student does not enroll in courses within one calendar year after being admitted for graduate study, the student is required to reapply for admission.

### Types of Admission

CMU has six categories of admission: regular, conditional, non-degree, provisional, concurrent (as a CMU graduating senior), and accelerated. A Letter of Admission is valid for one calendar year following the effective admission date. If a student does not enroll in courses within one calendar year after being admitted for graduate study, the student is required to reapply for admission.

Graduate applicants should be aware that concentrations in some disciplines may be open only to full-time, main campus students. Graduate applicants who cannot attend full-time should check with the department before seeking admission to a concentration in that department. Note: International students are required by law to be enrolled full-time.

---

All references to grade points and grade point averages (GPA) are based on a four-point scale. (The adaptation of this scale to the graduate school marking system at Central Michigan University is found under Academic Regulations.)

### Baccalaureate Degree Requirements

All applicants must hold a baccalaureate or equivalent degree from a regionally accredited U.S. college or university (accredited at the time the student attended), or in the case of institutions outside the U.S. a degree from an institution recognized by the government of that country at the time of attendance.

### Department Requirements

All applicants must meet the admission requirements of the department in which they wish to complete their graduate degree or certificate.

1. **Regular Admission**

   Requires at least a 2.7 cumulative, undergraduate GPA, or a 3.0 cumulative, undergraduate GPA in the final sixty semester hours of graded coursework toward a bachelor’s degree. At least 60 hours of undergraduate coursework must be graded.

2. **Conditional Admission**

   Conditional admission may be granted to students who do not meet all the requirements for regular admission or whose personal competencies a department may wish to assess prior to recommending regular admission. Departments or Graduate Student Services may require that the student be conditionally admitted with the requirement that he/she makes up the deficiencies and maintains an acceptable level of scholarship in graded coursework. Courses taken to make up deficiencies in preparation for regular admission may not be counted toward graduate degree/certificate requirements. Conditional admission to graduate study, even when accompanied by assignment to an academic advisor, does not constitute final admission. Students are considered admitted only when regular admission status has been granted.

   Students granted conditional admission are only considered to be regularly admitted to a specific curriculum when they have: a. fulfilled all the prerequisites for admission to the curriculum; b. submitted a completed Admission Status Reclassification Petition form with required signatures to Graduate Student Services; c. submitted an Authorization for Degree Program – Graduate or Doctoral form approved and signed by the appropriate personnel.

3. **Non-Degree Admission**

   Non-degree admission status is meant for applicants who: 1) are undecided as to curriculum choice, or 2) do not wish to earn a degree or certificate, or 3) do not meet the requirements for regular or conditional admission.

   **Coursework Restrictions:**
   - Students admitted as non-degree may register only for courses for which they meet the pre-requisites.
   - Students may enroll in an unlimited number of courses while having non-degree status however, dependent on graduate program/department approval a maximum of nine graduate credits may be applied toward a graduate degree or a maximum of six graduate credits may be applied toward a certificate. Departments may approve a higher or lower limit with Office of Research and Graduate Studies approval.
   - Graduate credits used to make up deficiencies in program preparation cannot be counted toward a degree or certificate. Students should contact the department chairperson or graduate coordinator in their proposed field of study for assistance in selecting coursework to make up deficiencies.
   - Students must maintain the required cumulative graduate GPA of 3.0.

### Re-evaluation for Regular or Conditional Admission

The time frame varies for non-degree students who wish to apply for conditional or regular admission. Students admitted to non-degree status because of failure to meet the requirements for conditional or regular admission may apply for admission once they have met the requirements to the satisfaction of the department which (continued)
offers the program and Graduate Student Services. "Undecided" students who do not have coursework deficiencies may apply for admission to a degree or certificate program at any time.

Non-degree students who apply for regular or conditional admission will be evaluated as all applicants are evaluated and the admission decision will be communicated to the student by Graduate Student Services.

Students wishing to change from non-degree to regular or conditional admission status must complete another admission application. However, no fee is required if the student paid the application fee when applying for non-degree status.

International applicants. International applicants holding a J-1 (exchange) visa may be allowed non-degree status. Only in unusual and rare circumstances may international students holding an F-1 (student) visa be granted non-degree status.

4. Provisional Admission

Provisional Admission is typically granted to 1) Students in the final semester of completing their bachelor's degree with the understanding that they will complete the baccalaureate prior to beginning their graduate studies or 2) Students who in rare circumstances submit an unofficial transcript or test scores pending receipt of official documents. Provisional admission is granted to these students in combination with another admission status (regular, conditional, and non-degree) contingent upon providing Graduate Student Services with the required information.

Students with provisional admission may only register for one semester of graduate coursework while awaiting the official documentation. It is the student's responsibility to request the registrar at the baccalaureate granting college or university to send an official copy of the final transcript reflecting the degree earned or official test scores to be sent directly from the testing organization to Graduate Student Services. A final decision relative to the applicant's admission will be made and the student will be notified of the decision. If the student fails to submit the required documentation the admission will be converted to a denial and the student will be removed from classes.

5. Concurrent Admission as a Graduating Senior

An undergraduate student may be permitted to register concurrently for graduate credit for the semester or summer session in which requirements will be completed for a baccalaureate degree, provided that the following conditions are met: 1) the student will be enrolled in a maximum of 12 undergraduate credits during the semester of concurrent registration; 2) during the semester of concurrent registration, the student enrolls in all remaining courses required for graduation; 3) during the semester of concurrent registration the student total credit load (undergraduate and graduate) will not exceed 15 credit hours; 4) the student has an undergraduate GPA of at least 2.7 or a 3.0 in the last 60 semester hours of graded coursework toward the bachelor's degree; and 5) only 500-level coursework is eligible for concurrent enrollment; and 6) the student is admitted to Graduate Studies (conditional or non-degree status). Students who do not comply with the conditions of concurrent admission may be dropped from their graduate courses. Students who fail to earn their baccalaureate degree at the end of the concurrently-enrolled semester will have their admission will be converted to a denial and the student will be removed from classes. Exceptions to the policy may be granted under any of the following circumstances:

a. Students who have completed all requirements for the bachelor's degree EXCEPT student teaching may be granted concurrent status prior to student teaching if they meet conditions 4 and 6 above;

b. Students admitted to an accelerated master's degree program at CMU may be granted concurrent status if they have completed at least 86 undergraduate credit hours and satisfy condition 4 above;

c. Exceptions may be granted by the Vice President/Dean of the Office of Research and Graduate Studies.

6. Accelerated Master's Degree Program

The Accelerated Master's Degree Program (AMDP) allows CMU undergraduate students who possess a strong academic background and are maintaining a "B" average in their undergraduate coursework to apply as seniors to specific graduate programs that offer an AMDP. Students with less than a "B" average may apply to the AMDP, but they should submit information as to why they believe they can be successful in graduate level coursework. The Accelerated Master's Degree Program (AMDP) allows students to reduce the total number of credits required to complete their undergraduate and graduate degrees by applying up to twelve 500 and 600-level credit hours (only 6 credits is allowable for MBA) toward graduation requirements on both degree programs. Generally, courses required on the undergraduate major may not be counted on the graduate program. Students must enroll for the courses at the undergraduate level and may not be enrolled in more than 15 credit hours (UG and graduate level combined) per semester. The courses will be added to the graduate level once they are satisfactorily completed. Not all graduate programs offer the Accelerated Master's Degree Program. Check the Graduate Studies website for the most recent list of Accelerated Master's degree programs.

Admission Procedures. Each program will determine admission criteria, which will be at least as rigorous as admission requirements for admission to the master's program, and procedures for its Accelerated Master's Degree. Generally, students will apply during their junior year for admission into the Accelerated Master's Degree Program to begin fall semester of their senior year. In most cases, the baccalaureate degree will be awarded within one year after admission into the Accelerated Master's Degree Program. Prior to earning the baccalaureate degree, students must earn at least a "B" in each course which applies to the graduate degree; if students do not earn a "B" in each course which applies to graduate degree the student will be dematriculated from the ADMP. If the student wishes to obtain a graduate degree he/she must apply for readmission into the regular master's program. If you are admitted to an AMDP, your financial aid may be affected. Contact the Office of Scholarships and Financial Aid for information (989-774-3674) or cmuosfa@cmich.edu.

Special Admission Considerations

International Student Admission

International applications for admission require longer processing time than other applications. Prospective students should be certain to allow ample time for documents to be sent to Graduate Student Services and should recognize that notice of admission may take longer than expected to reach them. Also, certain programs have application deadlines, usually early in the year, and this should be taken into consideration when applying for admission.

Guidelines for International Applicants

1. International applicants: students living within the United States should apply 6 weeks prior to the beginning of the course to enroll in a course or summer session. Students outside the United States should apply 6-12 months prior to the registration period for the semester they plan to enroll. Applications will be accepted after this date, but admission and the issue of an i-20 for international students who are outside the United States is not guaranteed in time to begin classes. The i-20 is processed by the Office of International Affairs. An applicant who is a citizen of a country other than the United States must submit International Graduate Student Application for Admission along with the required application fee. (U.S. citizens and international applicants who are permanent residents of the U.S. should submit a Domestic Application.) At the same time, the applicant must submit directly to Graduate Student Services one official copy of all diplomas and transcripts, as well as corresponding official English translations of non-English documents, from all post-secondary institutions attended. All transcripts and diploma copies become the property of CMU.
2. Many international students inquire about obtaining financial aid to assist with the expenses of a degree program. There is very little financial aid available to international students in the United States; most aid derives from U.S. government sources and is restricted to U.S. citizens and permanent residents. A condition of acceptance for international students is that they provide evidence of their ability to pay all tuition and living expenses for each year of your degree program when applying for graduate study. The cost of one academic year (nine months) is available on the Graduate Studies website. These figures do not include initial travel expenses or any summer expenses, including tuition, fees, or living expenses. Proof of funding consists of a completed Financial Support Form and an original copy of a current bank statement. It is expected that international students will have this support and some students may be expected to pre-pay.

3. **English Proficiency Standards:**
   a. **Test of English as a Foreign Language (TOEFL):** A score of 500 PBT/61 IBT is required for conditional admission or 550 PBT/79 IBT for regular admission.
   b. **International English Language Testing System (IELTS)** Academic Module: A score of 5.5 required for conditional admission or 6.5 for regular admission.
   c. **Pearson Test of English, Academic Module:** A score of 44 for conditional admission or 53 for regular admission.
   d. **International Baccalaureate (IB):** A grade of 5 in English at the Higher Level is required for regular admission.
   e. **Michigan English Language Assessment Battery (MELAB):** A score of 69 is required for conditional admission or 77 for regular admission.
   f. **ELS Language Center Program:** Completion of Level 112 for regular admission.
   g. **ELI (CMU English Language Program):** Successful ELI completion and recommendations for regular admission.
   h. **English Language Programs:** English Language Programs from outside CMU may be considered on an individual basis.
   i. **English Language of Instruction (Received Baccalaureate Degree):** Applicants whom have satisfactorily completed a baccalaureate degree where the language of instruction is English may also qualify for English Proficiency.
   j. **English Language Proficiency Testing Exemptions (List of Exempt Countries):** To view a list of English Language Proficiency Testing Exemptions, Exempt Countries please go to [www.grad.cmich.edu/toefl](http://www.grad.cmich.edu/toefl)

4. **Conditional Admission:** Students who are granted conditional admission will be required upon arrival to take an English proficiency test administered by CMU’s English Language Institute (ELI). The results of the test will be used to determine the number of courses they will be required to take through the ELI. Such conditionally admitted students will be allowed to take a restricted number of courses in their academic disciplines concurrently with the ELI courses and must complete all required ELI courses by the end of their first year at CMU. Once satisfactory proficiency in English has been demonstrated, as determined by ELI policies, these restrictions will be removed.

5. **Bridge Admission:** Applicants with no English proficiency scores or whose scores are below the minimum requirements for regular or conditional admission may be admitted as graduate students through the University International Bridge Program. Students admitted to the Bridge Program must take the ELI placement test upon arrival at the University. Based on the results of this test, students may be placed into the Intensive English Program, Dual Program, or no English language classes.

---

**Admission of CMU Faculty and Staff**

A faculty member, administrator, or staff member at CMU may not be admitted to a graduate degree or certificate program or earn a graduate degree or certificate in a program in his/her own department. A faculty member, administrator, or staff member at CMU may be admitted to a graduate degree or certificate program and earn a graduate degree or certificate in a program in his/her own college, provided that he/she has written permission from the dean of his/her college. The written permission will be retained in the student’s file. A faculty member, administrator, or staff member may be admitted to a degree or certificate program that is outside his/her own college.

A faculty member, administrator, or staff member in Global Campus may pursue a graduate degree or certificate through Global Campus provided that he/she has permission from the Vice President/Dean of the Office of Research and Graduate Studies.

**Admission with Baccalaureate from Schools without Recognized Standing**

An applicant who holds a baccalaureate or equivalent degree from an institution which does not have recognized academic standing may be granted regular or conditional admission to a degree program on the recommendation of the chairperson of the academic department concerned and the concurrence of the Vice President/Dean of the Office of Research and Graduate Studies or, optionally, non-degree admission at the discretion of the Vice President/Dean. Such an admissions decision will be based on a careful evaluation of the applicant’s qualifications, acceptable evidence of the institution’s competence in the student’s principal areas of preparation, and other relevant factors.

If granted conditional or non-degree admission, the student may be required to complete a number of hours of graduate or upper-level undergraduate qualifying coursework at CMU in the proposed field of study with a grade point average of 3.0 (B) or higher to become eligible to apply for regular admission to a degree or certificate program. An applicant admitted with such a stipulation is advised to consult the chairperson of the department in which he or she wishes to study for help in selecting appropriate qualifying courses. No department, however, is obligated to accept the applicant upon the completion of qualifying coursework if, in its judgment, the applicant is still not appropriately prepared for degree or certificate work. Qualifying coursework clearly stipulated as preparatory to normal degree or certificate requirements may not thereafter be counted toward any graduate degree or certificate program.

**Military Service Commission**

A commission in the United States Army may be obtained while enrolled in graduate school. Interested individuals should contact the chairperson of the Military Science Department, telephone 989-774-3049.

**Global Campus Enrollment**

Students who have been admitted to Graduate Studies may enroll in graduate courses scheduled through Global Campus. Non-degree admission is available for students who wish to take continuing education courses without pursuing a degree or certificate. Courses taken through Global Campus may count toward the satisfaction of requirements in appropriate authorized graduate degree or certificate programs. It is the student’s responsibility to consult his or her advisor to determine which courses will apply in specific programs.

**Note:** International students who are issued an I-20 to pursue graduate studies at CMU are restricted to enrolling in one on-line course per semester. The department chair or graduate program coordinator must approve any coursework done through Global Campus.
**Duration of Admission Status: Time for Completion of Degree**

After admission to a graduate program of study, students are expected to complete degree or certificate requirements in a responsible and timely manner. For full-time students, two calendar years should be adequate for the completion of most master’s degree programs; five calendar years should be adequate for the completion of most doctoral programs. Part-time students may need a somewhat longer period to meet these requirements, but in all instances, coursework and other requirements must be completed within the following time limitations:

1. Graduate Certificate: within seven years;
2. Master’s or Specialist’s degrees: within seven years;
3. Doctoral Degrees: within eight years if the student had a relevant graduate degree when beginning the program OR within ten years if the student began doctoral study without a relevant prior graduate degree.

**Continuous Registration**

Any main campus student who has completed all academic coursework except the final project (Plan B project or internship, thesis, doctoral project, dissertation) must be enrolled in at least one CMU graduate credit hour each fall and spring semester until graduation (summer sessions as well if summer course work is normally required in the program). The Continuous Registration for Final Research Project (course 619) within the student’s home department can fulfill this one credit hour requirement.

If, after all academic coursework except the final project is completed, a student does not enroll each fall and spring semester (and summer, where appropriate) until graduation, the student must enroll retroactively for each missed semester (including summer, where appropriate) once s/he returns to complete the project. A student may request a leave of absence by submitting a Leave of Absence Request form to the Office of Research and Graduate Studies; if approved, continuous registration will be waived during the approved leave period. Regardless of whether the student has a leave of absence, the student must still complete the degree within the time-to-degree limitations set forth under the degree requirements.

**Thesis/Doctoral/Dissertation.** To be exempt from the 619 continuous enrollment credit, a student must successfully defend his/her thesis/doctoral project/dissertation before the beginning of the semester (defined by the first day of class).

If a student successfully defends his/her thesis/doctoral project/dissertation before the beginning of the semester, he/she will receive "exempt" status for one semester. If the student does not complete the thesis/doctoral project/dissertation project outline by Graduate Studies within that semester, the student will be charged for the 619 continuous enrollment credit each semester until he/she graduates.

**Internships.** A student completing an internship will be given one academic year beyond his/her internship course to complete his/her internship and graduate. After that year, the student will be charged for the 619 continuous enrollment credit each semester until he/she graduates.

**Comprehensive Examinations.** A student will be given one semester after his/her comprehensive examination course to take the examination. If the student does not take the comprehensive examination next semester or fails, he/she must register for 619 continuous enrollment credit until he/she graduates or does not pass the exam.

**Extension of Time Requests**

Extension of time requests are serious and approval by the advisor and department do not guarantee approval by Graduate Studies. Extension of time to complete a degree or certificate are rarely granted and only considered if there are clearly extenuating circumstances. Typically “life” events (employment changes, responsibilities, or promotions, marriage and births) do not count as extenuating circumstances. Students must demonstrate the following for their requests to be considered by Graduate Studies: compelling extenuating circumstances, current knowledge in the subject matter they wish to extend, and steady progress toward the certificate or degree. Students that have not been enrolled at CMU for more than two years are not making steady progress. Transfer credit is not eligible for extension consideration. Extension requests are limited to a one time request of twelve to eighteen months. Extension requests are limited to a one time request of twelve to eighteen months total and for up to 9 graduate credit hours. If an extension is granted, a second extension is highly unlikely and students should plan accordingly. Extension of time request forms are available on the Graduate Studies website [www.grad.cmich.edu](http://www.grad.cmich.edu).

Admission to Graduate Studies is valid for four to ten years (depending on the degree or certificate sought) after the date of first admission, except by cancellation for cause, or by one of the following provisions:

1. **Degree or Certificate Recipients.** The student’s admission to Graduate Studies is terminated upon completion of all requirements for a degree or certificate. (This provision does not apply to students who earn a master’s degree while enrolled in a doctoral program, or to students who earn a certificate while enrolled in a master’s or doctoral program.) To resume graduate study thereafter on a second degree program or as a non-degree student, the student may apply for readmission by submitting an Application for Admission.

2. **Termination of Admission.** This policy is explained under the “Duration of Admission Status,” noted above.

3. **Inactive Status.** If a student does not register for the initial graduate work within one year after the date of admission to Graduate Studies, or if in completing one or more courses the student earns no further graduate credit at this university for three consecutive years, the student is classified as inactive and the admission is terminated. If the student has completed one or more courses, the permanent record card is retained by the Registrar. The student may thereafter apply for readmission to resume graduate study at a later date by submitting an Application for Admission and supplying all other documents requested by the department concerned.

If a student does not earn graduate credit at CMU for seven consecutive years, the student’s original application, letters, transcripts from other universities, and other materials will be destroyed. If one wishes to apply for readmission after that length of time, all materials, including a new application, transcripts and other documents requested by the department will need to be submitted.
Orientation
An online orientation is available for students admitted to Graduate Studies at www.grad.cmich.edu, and is available at the student’s convenience.

Academic Load
Graduate Studies considers the following a normal course load:
- Full-time resident student fall or spring semesters: 9-12 graduate credit hours
- Full-time resident student summer semester: 4-6 graduate credit hours
- Graduate Assistants fall or spring semesters: 6 credit hours
- Graduate Assistants summer semester: 1 credit hour

A graduate student may not enroll for more than 15 graduate credit hours in the fall or spring semester, nor may the student enroll for more than 15 graduate credits in the two summer sessions combined. Exceptions to the limitation are automatic for programs that require more graduate credits in a given semester. Students should check with their department to learn if their department requires additional graduate credit hour registration. Other exceptions require the graduate advisor and the Vice President/Dean of the Office of Research and Graduate Studies.

To qualify for financial benefits as a full-time student under programs of the Veteran’s Administration, and/or to qualify for financial benefits as a full-time student under programs of the Social Security Administration and/or for certain loan agreements, students must carry a minimum of nine credit hours during the fall and/or spring semester. For shorter sessions, contact the financial aid office for information on minimum loads for full-time status.

Unless financial or immigration requirements necessitate defining a minimum number of hours for status as a full-time graduate student, there is no minimum load requirement for graduate studies. It is expected that students will assess need, ability, and other factors judiciously and register for a class load that permits them to maintain academic standards.

In order to use CMU resources (e.g., computers, laboratories, equipment, faculty) during the regular academic year, graduate students must be registered for a minimum of one credit hour.

See "Continuous Registration" in the Index for more information.

Academic Supports
Center for Community Counseling and Development
The Center for Community Counseling and Development provides counseling and assessment services for community residents and schools and CMU students. Advanced graduate students in counseling ordinarily perform these services under the supervision of the counselor education faculty members. Some services provided are: individual counseling for children, adolescents and adults; family and couples counseling; play therapy for children; general counseling for emotional problems and life adjustment concerns; career and employment counseling; referral help in finding appropriate services for identified problems; and consultation with community agencies and schools. In addition to serving the needs of referrals during the school year, the Center for Community Counseling and Development provides counseling and consultative services during the summer months. The Center for Community Counseling and Development is administered by the Department of Counseling and Special Education and may be reached at 774-3532; 322 EHS Building.

Psychological Training and Consultation Center
The Psychological Training and Consultation Center (PTCC) is a CMU training clinic which offers low cost psychological services, including psychotherapy and psychological assessment, to CMU students and community residents. Services are provided by CMU Psychology graduate students who are training at PTCC, and they are supervised by Psychology Department faculty. In addition, specialty services are offered through PTCC, including the Violence Reduction Treatment Program, Parent-Child Interaction Therapy, Trauma and Anxiety Disorders Clinic, Neuropsychological Assessment Clinic, School Psychology Specialty Clinic, and the Learning Acceleration Program. For further information about any PTCC program, or to request services, call 989-774-3904.

Speech, Language, and Hearing Clinics
The Speech, Language and Hearing Clinics are operated by the Department of Communication Disorders at CMU and at facilities in the Central Michigan area. These clinics are part of the Carls Center for Clinical Care and Education and emphasize complete programs in evaluation, diagnosis, and rehabilitation of children and adults with communication disorders. The academic and clinical service programs in Audiology and Speech-Language Pathology are nationally recognized by full accreditation from the Council of Academic Accreditation of the American Speech-Language-Hearing Association. In addition, the Audiology program is the first in the USA to be nationally recognized by full accreditation from the Accreditation Commission for Audiology Education of the American Academy of Audiology.

Each summer, a five-week coeducational specialty program is offered for children and adolescents up to the age of 18 years, with speech, language, voice, fluency and hearing disorders. Participants receive approximately 60 hours of therapy at the Carls Center for Clinical Care and Education. Since its inception in 1946, this clinic has served thousands of children. Enrollment in this clinic is approximately 75 children each summer. The staff includes university faculty; practicing speech, language, and hearing professionals; graduate students; and selected undergraduates.

The Department of Communication Disorders offers students in Audiology and Speech-Language Pathology diverse clinical opportunities. Practicum experience may include medical care facilities, educational settings, preschool language programs, hospital clinics, voice clinics, otolaryngologists’ offices, and adult work activity centers. Students completing the master’s degree program in Speech-Language Pathology or the professional doctoral degree (Au.D.) in Audiology fulfill the academic and clinical requirements for the Certificate of Clinical Competence issued by the American Speech-Language-Hearing Association. The Carls Center for Clinical Care and Education, Health Professions Building, 989-774-3904.
Career Services

Career Services is located in Ronan 240 and can be reached at 989-774-3068 or careers@cmich.edu. Career Services works with students and graduates on career advising and job search strategies. The office helps students who are seeking advice on their career path along with helping to develop job-seeking skills, writing resumes, and interviewing techniques. An extensive career website is provided for use by all main campus students and alumni. The website contains general career information, tips for seeking jobs, and Handshake for managing your job search, seeking employment opportunities and networking.

The center also coordinates recruiting on CMU’s main campus by businesses, government agencies, and educational institutions and serves as a clearinghouse for employment opportunities. For more information, see https://www.cmich.edu/ess/academicadvisingassistance/career_services/Pages/Default.aspx

Computer-based Testing Center

The Computer-based Testing Center provides testing services for students. This includes graduate entrance examinations, such as the Graduate Record Examination (GRE), Miller’s Analogies Test, and Graduate Management Admissions Test (GMAT). Call 989-774-1092 for additional information or visit the website at https://centrallink.cmich.edu/Pages/default.aspx and search on CBTC.

Registration

Registration Information and Procedures

Students are eligible to enroll in graduate level courses after they receive their admission letter. Initial registration must occur within one calendar year of the admission date or the student will need to reapply.

Registration is published by the Registrar’s Office (https://www.cmich.edu/Registrar). Exact dates are listed in the Course Search & Registration.

Graduate students may register any time during the registration period via https://www.cmich.edu/centrallink. It is recommended that they register during the special computer time reserved for graduate students. The procedures for registration are described in the Class Schedule. However, before registering for courses, students should verify that they meet the prerequisites. This is particularly true for internships, practica, independent studies, and thesis/dissertation credits. CAUTION: Students should always consult their advisors to determine which classes to take.

Note: Occasionally a student who is trying to register is told that there is a “hold” on his or her registration. Students who receive this message should contact Graduate Student Services at 989-774-GRAD to determine the cause of the hold.

Dates and Procedures

Information regarding dates and procedures for on-campus registration for a particular semester or session is published online by the Registrar’s Office at https://www.cmich.edu/ess/registrar.

Registration information and the Course Search & Registration will be available on the Registrar’s web page in February for Summer Sessions, in March for Fall Semester, and in October for Spring Semester.

The academic year at CMU is divided into the following sessions: two semesters of sixteen weeks each, and two summer sessions of six-weeks each with concurrent three-week and twelve-week sessions. For opening dates, see the university calendar at the front of this Bulletin.

Some Saturday and evening classes are offered on campus each semester for students who cannot attend at other times. If you wish to take a class for graduate credit, be sure that you are admitted to the College of Graduate Studies. Information regarding the types of graduate admission are given in this Bulletin. For additional information, contact Graduate Student Services, Ronan 260, 989-774-GRAD.

Change of Registration (Drop & Add)

Courses may be dropped using CentralLink with a full cancellation of tuition and fees any time before the course meets a second time. Courses can be added only during registration. Refer to the appropriate Course Search & Registration for registration dates and procedures.

For Global Campus and CMU Online classes, registration, drop and withdrawal dates see http://global.cmich.edu/courses/drop-withdraw.aspx.

Withdrawing from a Class After Drop/Add Period

1. Students are allowed to withdraw from an individual course using CentralLink if they do so before the published deadline. The student will receive an e-mail that the withdrawal has been received by the Registrar’s Office.

2. At the time of the withdrawal, the student will be asked to indicate a reason for withdrawal and indicate their attendance in the course, either never attended or the last date attended.

3. Students will receive W’s as an indicator of withdrawal through the tenth week of the Fall or Spring semester or through the midpoint of all courses shorter than one semester. No individual course may be withdrawn after this time.

4. Faculty will also be sent an e-mail regarding the withdrawal and the attendance reported by the student. The instructor will notify the Registrar’s Office if he/she shows a different attendance period than reported by the student. Also in cases involving academic dishonesty, the instructor will notify the Registrar’s Office and the course will be reinstated. The final grade determination shall be left to the discretion of the instructor.

5. Under unusual circumstances, a student may appeal to the Registrar for exceptions to this policy. If a waiver is made, the Registrar shall notify the instructor of this action. The Registrar’s actions may be appealed to the Executive Director for Academic Advising and Assistance.

Internships, Practica, Independent Studies, Theses, Doctoral Projects, Dissertations

Students registering for internships, practica, independent studies, theses, doctoral projects, or dissertations should be aware that these courses ordinarily require the permission of the instructor and/or department chairperson prior to registration. Specific registration requirements for each course will appear in the Bulletin description; these requirements must be observed.

In addition, students may NOT enroll for more than three thesis/doctoral project/dissertation credits until the Prospectus and committee composition have been approved at the department level. This is to ensure that if the Prospectus is not approved by the Vice President/Dean of the Office of Research and Graduate Studies that the student has not wasted valuable time, credits, and resources. Projects undertaken prior to the Vice President/Dean of the Office of Research and Graduate Studies approving the Prospectus may be denied and the project deemed invalid.
Student Account Services and University Billing

Central Michigan University
Bovee University Center 119
Mount Pleasant MI 48859
989-774-3618
888-610-4991
Fax: 989-774-1452
E-MAIL: recacct@cmich.edu

Central Michigan University utilizes a centralized billing method to bill for all departments at CMU. The Student Account Services and University Billing Office is responsible for the billing and collection of student accounts. Each student has an account with the University that is identified by his or her student identification number. This account includes all charges or payments made by the student or university.

Billing Procedures and Delinquent Account Policy

Central Michigan University sends monthly billing statement notifications electronically to CMU global email addresses. Students are responsible for accessing these monthly statements in the QuikPay Billing System via CentralLink to view their account balances and payment due dates. The monthly statements may include tuition, course fees, on-campus housing, bookstore, health services, telecom, parking fees and other miscellaneous charges.

Students may incur late fees if the monthly balances is not paid by the scheduled due date. Financial holds will be placed on accounts with a past due preventing course registration and release of transcripts. Monthly late fees will be assessed to the account as follows:

<table>
<thead>
<tr>
<th>Past Due Amount</th>
<th>Late Charge</th>
</tr>
</thead>
<tbody>
<tr>
<td>$0.01-$9.99</td>
<td>No late fee</td>
</tr>
<tr>
<td>$10.00-$59.99</td>
<td>$1.00 per month</td>
</tr>
<tr>
<td>$60.00 and above</td>
<td>$30.00 per month</td>
</tr>
</tbody>
</table>

Past due accounts may be referred to a collection agency, and, if referred, the fees assessed to the University by the collection agency will be added to the student’s account. Once the account is referred to a collection agency, the past due account may be reported to the Credit Bureau by the collection agency. Students are encouraged to visit the Student Service Court on the lower level of the Bovee University Center to receive advice regarding financial options which could possibly prevent collection referral. Please be advised that CMU reserves the right to suspend campus ID privileges and charging privileges to the student account at any time due to a past due balance, including, but not limited to, meal plan, flex and campus cash, computer lab, library, bookstore, SAC, telecom and health service charges. Any delinquencies from the University Apartments may result in the initiation of eviction proceedings. In addition, students with delinquent accounts may have a prepayment hold placed on their account, requiring payment in full at the time of registration for all future semesters.

Past Due Policy for Fall Semesters Only

Any student registered for a Fall semester with a past due balance of $200.00 or greater will be removed from all registered courses on August 1st. All students will receive prior notification of the registration removal after the July billing statements have been issued (approximately the first week in July). If past due balances are not brought current after notification is sent and before August 1st, registration from courses for the Fall semester will be removed.

Tuition and Fees

Tuition and fees are established by the Board of Trustees and are subject to possible change. Contact the Student Account Services and University Billing Office at 888-610-4991 for updated information, or see http://www.cmich.edu/registrar_office/RegistrarRegistration/Pages/Tuition_and_Fee_Schedule.aspx for updates.

Tuition and fees for registration are to be paid in full when billed. Any past due financial obligations must be paid prior to the time of registration. Registration will not be allowed until such obligations are met.

CMU has a convenient and affordable tuition payment plan. The payment plan is an interest-free way to help students pay for college. Students may enroll online for this option, which allows more flexibility with tuition payments. For more information, ask a Student Service Court Advisor located in Bovee University Center 119 or see https://www.cmich.edu/fas/fsr/student_acct_university_billing/SASUBCMUPaymentPlan/Pages/default.aspx.

Tuition Rates for Main Campus Credit Courses

<table>
<thead>
<tr>
<th>Level of Courses</th>
<th>Michigan Residents</th>
<th>Non-Michigan Residents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master's/Specialist</td>
<td>$548.00</td>
<td>$819.00</td>
</tr>
<tr>
<td>Doctoral</td>
<td>$627.00</td>
<td>$906.00</td>
</tr>
</tbody>
</table>

Application Fees

Graduate:
- $45.00 for U.S. citizens and resident aliens to be submitted with the application form.
- $60.00 for international students to be submitted with the application form.

Late Registration Fee

An additional fee of $100.00 will be charged to all students registering on or after the first day of classes for the semester or session.

Non-Payment Tuition Charge

Payment for tuition must be received by the stated due date or the student will be assessed a $100.00 Non-Payment Tuition Charge in addition to a $30 monthly late fee.
Financial Information

Returned Check Fee
A $25.00 handling fee is charged for checks returned by the bank (i.e., insufficient funds, account closed) which were presented to the university. Students may be involuntarily withdrawn from all classes if returned checks intended to cover tuition and/or past-due balances are not repaid as directed in the Notice of Returned Check letter. This letter will be mailed from the university upon receipt of a returned check.

Auditing Course Fee
Students who attend classes but do not desire credit pay the same fees and are governed by the same regulations as students desiring credit.

Special Course Fees
Many courses are approved for special course fees that must be paid in addition to tuition to cover costs of materials and services supplied to students. All courses with special fees will have the amount identified next to the course in the special fees column of each Class Schedule.

Global Campus Classes. For information regarding fees for Global Campus Programs and Educational and Professional Development, please contact the Global Campus Office at 989-774-3865.

Field Trips. Expenses involving field trips in a class may be prorated among members of the class.

Excess Materials. Students using materials in excess of those furnished by the departments of Chemistry, Human Environmental Studies, Engineering Technology, and Journalism will be charged for the cost of those materials.

Study Abroad Administrative Fee. CMU students enrolling in a study or internship program abroad pay a $150 administrative fee to the Office of International Affairs. Students not currently enrolled at CMU pay a $300 administrative fee.

Credit by Examination Fee
The credit by examination fee is calculated according to the tuition rates in effect, based on resident/non-resident and undergraduate/graduate status of the student.

Graduation Fee
To apply for graduation, there is a $50 fee.

Transcript Fees
Five official transcripts per week are free, however there is a $10.00 charge for priority (same day) service. Transcripts are available upon receiving a written, hand-signed request from the student. Transcripts of students with financial obligations to the university are not released until the obligation is paid.

Diploma Replacement Charge
- $25.00 - Master’s and Specialist’s degrees
- $35.00 - Doctoral degrees and Graduate Certificates

Library Fees
Overdue reserve material:
- Two-hour reserve materials: $1.00 first hour, 25 cents each successive hour.
- Other reserve materials: $1.00 first day, 50 cents each successive day.

All Other Overdue Books:
- $5.00 charge for each overdue item. Replacement cost of the purchase price of the item or $60.00 if the purchase price is not available plus $15.00 processing fee for lost items. Library fines may be paid on your CMU student account.

Housing Fees
Residence Halls. Various contracts are available depending on individual meal plans. Information regarding the plans, payment due dates, etc., can be found at www.reslife.cmich.edu. The cost of the room and unlimited meal plan for the academic year 2015-2016 range from $8,780 to $10,096.

University Apartments. Various contracts are available depending on the individual unit and number of bedrooms. The approximate monthly rate for students in 2015-2016 range from $494 to $685.

Housing Application and Penalty Fees
- Meal Plan Changes (Assessed to cover costs): $15.00
- Housing Contract Breakage: Contract breakage fees for cancellation of Housing Agreement will be assessed according to the Housing section of this Bulletin. (See Index.)

Lost Key Fee and Lock Change Fee
- University Apartments: $33.00-50.00; $20 for US Mailbox key; $20.00 for Graduate Housing fob
- Residence Halls: $50.00 - $100.00

Student Photo Identification Card
Students receive their photo identification card from the CentralCard Office in the Bovee University Center Room 205. The first card is issued to the student at no charge. There will be a fee assessed for a replacement ID card due to loss or damage. Banking Services using the ID card are also available. For additional information, contact the Campus ID Office at 989-774-3484 or visit the website at https://centrallink.cmich.edu/services/student_services/central_card/Pages/default.aspx.

Transfer of Campus ID Card. For your protection, the only person authorized to use your card is you. There is a $25 misuse fee if someone else is caught using your identification card.

Health Services Fees
University Health Services charges fees for the services provided. Payment is not required on the date of the visit. Charges may be placed on the student’s CMU account and will be included on the next monthly billing statement. Courtesy insurance billing is provided if the student presents proof of current coverage (insurance card or photocopy of it) and authorizes us to do so. University Health Services participates with a number of health insurance and prescription drug plans. Some fees are subject to change without notice. For current charges for specific services contact the Health Services Business Office in the Bovee University Center Room 205. The first card is issued to the student at no charge. There will be a fee assessed for a replacement ID card due to loss or damage. Banking Services using the ID card are also available. For additional information, contact the Campus ID Office at 989-774-3484 or visit the website at https://centrallink.cmich.edu/services/student_services/central_card/Pages/default.aspx.

Vehicle Registration Fee
- Commuter: 175.00 / year
- Resident: 150.00 / year

Vehicle Registration Refund
- Students not returning for the Spring Semester will be entitled to a fifty percent motor vehicle registration refund. Applications must be made prior to the end of the first week of classes of the second semester. Students withdrawing within two weeks of the first day of classes are entitled to a full refund of the motor vehicle registration fee for that semester. Applications for refunds should be made to the University Police and accompanied by identifiable portions of the parking decals.

Bicycle Registration
Bicycles must be registered permanently at the University Police Department. There is no charge for this service. (Fees subject to change. See https://centrallink.cmich.edu/services/emergency/cmu-police/bike_reg/Pages/default.aspx)
Resident Status Policy

I. Introduction.
Central Michigan University has a commitment to the resident taxpayers of the State of Michigan to provide educational opportunity at lower tuition rates than those charged to non-residents. Therefore, there are two general tuition rates, one for Michigan residents and a higher one for non-residents. For the purposes of determining resident status by CMU, “domicile” is defined as the place where an individual intends his/her true, fixed and permanent home and principal establishment to be, and to which the individual intends to return whenever he or she is absent. This policy is designed to explain how a student may demonstrate the required intent and establishment of a domicile in Michigan. An individual whose activities and circumstances, as documented to the University, demonstrate that he or she has established a domicile in Michigan and intends to be domiciled in Michigan will be eligible for classification as a resident. An individual whose presence in the state is based on activities and circumstances that are indeterminate or temporary, such as (but not limited to) educational pursuits, will be presumed not to be domiciled in Michigan. The burden of proof is on the applicant to demonstrate with clear and convincing evidence that he or she is eligible for resident classification under this policy. To overcome a presumption of non-resident status, a student must file a properly completed Application for Resident Status and document with clear and convincing evidence that a Michigan domicile has been established. Furthermore, the University reserves the right to audit enrolled or prospective students at any time with regard to eligibility for resident classification and to reclassify students who are registered under an improper resident status.

II. Determining Resident Status.
A student’s status as a resident or non-resident is established based upon the domicile of the student. The circumstances and activities to be considered in determining a student’s domicile are set forth below:

A. Resident Status:
1. A student who is a dependent of parents who have established Michigan as their domicile will be classified as a resident for tuition purposes.
2. A student 18 years or older who has attained independent status may be classified as a resident for tuition purposes if the student:
   a. documents one year of continual physical presence in the state as one of the criteria for determining eligibility for resident status, as described in II.C., below, and,
   b. demonstrates by clear and convincing evidence that the student has established Michigan as his or her domicile and intends to make Michigan the student’s permanent home, each independent of the student’s attendance at CMU.

B. Non-Resident Status:
1. Any student under the age of 18 whose parents have not established Michigan as their domicile is presumed to be a non-resident student.
2. Any student over the age of 18 who is financially dependent on parents who have not established Michigan as their domicile is presumed to be a non-resident student.

C. Physical Presence in Michigan:
1. Generally, an individual must document one year of continual physical presence in the state as one of the criteria for determining eligibility for resident status. The year to be documented will be one year immediately preceding the first day of classes of the term in question. The year of continuous presence is never the only criterion used for determining resident eligibility and, in itself, will not qualify a student for resident status.

2. If the one year resident requirement is fulfilled while a student is enrolled in this University or another institution of higher education, it is presumed that this student has not established domicile in the State of Michigan. However, if substantial information exists (see below for other factors) which clearly demonstrates the establishment of a Michigan domicile, the individual may be immediately eligible for resident status prior to the passage of one year.

D. Circumstances and Activities Which Lend Support to Claim of Michigan Resident Status:
The following circumstances and activities, though not conclusive or exhaustive, may lend support to a claim that a student has established Michigan as the student’s domicile and intends to make Michigan the student’s permanent domicile.
1. A person appointed to a regular full-time position at the University (and that person’s spouse or designated Other Eligible Individual (OEI) defined by CMU’s OEI program through Human Resources, and dependent children) may be classified as a Michigan resident for tuition purposes.
2. A non-resident transferred to Michigan for full-time employment purposes and that individual’s spouse or children may be classified as a Michigan resident for tuition purposes.
3. Any individual using educational assistance under either Chapter 30 (Montgomery GI Bill® – Active Duty Program), Chapter 33 (Post-9/11 GI Bill®), of title 38, United States Code, and/or the Marine Gunnery Sergeant John David Fry Scholarship (38 U.S.C. § 3311(b) (9)) who lives in the State of Michigan while attending Central Michigan University (regardless of his/her formal state of residence). Covered individuals (includes Veterans, current military personnel, and family members), eligible for VA education entitlement must provide a copy of the VA Certificate of Eligibility (COE) letter verifying approval of VA educational entitlement. Veterans and current military personnel include those individuals from all branches of the military including Army, Navy, Air Force, Marines, Coast Guard, Army and Air National Guard, and Reservists. Periods of qualifying service will be verified via a copy of the veteran’s DD-214 form (member 4).
4. A student who is married to a person who is classified as a Michigan resident will be classified as a Michigan resident for tuition purposes.
5. A student who has a parent or grandparent who graduated from CMU will be classified as a Michigan resident for tuition purposes.
6. Additional Circumstances and Activities:
   a. Continuous presence in Michigan during periods when not enrolled as a student.
   b. Reliance upon only Michigan sources for financial support.
   c. Domicile in Michigan of family, guardian, or other relatives or persons legally responsible for the student.
   d. Former domicile in the State of Michigan and maintenance of significant connections therein while absent.
   e. Ownership of a home in Michigan if purchased without support from non-Michigan sources.

(continued)

GI Bill® is a registered trademark of the U.S. Department of Veterans Affairs (VA). More information about education benefits offered by VA is available at the official U.S. government Web site at www.benefits.va.gov/gibill.
f. Admission to and full-time practice of a licensed profession in Michigan.
g. Long-term military commitments in Michigan.
h. Permanent full-time employment in Michigan, provided that the applicant’s employment is the primary purpose for the applicant’s presence in Michigan.
i. Spouse’s full-time, permanent employment in the state, provided that the spouse’s employment is the primary purpose for the student’s presence in Michigan.

In classifying an individual as a resident the University will consider other circumstances and activities which indicate an intent by the individual to make Michigan the individual’s domicile or which indicate that the individual has made Michigan his or her domicile.

E. Circumstances and Activities which Generally Lend No Support to a Claim of Michigan Resident Status:
The following circumstances and activities are temporary and indeterminate and, in and of themselves, do not demonstrate a permanent domicile in Michigan:
1. Voting or registration for voting in Michigan.
2. Possession of a Michigan driver’s license.
3. Employment that is temporary or short-term.
4. Employment in a position normally held by a student.
5. Ownership of a Michigan home if purchased with support from non-Michigan sources.
6. The lease of living quarters.
7. Payment of Michigan income or property taxes.
8. Financial hardship of the student caused by having to pay a higher tuition rate, or by any other reason.
9. The applicant’s statement of intent to be domiciled in Michigan.
10. Presence in Michigan while in attendance at CMU or another institution of higher education.

F. Non-Citizens Lawfully Admitted to the United States:
(Lawful admission status is determined by the Director of the Office of International Affairs, or designee.)
1. A non-citizen of the United States (and that individual’s spouse or same-sex partner as defined by CMU Human Resources, Faculty Personnel Services, or other authorized office, and dependent children) may be eligible for classification as a Michigan resident for tuition purposes, if such person has an appropriate, current visa, and meets the requirements for Michigan resident status specified in this policy.
2. A non-citizen transferred to Michigan for employment purposes (and that individual’s spouse or same-sex partner as defined by CMU Human Resources, Faculty Personnel Services, or other authorized office, and dependent children) may be classified as a Michigan resident for tuition purposes, if such person has an appropriate, current visa, and meets the requirements for Michigan resident status specified in this policy.
3. A non-citizen appointed to a regular full-time position at CMU (and that individual’s spouse or same-sex partner as defined by CMU Human Resources, Faculty Personnel Services, or other authorized office, and dependent children) may be classified as a Michigan resident for tuition purposes, as long as such person meets the requirements for Michigan resident status specified in this policy.
4. A non-citizen student who has a parent or grandparent who graduated from CMU will be classified as a Michigan resident for tuition purposes, if such person has an appropriate, current visa.

III. Procedure to Determine Resident Status:
The procedure for determining resident status for an individual is as follows:
A. Undergraduate Students at Time of Admission:
1. The Director of Admissions, or designee, shall determine the initial resident status of new undergraduate students.
2. If an individual disagrees with the initial decision of the Admissions Office, that individual must file a properly completed Application for Resident Status with the Registrar’s Office. The Application for Resident Status must be received before the seventh day after the first day of classes during the semester or term in which the individual is first enrolled at CMU. The Registrar’s Office shall consider the Application for Resident Status and provide the individual with a written decision. If the individual continues to disagree with that decision, the individual may file an appeal following the procedures set forth in IV, below.
B. Graduate Students at Time of Admission:
1. The Director of Graduate Student Services, or designee, shall determine the initial resident status of new graduate students prior to the first registration.
2. If an individual disagrees with the decision of Graduate Student Services, that individual must file a properly completed Application for Resident Status with the Registrar’s Office. The Application for Resident Status must be received before the seventh day after the first day of classes during the semester or term in which the individual is first enrolled at CMU. The Registrar’s Office shall consider the Application for Resident Status and provide the individual with a written decision. If the individual disagrees with that decision, the individual may file an appeal following the procedures set forth in IV, below.
C. All Students Requesting a Change in Resident Status:
The procedure for determining whether a non-resident student has acquired Michigan resident status is as follows: An individual must file a properly completed Application for Resident Status with the Registrar, or designee. The Application for Resident Status must be received before the seventh day after the first day of classes during the semester or term in which the student is seeking the resident status. The Registrar, or designee, shall consider the Application for Resident Status and provide the individual with a written decision. If the individual disagrees with that decision, the individual may file an appeal following the procedures set forth in IV, below.

IV. Appeal Process.
If an Application for Resident Status is denied, the individual may request that his or her Application for Resident Status be reviewed by the Resident Status Appeal Committee. The following procedures shall apply:
A. The Resident Status Appeal Committee shall be composed of the Director of Undergraduate Admissions, the Registrar, the Executive Director of International Affairs, the Associate Vice President for Student Affairs, and the Director of Graduate Student Services, or their respective designees. At least three of these individuals must participate in an appeal. The decision of the majority of those participating in the appeal shall be conclusive.
B. The appeal must be made in writing and must be received by the Registrar within fourteen (14) calendar days of the date of the denial letter. If the deadline falls on a weekend or a University holiday, it will be extended to the next business day.
C. All contact with the Resident Status Appeal Committee must be in writing, unless otherwise requested by the Committee. An individual who wishes the Committee to consider information in addition to that provided with the Application for Resident Status must submit that additional information to the Resident Status Appeal Committee, in writing, with the appeal request.

D. In its sole discretion, the Resident Status Appeal Committee shall have the right to request that the individual provide the Resident Status Appeal Committee such additional information and/or documentation as it deems appropriate, including meeting with the Resident Status Appeal Committee.

E. The burden of proof is on the individual to demonstrate with clear and convincing evidence that he or she is eligible for a change in resident status because he or she intends to be domiciled in Michigan and has, in fact, established domicile in Michigan.

F. After the individual has submitted all requested information, the Resident Status Appeal Committee will review the individual's appeal. The individual will receive a written decision from the Resident Status Appeal Committee when the review is complete.

G. Once the Resident Status Appeal Committee issues its decision, there are no further appeals for the semester or term covered by the Application for Resident Status.

**Tuition Status for Graduate Fellows and Assistants**

For the purposes of determining tuition rates, doctoral level fellows and assistants are given in-state tuition for the duration of their program of study. Master's and specialist's level fellows and assistants are classified as Michigan residents only during the academic year of the award (including subsequent summer).

**Residency Status for Migrants**

Migrant status is one factor considered when determining if a student is domiciled in Michigan for tuition purposes. Michigan migrants are defined as individuals who have made their livelihood in seasonal work in the State of Michigan and have traveled interstate for this purpose. Migrant students will meet the residency requirement if they, or their parents, or legal guardians, were employed in Michigan for at least two months during each of three of the preceding five years. Verification of employment as migrant workers should be secured from the Michigan Farm Labor and Rural Manpower Services Office. Other appropriate evidence may also be used by migrant workers to prove their residency. Michigan residence is claimed by means of domicile in Michigan. Migrant status is one factor considered when determining if a student is in-state tuition eligible. Michigan migrants are not defined as individuals who have made their livelihood in seasonal work in the State of Michigan and have traveled interstate for this purpose. Migrant students will meet the residency requirement if they, or their parents, or legal guardians, were employed in Michigan for at least two months during each of three of the preceding five years. Verification of employment as migrant workers should be secured from the Michigan Farm Labor and Rural Manpower Services Office. Other appropriate evidence may also be used by migrant workers to prove their residency. Michigan residence is claimed by means of domicile in Michigan.

**Family Educational Rights and Privacy Act**

The Family Educational Rights and Privacy Act of 1974 was established to protect the privacy of student records. CMU is, therefore, not allowed to release details of a student's financial account without prior written consent from the student. Authorization to Release Information forms, which will allow release of non-academic information to specific individuals, are available online at [https://www.cmich.edu/centrallink/account/Pages/Setting-Changing-Authorization-to-Release-Information-Passcode.aspx](https://www.cmich.edu/centrallink/account/Pages/Setting-Changing-Authorization-to-Release-Information-Passcode.aspx), on Centrallink, or in the Student Service Court, Bovee University Center 119. For complete information, see the Index for page number.

**Financial Debt and Involuntary Withdrawal**

Any amount owed to the university should be paid when due. A late charge of $30.00 per month will be assessed to past due accounts if the balance is $60.00 or larger. The maximum late charges assessed to an account is $180.00 or up to one half of the balance remaining outstanding, whichever is less. Any student who withdraws from the university or who has a financial debt is responsible for paying any outstanding financial obligations, and will have a hold placed on official transcripts and future registrations if the balance remains unpaid. Graduating students with unpaid financial obligations may also have a hold placed on their diplomas.

Please be advised that CMU reserves the right to suspend campus ID privileges at any time due to a past due balance greater than $100 including, but not limited to, meal plan, computer lab, library, bookstore, and flex privileges. Any delinquencies from the University Apartments may result in the initiation of eviction procedures. In mitigating circumstances, students with unpaid financial obligations may be involuntarily withdrawn from classes by CMU Administration.

**Refunds**

Refunds are issued weekly when a credit balance exists on a university account. All potential refunds are applied to university obligations before a refund is issued to an individual. Refunds of less than $1.00 will not be issued unless the student requests it from the Student Account Services and University Billing Office, but will be carried forward to offset future university charges.

Refunds are issued either by direct deposit to a personal U.S. bank account of the student’s choice or to a CMU Money Card distributed by Money Network. Students must make a selection for their preferred method on Centrallink under Finances, Refund Payment Option.

**Refunds for Student-Initiated Complete Withdrawals from All Classes**

Students withdrawing from the university must complete a withdrawal online through Centrallink to initiate the refund process. Further information regarding the complete withdrawal policy appears in the section on Academic Policies and Procedures. Students who have credit balances in excess of $1.00 on their student accounts after all university obligations have been met will receive a refund unless the student received financial aid.

**Refunds upon Withdrawal for Students Receiving Financial Aid**

Financial aid received by students awarded financial assistance through the Central Michigan University Office of Scholarships and Financial Aid is applied to student accounts to pay for university charges. Credits for the unused portion of tuition, special course fees, housing and other university charges resulting from a student’s withdrawal from the university are used to repay the financial aid sources in full prior to refunding the student. Withholding students who have received refunds for financial aid to cover non-institutional, educational costs may be required to repay financial aid sources.

**Drop and Add Refunds**

The Student Account Services and University Billing Office will automatically process refunds/charges as a result of a change in class registration. Any credit resulting from a change in class registration will be applied to any outstanding university obligations before a refund is issued. No refunds are made after the registration period unless the student is completely withdrawing from the university or the class is dropped on Centrallink prior to its second scheduled meeting time.
Tuition Refunds

A percentage of the tuition listed below plus the corresponding percentage of all fees will be refunded to a student who completely withdraws from the university.

<table>
<thead>
<tr>
<th>Length of Session</th>
<th>Calendar Days Beginning with First Day of Class</th>
<th>Percentage of Tuition and Fee Refund for Fall/Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 Weeks</td>
<td>Days 1-10</td>
<td>Refund 100% 11-26 27-54 50% 25%</td>
</tr>
<tr>
<td>10 Weeks</td>
<td>Days 1-5</td>
<td>Refund 100% 6-17 18-33 50% 25%</td>
</tr>
<tr>
<td>8 Weeks</td>
<td>Days 1-4</td>
<td>Refund 100% 5-12 13-26 50% 25%</td>
</tr>
<tr>
<td>5 Weeks</td>
<td>Days 1-3</td>
<td>Refund 100% 4-8 9-17 50% 25%</td>
</tr>
</tbody>
</table>

Global Campus Refunds

Drop or Withdraw from a CMU Global Campus Course:

- A Drop occurs prior to the course start or prior to the second meeting time for face-to-face classes or prior to the second week for CMU Online classes.
- A Withdrawal occurs after second meeting time for face-to-face classes or after the first week for online classes and before the midpoint.

Important Information Regarding Course Drops and Withdrawals for All Global Campus Classes:

- Drops and withdrawals are done by the student, within the permitted time frame for doing so, through the Course Search and Registration System within CentralLink.
- Withdrawals after the midpoint are not permitted.
- Students who cease or fail to attend (virtual or otherwise), without formally dropping or withdrawing from the course will receive a grade of “E.”
- Telephone requests to drop or withdraw will not be accepted.
- In the event that a student is not able to drop or withdraw from a course online through CentralLink, the student must immediately notify their program administrator in writing for assistance.
- Drops and withdrawals can and do affect your financial aid eligibility. For more information go to http://global.cmich.edu/courses/drop-withdraw.aspx.

For more information and a schedule of refund percentages, consult the most current Global Campus Bulletin (https://bulletins.cmich.edu/default.asp). For a Course Drops/Withdrawals Chart, see http://global.cmich.edu/courses/withdraw.aspx.

Cancellation of Housing Agreement

The residence hall agreement is for the entire academic year, or remainder of the year, provided the student is enrolled at the university. The residency and financial conditions of the agreement shall not be terminated to move to a private home, fraternity or sorority house, or other housing or to commute during the period covered by the agreement. Students who break the residence hall agreement without approval from Residence Life officials will owe full room and board charges for the entire academic year.

Students who are approved for release from the residence hall agreement for any reason are subject to the following schedule of cancellation charges:

**New Applicants Only:**

- Cancellation of this agreement after May 1 but by August 1 will result in a $300 cancellation fee.
- Cancellation of this agreement after August 1, but prior to the first day the halls open in the fall shall result in a $500 cancellation fee.

**Returning Students Only (Prior to the halls opening):**

- Students signing an agreement have a 30-day cancellation period without penalty. Students who sign an agreement may cancel without penalty, but ONLY IF they provide a thirty-day written notice of said cancellation, from the day they apply, and the expiration of the thirty-day notice period occurs prior to May 1.
- Students cancelling after the 30-day cancellation period and by August 1 (December 1 for spring semester) will be charged a $300 cancellation fee.
- Students cancelling after August 1 (December 1 for spring semester) but before the first day the halls open will be charged a $500 cancellation fee.

**All Students (during the Academic Year):**

- Cancellation of this agreement from the first day halls open in the fall but prior to November 1 shall result in up to a $900 cancellation fee.
- Cancellation of this agreement after November 1, but prior to the end of the fall semester shall result in up to a $600 cancellation fee.
- Cancellation of this agreement from the end of the fall semester but before April 1 shall result in a $300 cancellation fee.
- Cancellation of this agreement after April 1 shall result in a $100 cancellation fee.
- All Cancellation Requests must be in writing.

Other charges and damages may apply under the provision of the agreement such as damage to room. If a student is not approved for release from their residence hall agreement and they choose to move anyway, they are still financially responsible for the entire contract.

Apartments. Residents are charged for actual days up to the termination of their Housing Agreement. Family housing residents may terminate by giving the University Apartments Office 45 days written advance notice. Single student resident contracts are for the entire academic year.
Scholarships and Financial Aid

Note: While the information regarding financial aid is current at the time of this Bulletin’s publication, financial aid requirements and opportunities change frequently. For current information, contact the office indicated for each of the programs listed below.

Central Michigan University, in conjunction with the federal and state governments and private and civic organizations, offers a variety of fellowships, assistantships, grants, loans, and employment opportunities to assist graduate students in financing their education.

Financial Aid for Students in the College of Medicine

Information on Financial Aid for students in the College of Medicine is available on the College of Medicine website https://www.cmich.edu/colleges/cmed/students/Pages/Financial_Aid.aspx. Contact the CMU College of Medicine Office of Student Financial Aid at 989-774-1495; CMED 1401B.

Financial Aid Categories

Financial aid for graduate students falls under two general categories: need based and non-need based. Each kind of aid has certain advantages and limitations, and each is subject to varying standards of eligibility, application procedures, and regulations. Work study employment is the only need-based financial aid program for graduate students. Non-need based financial aid includes graduate fellowships and scholarships, graduate assistantships, internships, non-work study campus employment, and loans.

Financial Aid Information

Students interested in any type of financial aid offered at CMU should contact the appropriate office for current information. Questions about graduate fellowships and scholarships should be directed to the Center for Inclusion and Diversity. Questions concerning graduate assistantships should be directed to the academic department offering the assistantship. Questions regarding financial aid applications, loans, and university student employment should be directed to the CMU Office of Scholarships and Financial Aid, Student Service Court; Mount Pleasant, MI 48859. Telephone 989-774-3674, FAX: 989-774-3634, e-mail: CMUOSFA@CMICH.EDU.

Financial Aid Application

To apply for federal and state financial assistance programs at Central Michigan University, students must complete the Free Application for Federal Student Aid (FAFSA). The application is available online at www.fafsa.gov.

CMU financial aid awards are made for a maximum of one academic year. Re-application must be made each year.

Verification

Under the Federal Audit Quality Assurance program, CMU evaluates the accuracy of information submitted by financial aid applicants. The OSFA is required to collect documents to verify information on the FAFSA. These documents include, but are not limited to, federal tax returns and documentation of assets and family size. A timely response to a documentation request is important. Your financial aid application cannot be processed without the requested documentation.

Fraud

Falsification of income information submitted for the purpose of receiving financial assistance will result in cancellation of all future assistance and repayment of all prior assistance received falsely. If federal and/or state funds are involved, notification of the false information will be provided to the proper agency for their further disposition.

Out-of-State/International Tuition Awards

CMU offers two out-of-state tuition award programs. The Graduate Out-of-State/International Tuition Merit Award program grants resident tuition rates to out-of-state/international students who: 1) achieve a 560 GRE Verbal score and a 660 GRE quantitative score or a 600 GMAT score or a 55 MAT score; and 2) have a cumulative undergraduate grade point average of at least 3.0 on a 4.0 scale; and 3) international students not from a TOEFL-exempt country must have an internet-based TOEFL score of at least 100. International students sponsored by their home country are not eligible for this award.

The Neighboring Regions Tuition Award program grants resident tuition rates to students from Indiana, Ohio, Illinois, and Wisconsin who have at least a 3.3 overall undergraduate grade point average and to students from Ontario, Canada, who have at least a 3.0 overall undergraduate grade point average.

Both awards are valid for the entire duration of the recipient’s graduate program provided he or she maintains good academic status. Students must be admitted to a CMU graduate degree program in order to qualify for either award.

King/Chávez/Parks (KCP) Future Faculty Program

Note: This program may, or may not, continue to be funded by the State of Michigan. Contact Institutional Diversity and Inclusion for information. Graduate students may be awarded a graduate assistantship OR a KCP fellowship. Graduate students may not receive both during the same academic year.

The purpose of the King/Chávez/Parks Future Faculty Fellowship Program is to increase the pool of traditionally underrepresented candidates pursuing faculty teaching careers in postsecondary education. Preference may not be given to applicants on the basis of race, color, ethnicity, gender, or national origin. We encourage applications from minorities, women, people with disabilities, and individuals from cultural, linguistic, geographic, and socio-economic backgrounds who would otherwise not adequately be represented in the graduate student and faculty populations.

KCP awards have a maximum value of up to $20,000 for master’s students and $35,000 for doctoral students. Future Faculty Fellowship graduates are obligated, by signed agreement, to remain in post-secondary faculty teaching or administration in a public or private, 2- or 4-year, in-state or out-of-state postsecondary institution for a minimum of three (3) years equivalent full-time. Fellows who do not fulfill the teaching and/or other obligations of their fellowship agreement may be placed in Default, which results in their fellowship converting to a loan (referred to as a KCP Loan) that the Fellow repays to the State of Michigan.
Eligibility. To be eligible for a KCP Future Faculty Fellowship, the student must meet all entrance requirements for Graduate Studies and be accepted into a program of study that facilitates a teaching career in postsecondary education by the application deadline. The student must be a U.S. citizen and a resident of Michigan (as defined by CMU). Applicants must not currently be receiving a KCP Initiative Fellowship Award at another institution, and they may not have previously received another KCP Fellowship Award for the same degree level (master's or doctorate). Applicants may not be currently in default on any guaranteed student loan and/or a KCP loan. Additionally, students must intend to teach at a postsecondary institution after graduation.

Students who accept a KCP fellowship must fulfill certain conditions or the award becomes a loan repayable to the State of Michigan. Recipients are required to: (1) maintain good academic standing (3.0 or higher); (2) earn the master's degree within 4 years; (3) within one year after attaining a master's degree, either enroll in a doctoral program or teach at a two or four year postsecondary institution for three years; (4) within one year after attaining the doctoral degree, teach in a postsecondary institution for at least three years.

Application Procedure. Applicants must submit the following: (1) a completed KCP application; (2) transcripts for all undergraduate and graduate coursework; (3) three letters of recommendation from academic and professional people, at least two of which must be from faculty within the applicant’s proposed field of study; (4) a professional statement describing current educational status, goals for graduate study, and how you would fulfill the goals of the FFF program; and (5) a current resume or curriculum vitae.

Application Deadline. Applications and all supporting materials must be submitted by March 30. Application materials are available on the www.cmich.edu website. Search on keyword KCP.

Awards and Scholarships

Contact the Office of Scholarships and Financial Aid for more information on the following awards and scholarships.

AAUW - M. Ruth Evans Award
Established in 1991 by Jackie M. Evans, members of the M. Ruth Evans family and members of the Mount Pleasant, Michigan branch of the American Association of University Women (AAUW) in memory of M. Ruth Evans, wife, mother and friend, for a sophomore, junior, senior or graduate student who has been a resident of Isabella County for two or more years and has a GPA of 2.86 or higher.

William S. Ballenger, III and Dr. William P. Browne Capitol Internship Program Endowment
Established in 2007 by friends and family of William S. Ballenger, III and Dr. William P. Brown, former CMU employees, to honor their service and dedication in the area of political science at CMU. This endowment recognizes Bill Ballenger's service as the Robert and Marjorie Griffin Endowed Chair in American Government from 2003-2007. The endowment also honors Dr. Bill Browne as a respected friend, colleague, and mentor to the Political Science and Public Administration department. If used for a scholarship for undergraduates, the student must meet all entrance requirements for Graduate Studies and be accepted into a program of study that facilitates a teaching career in postsecondary education by the application deadline. The student must be a U.S. citizen and a resident of Michigan (as defined by CMU). Applicants must not currently be receiving a KCP Initiative Fellowship Award at another institution, and they may not have previously received another KCP Fellowship Award for the same degree level (master's or doctorate). Applicants may not be currently in default on any guaranteed student loan and/or a KCP loan. Additionally, students must intend to teach at a postsecondary institution after graduation.

Students who accept a KCP fellowship must fulfill certain conditions or the award becomes a loan repayable to the State of Michigan. Recipients are required to: (1) maintain good academic standing (3.0 or higher); (2) earn the master’s degree within 4 years; (3) within one year after attaining a master's degree, either enroll in a doctoral program or teach at a two or four year postsecondary institution for three years; (4) within one year after attaining the doctoral degree, teach in a postsecondary institution for at least three years.

Application Procedure. Applicants must submit the following: (1) a completed KCP application; (2) transcripts for all undergraduate and graduate coursework; (3) three letters of recommendation from academic and professional people, at least two of which must be from faculty within the applicant’s proposed field of study; (4) a professional statement describing current educational status, goals for graduate study, and how you would fulfill the goals of the FFF program; and (5) a current resume or curriculum vitae.

Application Deadline. Applications and all supporting materials must be submitted by March 30. Application materials are available on the www.cmich.edu website. Search on keyword KCP.

Mary Lou Bruce Scholarship
Established in 1983 by Lieutenant Colonel Gene D. Bruce and friends in memory of Mary Lou, a dedicated military wife and a valued member of the military science and health education families and Mount Pleasant community, for a junior, senior or graduate student majoring in health education and health science who has earned a 3.0 or higher GPA.

Richard & Colleen Burns Scholarship
Established in 2013 by Richard, 1960, and Colleen Burns, to honor Julia Egan Burns, 1902. The recipient will be a graduate student pursuing a career as a physician assistant and enrolled in The Herbert H. and Grace A. Dow College of Health Profession’s Physician Assistant Program with a minimum GPA of 3.0. In the event there are no applicants within the PA program, it could be received by an undergraduate with intentions of entering the PA program. Preference will be given to a student with the greatest financial need from one of the following Mid-Michigan area schools: St. Johns, DeWitt, Westphalia, Fowler, Pewamo, Hubbardston, Carson City, Perrington, Ashley, Ovid-Elsie. The scholarship may be renewable for up to two years.

CDO-SLP Alumni Scholarship
Established in 1998 through alumni support, for a second-year graduate student in the Speech/Language Pathology Program in the Department of Communication Disorders.

CEL Endowed Scholarship
Established in 2001 by alumni and friends of Global Campus, proceeds from the endowment will be used to support a scholarship for CMU’s Global Campus Programs students with a 3.0 minimum GPA.

CMU Women's Connection Scholarship
Established in 2007 by CMU Women's Connection donors. This association provides a platform for alumnae and friends to be actively engaged in the advancement of the university and to promote enhanced learning opportunities for CMU students. Income from this renewable award will support a part-time or full-time student at CMU who is a single parent or to a student from a single parent household. Recipient must demonstrate financial need with a minimum GPA of 2.75.

Computer Science Endowment
Established 2005. The spendable income from this endowment may be used for scholarships for undergraduate or graduate students, student awards, professional events in the department, and other necessary purchases for the benefit of the Computer Science Department. If used for a scholarship for undergraduates, the students must be a sophomore or junior, an authorized CPS or ITC major (Computer Science or Information Technology), and have a minimum 3.3 GPA. Graduate Students must be an authorized major in CPS MS. The award is renewable.

Paul David Cratin Physical Chemistry Graduate Student Endowed Award
Established in 2000 to honor Paul David Cratin, former professor. Proceeds from the endowment will be used to establish an award for a graduate student enrolled in the masters degree program in the area of physical chemistry.

Dow Corning MBA Endowed Scholarship
Established in 2006, the scholarship is in memory of Larry Reed, ’69. Income from the endowment will support a renewable scholarship for a graduate student enrolled in the College of Business Administration’s MBA program. The recipient will have regular admission status in the program and be performing at a high level in their academic coursework. Selection will be based upon GPA in the MBA program, performance in specific MBA courses, faculty recommendations, demonstrated leadership in MBA related activities and the potential for success following completion of the degree. A list of finalists for the scholarship is to be sent to a selection committee, who may also recommend recipients. The selection committee shall make the final determination of the recipients. Preference may be given to applicants who are available to intern as students with Dow Corning and willing to consider full-time employment with Dow Corning upon graduation.
J. Dean and Betty L. Eckesley Audiology Scholarship
Established in 1996 as a renewable scholarship for a graduate student majoring in audiology. Preference will be given to students from Mid-Michigan Community College who are residents of Isabella County and have a 3.0 or higher GPA. Income from the endowment will support a renewable scholarship for an undergraduate or graduate student with a major or minor in audiology and a minimum GPA of 3.0. The student must have been a resident of Isabella County, hold a high school diploma or GED, and have a 3.0 or higher GPA. Income from the endowment will support a renewable scholarship for an undergraduate or graduate student with a major or minor in audiology and a minimum GPA of 3.0. The student must have been a resident of Isabella County, hold a high school diploma or GED, and have a 3.0 or higher GPA.

Richard D. Featheringham Endowed Scholarship
Established in 2005 by Dr. Richard '81, '84 and Audrey Featheringham. Income from the endowment will support a renewable scholarship for an undergraduate or graduate student with a major or minor in psychology and a minimum GPA of 3.0. The student must have a minimum GPA of 3.0 and have completed at least one semester of study. Income from the endowment will support a renewable scholarship for an undergraduate or graduate student with a major or minor in psychology and a minimum GPA of 3.0. The student must have a minimum GPA of 3.0 and have completed at least one semester of study.

Bud Fisher and Fisher Companies Study Abroad Scholarship
Established in 2005 by Bud Fisher and Fisher Companies. Income from the endowment will support a renewable scholarship for a student(s) who wishes to study abroad. The recipient(s) will be a sophomore or higher and have a minimum 3.0 GPA. The recipient must have a minimum 3.0 GPA and have completed at least one semester of study abroad. Income from the endowment will support a renewable scholarship for a student(s) who wishes to study abroad. The recipient(s) will be a sophomore or higher and have a minimum 3.0 GPA. The recipient must have a minimum 3.0 GPA and have completed at least one semester of study abroad.

Wasaburo Fujimiyi Study Abroad Scholarship
Established in 2014 by Wasaburo Fujimiyi '66 for undergraduate and graduate students who wish to study abroad. The Donor wishes to support CMU students pursuing their education overseas and international students studying at CMU. Income from the endowment will support a renewable scholarship for student(s) in good academic standing with a 3.0 cumulative minimum GPA who chose to study in one of Central Michigan University's Japanese or East Asian exchange partner program universities, and/or students from one of these exchange program universities studying at CMU. Recipient must be approved to study abroad through CMU and be enrolled full-time at the time of the award and during the term of study abroad.

Michael "Gio" Giordano Helping Professions Award
Established in 2013 by Michael "Gio" Giordano '71, '74, '10 to recognize the impact of his educational experience at Central Michigan University and to provide for those who pursue the goal of helping others. Income from the endowment will support a renewable award for undergraduate students having earned junior status, or graduate students who have completed 12 hours of graduate credit, who have elected the field of social work; professional counseling or clinical psychology. Recipient must have a minimum GPA of 3.5 in their major course of study. The award will be given on the basis of an essay not to exceed 500 words on the topic of the role of a helping professional in creating client self-reliance.

Barbara P. Greene Endowed Scholarship in Political Science
Established in 2004 by Sarah and Edward Cohen (daughter and son-in-law) and friends of Barbara Greene. Barbara was a professor and chair of the political science department prior to her death in 2001. Income from this endowment will support a scholarship for students enrolled in the Political Science and Public Administration department who have interest in state and local government. Recipient must possess a minimum GPA of 3.0 on a 4.0 scale. Preference will be given to a graduate student, followed by a senior or junior.

Ahmad Hakemi Scholarship Fund for Physician Assistant Students
Established in 2013 by Robert Wintermeyer '05 and friends, to honor Dr. Ahmad Hakemi, for his hard work and commitment to Physician Assistants at CMU and nationwide. Income from this endowment will support a scholarship for students enrolled in the Physician Assistant Program within The Herbert H. and Grace A. Dow College of Health Professions. Recipient will have a minimum GPA of 3.4 demonstrating financial need.

Helen L. Hodges Scholarship Award
Established in 2015 by Russell '78 and Barbara Scaffede in honor of Barbara's mother, Helen L. Hodges, '43 an early elementary teacher. Income from the endowment will support a renewable award for a student enrolled in CMU Global Campus who has an interest in the study of education and is a State of Michigan resident.

James E. Hornak Endowed Award
Established in 2009 by colleagues, former students, and family of Dr. James E. Hornak '65, '66, retired chairperson of the Department of Physical Education and Sport. Income from this endowment will support a renewable award for a student enrolled in a graduate degree program of the Department of Physical Education and Sport in The Herbert H. and Grace A. Dow College of Health Professions who has a minimum GPA of 3.3. If no recipients fit the criteria, it may be awarded to any signed major within the Department of Physical Education and Sport within The Herbert H. and Grace A. Dow College of Health Professions.

Robert and Marilouise Knott Special Education Award
Established in 2010 by the estate of Robert Knott '41, '57, to commemorate Robert and his sister, Marilouise. Income from the endowment will support a renewable award for a student enrolled in the Master of Arts (M.A.) in the Special Education graduate program within the College of Education and Human Services with a minimum of five credit hours and a 3.5 GPA.

Dr. Barbara Leiting-O'Connell Family Endowed Scholarship
Established in 2007 by Dr. John F. O'Connell '83 in memory of Dr. Barbara Leiting-O'Connell. Income from the endowment will support a renewable award for a junior or senior with a minimum GPA of 3.25. First preference will be given to students majoring in chemistry, then students majoring in physics or math. Preference will also be given to students desiring to attend graduate school.

Robert E. McCabe Scholarship
Established in 1998 by Robert McCabe '46 for undergraduate or graduate students with a minimum 3.2 GPA and financial need. First preference will be given to students pursuing a degree in journalism. If no qualified candidate is identified, then the scholarship shall be awarded to a student pursuing a degree in liberal arts.

Edward E. Melkna Academic Excellence Award
Established in 1998 in memory of this dedicated teacher, scholar, and unionist by the Department of Sociology, Anthropology, and Social Work. Endowment earnings will provide cash awards for winning authors of an annual undergraduate and graduate paper competition.

Bernard N. Meltzer Scholarship
Established by friends in honor of Bernard N. Meltzer, former faculty member and chairperson of the Department of Sociology, Anthropology, and Social Work, for a graduate student in sociology.

Albert Thomas and Brenda Jones Quick Department of History Graduate Study Abroad Scholarship
Established in 2015 by Albert T. Quick '64 and Brenda Jones Quick for graduate students who wish to study abroad so that they may grow in the knowledge of history, cultures, values, political systems, religions, and peoples who live outside their communities and the United States. Income from the endowment will support a Department of History graduate student(s) who wishes to study abroad. The recipient will have a minimum cumulative GPA of 3.0 and have completed at least one semester of full-time graduate studies, have a desire to study abroad to enhance his/her research and to experience the culture in which he/she will live.

Anne Miller-Quimper Memorial Award
The Anne Miller-Quimper Memorial Award was established in 1991 though gifts from family and friends in memory of Anne Miller-Quimper (1940-1980). A graduate student in the School of Psychology program. Anne was killed by a car while she was jogging. Endowment earnings will provide annual stipends to graduate students in the School Psychology Program to support thesis or dissertation research.
Clara Lee R. Moodie Scholarship  
Established in 2015 by the estate of Clara Lee R. Moodie. Clara was an English professor at CMU from 1971 – 1999. Income from the endowment will support a renewable scholarship for a junior, senior or graduate student demonstrating a career interest in local government.

Doris Andersen Moore Endowed Scholarship  
Established in 2016 from the estate of Doris Andersen Moore ’38. Income from the endowment will support a renewable scholarship for a full-time or part-time graduate student admitted to the Counseling program in the College of Education and Human Services. Recipient will have maintained a cumulative minimum GPA of 3.0 and demonstrate financial need. Preference will be given to a student from the State of Michigan.

Morris Family CMU Endowed Scholarship  
Established in 2009 by Laurie and Michael J. Morris ’80, ’93. Income from the endowment will equally support three awards for students enrolled in the College of Business Administration, College of Communication and Fine Arts and for students enrolled in a masters program with Global Campus Programs. On Campus students must have successfully maintained a 3.2 GPA. Documentation will need to be provided to support a GPA of 3.2 was achieved in high school if an incoming freshman is an applicant. The recipient of the Global Campus scholarship must be pursuing a master’s degree and must have received an undergraduate degree from CMU. It is the intention of the Morris Family that this scholarship not apply solely to the financially disadvantaged as defined by Federal and/or State of Michigan guidelines.

Dr. Leonard E. Plachta Accounting Scholarship  
Established in 2012 by Louise A. (Mrs. Leonard E.) Plachta ’92 in memory of Dr. Leonard E. Plachta, professor of accounting, Dean of the College of Business Administration, and President of Central Michigan University from 1992 – 2000. Income from the endowment will support a scholarship for a student enrolled in the College of Business Administration. The recipient shall be a junior, a senior, or a master’s degree candidate majoring in the study of accounting. The recipient must have a minimum GPA of 3.0 overall and a GPA of 3.2 in accounting courses. Preference will be given to candidates who aspire to receive a Ph.D. in accounting and plan to teach at the collegiate level.

Edward H. Potthoff, Jr. Scholarship  
Established in 1983 by family and friends for a public administration graduate student demonstrating a career interest in local government.

Nicholas P. Redfield Scholarship  
Established in 1998 by colleagues in memory of Dr. Redfield for a third-year Au.D. doctoral student who demonstrates a “client-centered” approach in clinical performance. Volunteer work and efforts to better the audiology program at CMU will also be considered in selecting a candidate for this award.

Margaret E. Sanford Marquardt Memorial Endowed Scholarship  
Established in 2007 by Richard G. Marquardt ’59 in memory of Margaret E. Sanford Marquardt ’55, ’66. Income from the endowment will support a renewable scholarship in the Department of Communication Disorders for either a graduate student with a 3.5 GPA or higher or an undergraduate with a 3.25 GPA or higher. First preference will be given to a physically challenged graduate student and then a physically challenged undergraduate student registered with the Office of Student Disability Services. For further information see the Office of Scholarships and Financial Aid.

Kenneth W. and Margaret Cuff Saunders Scholarship  
Established in 1989 by family and friends for a junior, senior or graduate student with a 3.5 or higher GPA. Preference is given to English, journalism or physics majors; the scholarship is renewable provided the 3.5 or higher GPA is maintained.

Michael P. Shields International Graduate Summer Research Endowed Award  
Established in 2015 by Dr. Gail M. Shields to honor her late husband Dr. Michael P. Shields, retired CMU Economics faculty. Income from this endowment will be used to support an award for research for an international graduate student currently in the Master of Arts in Economics program who is working with a faculty member on research throughout the summer. Preference will be given to students who will co-author with the faculty member. For consideration, the student, and if applicable, faculty member will provide a written document, two page maximum, that includes the focus of the research.

James and Catherine Steinmetz Graduate Scholarship  
Established in 2011 by Dr. Joseph ’77, ’79 and Sandra Steinmetz to honor Joseph’s parents, James and Catherine Steinmetz. Income from this endowment will support a renewable award for a graduate student majoring in Experimental Psychology, studying neuroscience, within the College of Humanities & Social and Behavioral Sciences.

Shirley Lzarzelerie Viele Scholarship  
Established in 2013 by George B. Viele ’60, ’65 in memory of Shirley Lzarzelerie Viele’55. Income from the endowment will support a renewable award for a student majoring in chemistry whose objective is to become a high school chemistry teacher and is involved in campus activities such as the American Chemistry Society Affiliate, intramural sports, etc. The scholarship will be awarded on the basis of merit and financial need, although it may be awarded on the basis of merit alone.

John E. Warriner Scholarships  
John E. Warriner Scholarships are awarded on a competitive basis to outstanding juniors, seniors, and graduate students enrolled in a humanities or social science program within the College of Humanities and Social & Behavioral Sciences.

Eligibility. Graduate student applicants for the Warriner Scholarships must be accepted into a graduate program in one of the following departments: Economics, English Language and Literature, History, Political Science and Public Administration, Communication and Dramatic Arts, or Sociology, Anthropology and Social Work. They must have a GPA of at least 3.25 and demonstrate financial need.

Application Procedure. Applicants must submit the following: (1) a completed application form; (2) transcripts of all undergraduate and graduate study; (3) two letters of recommendation from faculty who have worked with the applicant; and (4) a letter describing the applicant’s educational and professional goals and explaining how the scholarship would benefit the recipient. All applicants must have a FAFSA on file at CMU.

Application Deadline. Applications should be submitted by March 15. Scholarship recipients will be notified by May 1.

Application Forms and Information. For application materials and information, contact the College of Humanities and Social & Behavioral Sciences, CMU, 106 Anspach, Mount Pleasant, MI 48859; telephone 989-774-3341.

Marian Whitney Summer Graduate Scholarship  
Awarded to an outstanding graduate student who is completing a thesis in zoology. The award may be used to support the graduate student in the summer.

Robert L. Wintemmyer Endowed Scholarship Fund for Physician Assistant Students  
Established in 2011 by Robert Wintemmyer ’05, CMU faculty, to honor Physician Assistant students. Income from this endowment will support an award for a second year Physician Assistant student in The Herbert H. and Grace A. Dow College of Health Professions who has a minimum GPA of 3.4. Preference will be given to a student with financial need.

Daniel E. & Mildred G. Wujek Scholarship  
This scholarship recognizes an outstanding second-year botany or aquatic biology graduate student who has been identified as worthy of distinction. The award may be used for tuition, books, room and board at a biological station, and for research supplies and logistics. This endowment was established by CMU alumni Daniel E. and Mildred G. Wujek. Daniel Wujek is a faculty member in the CMU Department of Biology.
Small Grants and Awards

The processes for awarding of grants and awards was being reviewed at time of publication of this Bulletin. Please see grad.cmich.edu for more information as it becomes available.

Army ROTC Scholarships

ROTC awards scholarships to students at CMU. The Army ROTC scholarship program for graduate students includes a financial benefit package for a period of two years. Scholarships are awarded on a competitive basis to prospective cadets, each of whom must be of good moral character, a U.S. citizen, medically qualified, not more than 31 years of age or less at graduation, and able to pass the Army Physical Fitness Test; have no civil convictions (other than minor traffic violations), a GPA of at least 2.5 (4.0 scale), scholar, athlete, and leader attributes, and a minimum of two years remaining in graduate school.

Each scholarship pays for tuition, laboratory fees, on campus educational fees, and $900 for the purchase of textbooks, class supplies, and equipment. Army ROTC Scholarship recipients receive a tax-free subsistence allowance of $350-400 per month for each school year that the scholarship is in effect. The Michigan National Guard, in partnership with ROTC, also offers a non-competitive financial assistance package which pays for tuition and up to $1,200 a month directly to the student.

Contact the Military Science Department at 989-774-3049 or 989-774-7440.

Graduate Assistantships

Program Description

Graduate assistantships provide students with training and valuable professional experience in higher education work environments. Graduate assistantships are employment-related appointments and may require teaching, research, and/or administrative service. The responsibilities may vary depending on the department’s needs and the experience and academic qualifications of the graduate assistant. A full-time assistantship requires approximately 20 hours of work per week (including the summer semester); a half-time assistantship requires about 10 hours weekly.

Earnings from graduate assistantships are not counted as financial aid for purposes of qualifying for Guaranteed Student Loans. However, graduate assistant earnings are considered employment resources to apply against need for other financial aid programs.

In order to comply with federal healthcare reform requirements, work hours for non-benefit eligible employees are restricted to a maximum of 50 hours per pay period during the academic year. All assignments, including work for multiple departments or as a student employee, count as work toward the total workload. Research conducted by graduate research assistants as part of the graduate assistantship, shall not exceed 40 hours per pay period, except as it relates to the graduate student’s education, such as dissertation related research.

Graduate Assistant Benefits

Graduate assistantships provide graduate students with financial resources, in the form of a stipend and tuition waiver benefit, to pursue their degrees. Stipends for individual graduate assistants are determined by the department/college, and are prorated for graduate assistants appointed less than full time or for less than an entire academic year.

The number of credit hours covered by the graduate assistant’s tuition waiver benefit is determined by appointment type and level. The tuition waiver may be applied to courses taken during the semester of the assistantship, through the subsequent summer sessions. The tuition waiver benefit pays tuition at the on-campus rate only.

Graduate assistants are classified as Michigan residents for the purpose of determining tuition rates at CMU. This classification remains in effect for the duration of their stay at CMU if working on a doctoral program. For specialist’s and master’s degrees, and graduate certificates, this classification as a Michigan resident is in effect only during the academic year of the award (including the subsequent summer).

Graduate assistants are covered by travel accident insurance which provides $25,000 to a beneficiary in case of accidental death while traveling on university business.

Graduate assistants are given special library privileges, allowing them to check books out for a six month period.

Additional information on employment and the benefits provided to Graduate Assistants is available on the Faculty Personnel Services website at www.fps.cmich.edu.

Eligibility

To be eligible for an assistantship, a student must be admitted to the College of Graduate Studies under regular, conditional, or non-degree admission. Students who have concurrent or accelerated admission status may be appointed as graduate assistants only if they have special permission from the Vice President/Dean of the Office of Research and Graduate Studies. Other hiring criteria may be determined by the department or office responsible for the assistantship.

Graduate assistants must maintain a cumulative, graduate GPA of 3.0. The following credit hour loads are also required:

- Fall or spring semesters: 6 credit hours
- Summer semester: 1 credit hour
- Final semester of enrollment before degree completion: only the number of graduate credit hours needed to complete the degree requirements. This waiver is for only one semester. Requests for exemptions are evaluated on a case-by-case basis by the Vice President/Dean of the Office of Research and Graduate Studies.

U.S. Department of Homeland Security regulations are complex and may affect international students’ eligibility for assistantships. Contact the Office of International Affairs for information regarding current regulations.

Application and Selection Procedures

Prospective graduate assistants must contact individual departments to apply. While it is always best to apply early, different departments may have different application deadlines and due to extenuating circumstances, graduate assistants are sometimes selected a few days before classes start.

Responsibilities

The responsibilities of a graduate assistant are determined by the hiring department. The responsibilities must be commensurate with the time constraints of the assistantship appointment.

General Requirements for Loans and Work Study

Academic Eligibility

Graduate students must register for at least five credit hours per semester at CMU to be eligible for federal student aid programs. Credit hours are determined after the close of the Drop/Add period.

Policy and Award Revision

CMU reserves the right to revise a student’s financial aid award if government regulations, university policy or sources of funding change prior to or during an academic year; if overpayment occurs; or if acceptance of the award is made after the acceptance date.

Debt and Default

Federal aid recipients may not owe a refund from any grant or loan or be in default on any federal loan to be eligible for assistance.

Financial Aid Assessment

The federal need analysis is utilized to determine the student’s contribution and the student’s spousal contribution, if applicable. Students and their spouses are expected to assist in meeting educational costs. The expected contribution is calculated from previous year earnings and untaxed income, and a percentage of personal savings and assets.

(continued)
**Satisfactory Academic Progress**

Federal regulations require that Central Michigan University monitor the Satisfactory Academic Progress of all students. There are three distinct criteria which must be monitored and met to maintain eligibility for federal student aid, as well as most state and institutional student aid programs. This rule applies to all students applying for aid regardless if they have received financial aid in previous semesters. These financial aid requirements are separate from students’ academic requirements. Progress is measured at the end of each semester (including the summer semester) to determine a student’s financial aid eligibility for the following semester.

Students in graduate programs may not receive financial aid if they have attempted 150% or more of the number of credits required of their program. This includes any undergraduate courses the student may sign up for while in a graduate program, as well as all graduate courses taken at CMU or transferred into CMU prior to the program that the student is currently in. Exceptions can be made for this standard if a student has completed the first graduate degree and is working on a second graduate degree.

All students must complete 67 percent of the courses they attempt each semester of enrollment. Attempted hours are based on the number of credits for which the student is registered at the conclusion of the Registrar’s posted “Deadline for Dropping a Class with a Full Cancellation of Tuition.”

All Graduate students must maintain a 3.00 cumulative grade point average.

**Consequences of Unsatisfactory Progress**

Students who reach their time limit without completing their degree will be denied further federal and most state and institutional financial aid as a student at that level. If attempting a master’s degree and the eligibility limit is reached, the student would be denied further aid until the master’s degree is conferred, at which time he/she would regain eligibility for a second master’s, doctoral, or professional degree.

Students who fail to complete 67 percent of their attempted courses in a semester will be warned. A failure to bring their completion rate to 67 percent in the next semester of enrollment while maintaining a cumulative GPA of a 3.0 or higher will result in suspension of federal and most state and institutional aid beginning with the next semester of enrollment. A student will remain on financial aid suspension until he/she completes 67% of attempted courses within a semester at CMU while maintaining a cumulative GPA of a 3.0 or higher. Only credit hours completed are counted as credits earned; grades of I (Incomplete), W (withdrawal), X (audit), and Z (deferred) are not counted as earned credit. Students that are placed on financial aid suspension due to deferred grades while continuing to work on a thesis or dissertation will need to have their advisor email the OSFA to confirm that satisfactory academic progress is being made. This communication is required prior to any additional aid being paid out for the student.

Students who fail to maintain a cumulative GPA of 3.00 or higher at the end of each semester will be warned. A failure to bring the cumulative GPA to a 3.0 or higher while completing at least 67% of his/her attempted credits for their next semester of enrollment will result in the student being suspended from receiving further aid until he/she brings the cumulative GPA to the required 3.00 or higher and completes 67% of his/her attempted credits for the semester in a semester.

**Appeal Process**

Students who have faced extraordinary circumstances may appeal the denial of financial aid. Documentation of your circumstances is required, and students are cautioned that appeals are not routinely approved. In most cases a decision will be made within 15 business days of receiving an appeal and the appropriate documentation. Students are notified of appeal decisions through their CMU email account. All SAP appeals and required documentation must be received no later than October 1 for Fall semester, February 1 for Spring semester and June 1 for Summer semester.

**Continuing at CMU after Aid is Denied**

Students denied financial aid generally may continue attending Central Michigan University using private aid sources such as alternative student loans (https://www.cmich.edu/ess/OSFA/Pages/ALT-LOAN.aspx) or by funding their education themselves. Please note that on the alternative loan list, some loans listed are NOT available to students on Financial Aid Suspension.

**Student Loans**

Student loan requirements and regulations can be quite complex; all students are encouraged to work closely with the CMU Office of Scholarships and Financial Aid. The financial aid office has publications that provide detailed information on loan programs, and financial aid advisors are available to answer questions and offer information and advice concerning student loans. Financial aid advisors are available on a walk-in basis in the Student Service Court in the Bovee UC or by appointment in Warner 202.

The total amount of all loans borrowed may not exceed the student’s estimated cost of attendance minus the financial aid awarded for the period of enrollment.

**William D. Ford Federal Direct Loan Program**

**Unsubsidized Student Loans**

Unsubsidized loans are made to students by the federal government and applied directly to the student’s account. The program is open to all students who have completed the FAFSA and have federal loan eligibility. The student is responsible for the interest that accrues while he/she is in school.

The aggregate maximum for undergraduate study is $31,000 for a dependent student and $57,500 for an independent student. Graduate students making satisfactory academic progress who carry at least five (5) graduate semester hours may borrow up to $20,500 in an unsubsidized Federal Direct Loan. The aggregate maximum for undergraduate and graduate study combined is $138,500. Application is usually made for one semester or an academic year (9 months), with summer school requiring a separate award.

The interest rate for a Graduate Federal Direct unsubsidized loan is fixed. Student borrowers are assessed an origination fee prior to loan disbursement.

Six months after ceasing to be at least a half-time student, the borrower must begin repayment. Several repayment options are available; contact your servicer. Payment of principal may be deferred under certain conditions. Students should refer to their promissory notes for details.

**Loan Counseling**

**Entrance Interviews:** Students who have applied for a Federal Direct Student Loan as a first-time borrower are required by federal regulations to complete an entrance interview before their loan funds may be applied to their accounts. Important information on loans, debt management, repayment options and consequences of default will be presented. Information regarding this mandatory session is available online at www.studentloans.gov.

**Exit Interviews:** Students who receive a Federal Direct Loan are required by federal regulations to complete a loan interview before graduating or withdrawing from the university. Important information regarding deferment and payment schedules will be discussed. Students are contacted electronically to complete on-line exit counseling. This online session will take about 30 minutes to complete through www.studentloans.gov.
Scholarships and Financial Aid

Federal Graduate PLUS Loan
This program is for students in graduate level programs only. Students must file the FAFSA, be enrolled at least half-time, and receive all unsubsidized loan eligibility before a PLUS loan may be disbursed. This loan is a non-need loan for students with good credit histories. Applicants may borrow up to the cost of attendance minus other financial assistance. Students will receive an automatic deferment while enrolled at least half-time. Interest accrues while the student is enrolled in school and during grace periods. The interest rate is fixed. Students may complete a Graduate PLUS Loan Application available online at: www.studentloans.gov.

Student Employment Opportunities
Internships and Co-op Opportunities
CMU encourages internship and co-op experiences for graduate students. By definition, an internship is a requirement of a student’s program of study, while a co-op experience enhances but is not required for the program. Both require that the student perform services related to the student’s area of study. The service is generally provided to an agency or business outside of CMU’s control, and pay levels generally reflect the graduate student’s advanced standing. For information on internship or co-op opportunities, students should contact their academic department.

CMU Student Employment Programs
Students may work 50 hours per pay period during the academic year and 80 hours per pay period during the summer semester (international students may work only 20 per week during the academic year). However, students are here primarily to complete their degree program and often work to help cover the associated expenses. The need for some students to be employed for a greater number of hours should not compromise their progress toward the fulfillment of their degree requirements.

Work Study. CMU participates in the Federal College Work Study (FWS) Program. This program requires that the student be enrolled in at least 5 credits in a graduate program of study.
Eligibility is based on financial need. Therefore, to qualify for work study, students must demonstrate financial need by completing the FAFSA form and if requested, by submitting verification materials (e.g., income tax returns) to the Office of Scholarships and Financial Aid. Contact the financial aid office for more specific information.

Eligibility for work study does not guarantee job placement. Pay rates are commensurate with job duties and skills. Any student participating in the FWS program is told the maximum amount he/she can earn during the academic year, from this program. After students have earned the amount for which they are eligible for a given year, they will be allowed to continue their job placement only if the hiring department has another source of funds for paying them. (See GSA below.)

General Student Assistance Employment Opportunities. General Student Assistance (GSA) provides an opportunity for campus offices to hire undergraduate and graduate students regardless of the students’ financial need. The demand for these positions exceeds the supply, so pay levels may not be attractive to graduate students.
There is no limit to the amount of GSA money a student can earn in a year. Graduate students should check with their own departments and with the Student Employment Office in the Bovee University Center regarding GSA opportunities.

Off-Campus Employment. Students are free to seek employment off campus with no interference from the university. Students are welcome to view off-campus job postings on the Student Employment Services website. (International students should contact the Office of International Affairs to determine eligibility for off-campus employment.)

Contact Information
All students covered under any of the above programs must contact the CMU OFSA, 202 Warriner Hall, 989-774-3674 for additional information.

Veterans' Resource Center
The Veterans' Resource Center (VRC) serves main campus and Global Campus students who are veterans, spouses, dependents or military students. VRC staff will help each student navigate through CMU, build academic and social networks, and receive assistance with their educational benefits, including those applicable to spouses and dependents. Hours of operation are Monday through Friday, 8:00 a.m.-5:00 p.m. or by appointment. The Veterans' Resource Center is located in Warriner Hall 114 and may be reached at 989-774-7991.

Indian Tuition Waiver
A Michigan state resident of a U.S. Federally Recognized Tribe who is not less than 25% Indian blood quantum is eligible for free tuition at CMU. Applications are available from the Michigan Department of Civil Rights, telephone 517-241-7748, www.michigan.gov/mdcr/0,4613,7-138--240889--,00.html. The student must be enrolled in a degree-granting program.
General Academic Policies and Procedures

**Note:** It is the expectation of Graduate Studies that graduate students are responsible for being knowledgeable of and adhere to the policies, procedures, requirements, regulations, and deadlines printed in this Bulletin and their specific departments and programs.

### Academic Regulations

#### General Regulations

Matters upon which there has been no direct legislation for graduate students will be governed by the general university regulations.

#### Full-Time Status

The definition of full-time status for a regular semester is as follows:

- **Graduate students:** a minimum of 9 credits.

#### Credit and Points

The university uses specified quantitative and qualitative standards to appraise the quality of work done by its students.

- **Quantitative Unit.** The quantitative unit of credit is the semester hour.
- **Qualitative Unit.** The qualitative credit is the grade or rating used by the instructor to indicate an evaluation of the results accomplished. The work of the student in each course completed is rated in accordance with the following marking system.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Points per Semester Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.0</td>
</tr>
<tr>
<td>A-</td>
<td>3.7</td>
</tr>
<tr>
<td>A+</td>
<td>3.3</td>
</tr>
<tr>
<td>B-</td>
<td>3.0</td>
</tr>
<tr>
<td>B</td>
<td>2.7</td>
</tr>
<tr>
<td>B+</td>
<td>2.3</td>
</tr>
<tr>
<td>C-</td>
<td>2.0</td>
</tr>
<tr>
<td>C</td>
<td>1.0</td>
</tr>
<tr>
<td>E</td>
<td>0.0</td>
</tr>
</tbody>
</table>

- **CR** Credit
- **NC** No Credit
- **I** Incomplete
- **W** Withdrawn
- **X** Audit
- **Z** Deferred Grade

1. Does not count toward graduate degree; does not count in grade point average.
2. Counts for graduation, but not in grade point average.

There is no passing grade lower than a C in the graduate marking system. Undergraduate courses are not calculated in the hours earned or GPA on the graduate record.

**Points.** To compute the quality of work done, points are assigned to letter grades as indicated above for credits earned at the university.

#### Grade Point Average

The grade point average (GPA) for graduate students is computed by dividing the total points earned in graduate courses by the total semester hours of graded graduate courses at CMU and graded A through E on the qualitative scale. Courses to be included in the computation of the grade point average must be graduate level. Such courses include all courses at or above the 500 level and those 300 and 400 level courses which have been specifically approved for a student’s graduate program. Credits graded CR/NC at this university and credits accepted in transfer from other institutions are not included in the computation.

#### Grade Reports

At the end of each on-campus semester or session, students may access their grades via CentralLink (https://www.cmich.edu/centrallink).

#### Religious Holidays

It is Central Michigan University policy to permit students to be absent from classes or examinations for reasons of observing religious holidays. Students are allowed to make up course requirements when they are unable to avoid a conflict between their academic and their religious obligations. Absence from classes or examinations caused by observing religious holidays does not relieve students from responsibility for any part of the coursework required during the period of absence. It is the obligation of students to provide faculty with written notice of the religious holiday they will be observing and the date on which they will be absent at least two weeks prior to the date of the religious holiday. Students who miss classes or are absent on days of examinations or class assignments shall be offered an opportunity to make up the work, without penalty, unless it can be demonstrated that a makeup opportunity would interfere unreasonably with the delivery of the course. Should disagreement arise over any aspect of this policy, the parties involved should contact the department chair, the dean of the College or the Ombuds Office. Final appeals will be resolved by the Provost.

#### Minimum Class Enrollment

The University reserves the right to cancel any class in which too few students enroll.

#### Academic Dishonesty

In the academic community, the high value placed on truth implies a corresponding intolerance of scholastic dishonesty. Written or other work which a student submits must be the product of his/her own efforts. Plagiarism, cheating and other forms of academic dishonesty, including dishonesty involving computer technology, are prohibited. In cases involving academic dishonesty, the determination of the grade shall be left solely to the discretion of the instructor. If a case where the instructor judges a student guilty of academic dishonesty, the instructor is encouraged to report the incident of dishonesty to the director of the Office of Student Conduct in order to discern potential patterns of egregious dishonesty. For a full copy of the Policy on Academic Integrity, see Appendix II in this Bulletin.
Misrepresentation of Affiliation with the University

It is important to Central Michigan University, its students and alumni that academic and cocurricular work done by students while at the university be accurately and honestly presented. When individuals report their academic performance and/or involvement in university related activities it is expected that they will do so in a truthful manner. Anyone involved in misrepresentation of student coursework, grades, degrees earned and/or involvement with cocurricular organizations or other university related activities may be barred from future enrollment and/or graduation from Central Michigan University. Such activity may also be criminal and subject the person to prosecution.

Auditing Courses

Students who do not wish to take a graduate course for credit may register as an auditor, provided the student has obtained approval from the chairperson of the department prior to registration and are otherwise qualified. To qualify to audit a main campus or Global Campus graduate course, students must meet the usual admission requirements for courses at or above the 600 level. No credit or grade is granted for an audited course, but such credit as the course normally would carry is included as part of a student’s total load. No change from regular registration to audit nor from audit to regular registration is permitted after the completion of the Drop and Add period. The student’s responsibility to the class being audited is determined by the instructor of the class. Auditors pay the same fees required of students taking the course for credit.

Change of Grade

A request to change a grade may be initiated by an instructor electronically using “Web Grades” via CentralLink. The change of grade will be forwarded to the chairperson for approval and also to the dean of the college.

Requests for change of grade involving error by an instructor—such as error in recording grade, transcriptional error, error in transferring grade to Final Grade List, miscalculation, computational error, error in scoring final exam, test or assignment grade not recorded, papers misplaced by instructor and found after grade was recorded, error in graduate assistant or lab assistant reporting grade to grading instructor, or instructor forgetting that a student had been promised an “I” grade—shall be processed by the Registrar’s Office without any action by a College Change of Grade Committee.

All other requests for change of grade are to be submitted by the student to the College Change of Grade Committee. If the request is approved, the chairperson of the committee or the appropriate dean will electronically forward the change to the Registrar’s Office for processing.

Credit by Examination

A student who has been admitted to a graduate degree program and who has had experience or background comparable to a course at this university may file for a maximum of 12 semester hours of Credit by Examination under the following conditions:

1. No credit transferable to CMU has been earned in the course requested by examination;
2. No advanced placement has been given for the course requested by examination;
3. No higher level course in that subject area was taken prior to requesting credit by examination;
4. Credit by examination may not be used to repeat any course previously taken, either to remove a failure or to improve a grade, as provided in the Repeat Course Policy;
5. Graduate credit by examination is available as Credit/No Credit only, and is not included in the computation of the student’s grade point average.

At the time of the request, the student must have an Authorization of Degree Program signed by the advisor on file in Graduate Student Services. Approval may be granted for the number of credits requested or any portion of the credits requested. The student should submit the signed application for credit by examination to the Registrar's Office to register for the number of credits approved. The Credit by Examination Request form may be found on the Graduate Studies website.

Credit/No Credit (CR/NC)

Courses in which graduate student performance is evaluated CR/NC, rather than by a letter grade on the A through E scale, carry the designation “CR/NC only” in the departmental course descriptions. CR indicates that the student has performed at a level equivalent to or above the grade point average for graduation (8 grade) and shall receive credit in the course. NC indicates that the student has performed at a level lower than an 8 and shall not receive credit. If in either case, the title and other course identification and the symbol CR or NC shall be entered on the student’s transcript. CR and NC are not equated with qualitative letter grades, however, and are not included in computation of the student’s grade point average. Optional registration for Credit/No Credit in other graduate courses is not available to graduate students.

Optional registration for Credit/No Credit is available to graduate students who register in a course below the 500 level for undergraduate credit. Courses taken under this provision may not be applied to graduate certificate or degree requirements. Such optional registration for undergraduate credit is not available to students removing deficiencies specified in their Conditional Admission. The courses for which graduate students may register for undergraduate credit on a CR/NC option basis must be designated in the Class Schedule/Course Offerings and Search by the department as available on a CR/NC option basis. Procedures for registration, grading, and recording are explained in the CMU undergraduate Bulletin under Credit/No Credit Policy.

Non-Degree Courses

Courses numbered (DESIGNATOR) 589 - Professional Development (1-6) do not apply to degree requirements. These courses cover selected issues designed for professional development, in-service training to meet specific staff development needs in education, business/industry, allied health, technology, and other professional settings. They are not applicable to degree requirements.

Family Educational Rights and Privacy Act

The Family Educational Rights and Privacy Act of 1974 (FERPA) affords students certain rights with respect to their educational records. They are:

1. The right to inspect and review the student’s educational records within 45 days of the date the University receives a request for access.

Students should submit to the registrar, dean, head of the academic department, or other appropriate official, written requests that identify the record(s) they wish to inspect. The University official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the University official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.

2. The right to request the amendment of the student’s educational records that the student believes is inaccurate, misleading or otherwise in violation of the student’s privacy rights.

Students may ask the University to amend a record they believe is inaccurate or misleading. They should write the University official responsible for the record clearly identifying the part of the record they want changed, and specifying why it is inaccurate or misleading.

(continued)
Policies and Procedures

If the University decides not to amend the record as requested by the student, the University will notify the student of his or her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

3. The right to consent to disclosures of personally identifiable information contained in the student's educational records, except to the extent that FERPA authorizes disclosures without consent.

One exception which permits disclosure without consent is disclosure to University officials with legitimate educational interests and/or needs to review an educational record in order to fulfill their own professional responsibilities. A University official for the purpose of this policy is defined as follows:

- members of the faculty
- members of the professional, executive and administrative staff
- members of the Central Michigan University Police Department in an emergency if knowledge of the information is needed to protect the health and safety of the student
- students, when properly appointed as members of a hearing panel or screening committee
- representatives of the State Auditor General and Department of Education when performing their legal function
- a person or company with whom the University has contracted (e.g. attorney, auditor, or collection agent) but limited to only the specific student information needed to fulfill their contract
- others as designated in writing by the President, a University Vice President or Dean

Upon request, the University discloses educational records without a student's consent to officials of another school in which a student seeks to enroll.

Another exception which permits disclosure without consent is when the information consists solely of "Directory Information." Directory information may be published or released by University faculty and staff at their discretion. Unless a student specifically directs otherwise, as explained more fully in paragraph (4) below, Central Michigan University designates all of the following categories of information about its students as "Directory Information":

- name, campus address, home address, telephone listing, and campus e-mail address
- state of residence
- age, and date and place of birth
- major field of study, including the college, department, or program in which the student is enrolled
- classification as a freshman, sophomore, junior, senior, graduate, specialist, or doctoral student;
- enrollment status (full-time, half-time, less than half-time)
- participation in officially recognized activities and sports
- weight and height of members of athletic teams
- dates of attendance and graduation, and degrees received
- the most recent educational institution attended
- honors and awards received, including selection to the Semester Honors or President's list, honorary organization, or the GPA range for the selection.

4. A student has the right to refuse the designation of all categories of personally identifiable information listed above (a. through k.) as Directory Information. If a student exercises this right, it will mean that no Directory Information pertaining to the student will be published or otherwise released to third parties without consent, a court order or a subpoena.

Any student wishing to exercise this right must inform the Registrar's Office in writing by the end of registration regarding the withholding of all categories of personally identifiable information with respect to that student. Once a student has requested the withholding of information, "Directory Information" will be withheld until the student cancels the request in writing.

5. The right to file a complaint with the U.S. Department of Education concerning alleged failures by Central Michigan University to comply with the requirements of FERPA. The name and address of the Office that administers FERPA is:

Family Policy Compliance Office
U.S. Department of Education
400 Maryland Avenue SW
Washington, DC 20202-5901

Access to Records

University policy grants students access to their education records under conditions which conform to the Family Educational Rights and Privacy Act of 1974 as amended and regulated by the appropriate federal guidelines.

Directory information may be published or released by the university unless a student informs the Registrar's Office in writing that any or all items should not be released without the student's prior consent. Directory information is defined to include such items as a student's name, address, telephone listing, date and place of birth, major field of study, participation in officially recognized activities and sports, weight and height (of members of athletic teams), dates of attendance, degrees and awards received, and the previous educational institution attended by the student.

Grade Grievance Policy

The University recognizes that it is the instructor's prerogative to determine a grade. Responsibility for resolving grading disputes is shared among the instructor, the student, the department, and the college. If a question is raised by a student concerning a grade, the instructor should discuss the matter willingly and give evidence to make clear his/her basis for determining the grade. In turn, the student should recognize the need to demonstrate a valid basis for complaint. At any time, either upon the student inquiry or upon his/her own initiative, the instructor who believes a change of grade is justified may initiate a request for a change in grade.

The following steps are available for review of allegations of capricious grading under the grade grievance policy. They are not for review of the judgment of an instructor in assessing the quality of a student's work nor are they to be used in cases involving violations of CMU's Academic Integrity Policy. Determination of the grade in such cases is left solely to the instructor.

Capricious grading, as that term is used herein, constitutes any of the following: (a) the assignment of a grade to a particular student on some basis other than his/her performance in the course; (b) the assignment of a grade to a particular student based on more exacting or demanding standards than were applied to other students in that course (and it is understood that standards for graduate credit may be different from standards for undergraduate credit); (c) the assignment of a grade by a substantial departure from the instructor's previously announced standards.

Step 1:

- A student who desires discussion of a complaint about a grade shall contact the instructor or, if the instructor is unavailable, the department chairperson either in person or in writing as soon as possible, but in no case later than thirty days after the grade is posted. Any exception to the time limitation shall be for unusual and most compelling reasons. Ordinarily, the student should accept the instructor's decision. However, if the student is still not satisfied, he/she may request in writing a joint consultation with the instructor and the chairperson of the department involved. In a case in which the student's request for joint consultation involves an instructor who is also chairperson of the department, the student's request in writing should be sent to the dean of the school or college involved. In such cases, the dean shall act in place of the department chairperson.
Step 2:

- A student who is not satisfied after consultation with the instructor and department chairperson and who alleges that the course grade is the result of capricious grading may file an appeal within forty-five days from the date of the posted grade to the dean of the instructor’s college for forwarding to the College Committee on Review of Change of Grade. The student shall file the appeal by submitting a written statement explaining the basis for the allegation that the grade was the result of capricious grading and presenting any evidence he/she may have.
- The appeal shall be dismissed if (a) the appeal was not timely; (b) the allegations, if true, would not constitute capricious grading; or (c) the student has not attempted to confer with the instructor or chairperson of the department. If the appeal is not dismissed, the committee shall submit a copy of the student’s written statement to the instructor of the course with a request that the instructor promptly submit a written response thereto, a copy of which shall be made available to the student. If, upon the basis of these papers, the dispute appears to be attributable to inadequate or incomplete communication between the parties, the committee may arrange to meet individually or together with the student and instructor to discuss the problem. A teleconference may be arranged for a student who does not reside in proximity to the main campus.

Step 3:

- If such a meeting is not held or, if held, the meeting does not result in a mutually agreeable solution, the committee shall proceed to hold a fact-finding session concerning the allegations set forth in the appeal. Both the student and the instructor shall be entitled to be present throughout the session and to present any relevant evidence, including testimony by other persons. The student and the instructor both may be accompanied by a person to assist them in presenting evidence. The session shall not be open to the public.
- At the close of the session, the committee shall deliberate privately. If a majority finds the allegations of capricious grading to be supported by substantial evidence, the committee shall determine the most appropriate remedy. The committee may direct the instructor to grade the student’s work anew, give the student a new examination in the course, or take such other action as will bring about substantial justice in the individual case. However, except in the most extraordinary circumstances, the committee itself should not award the student a new grade in the course. The decision of the committee shall be final and shall be reported in writing to the student, instructor, and the departmental office.

The College Committee on Review of Change of Grade may also resolve complaints involving suspected violation of grading policies for incomplete and deferred grades, dropping a class, or withdrawal from the university. The same procedures as outlined above for review of alleged capricious grading shall be followed.

*If the instructor of the course is a member of the Committee, he/she shall be disqualified from considering the appeal.

Incomplete Grades (I)

An incomplete (I) is a temporary grade used by the instructor in cases when a student is unable to complete course requirements because of illness or other justifiable circumstances. It is assigned only in cases in which the student has completed satisfactorily the major portion of the course requirements, and has convinced the instructor of his or her ability to complete the remaining work without re-registering for the course. It is not to be given to a student who is already doing failing work. A form must be completed and signed by the faculty member (and the student when possible) whenever a grade of I is assigned. The form is to be kept on file in the departmental office. An instructor who assigns the grade of I also submits to the department chairperson a formal statement of requirements to be satisfied for removal of the Incomplete grade. A copy of the statement of requirements, including deadlines for their completion, shall be made available to the student.

It is the student’s responsibility to contact the instructor to complete the remaining work. The required work should be completed and a grade reported by the end of the student’s next semester in residence, but in no case later than one calendar year following the receipt of the grade of I. A student not completing the remaining work by the end of one calendar year following the receipt of an I would retain an I only if the instructor chooses not to change the I to a specific grade ranging from A to E by the end of the calendar year. A grade of I may not be removed by registering again for the course.

If the instructor of the class in which the grade of I was incurred is no longer a member of the faculty, then the student should contact the department chairperson, who shall act on behalf of the former instructor.

Deferred Grades (Z)

The Z (deferred grade) may be recorded for students registered for independent study, for thesis, Interna- tional Program Studies courses, or for other courses specifically approved for Z grades in the Bulletin, if the instructor believes that the quality and quantity of work completed by the end of the semester justifies an extension of time. An instructor who assigns a grade of Z shall submit to the department chairperson, on the proper form, a statement of remaining requirements for removal of the deferred grade. A copy of the statement of requirements, including deadlines for their completion, shall be made available to the student.

Recomputing Grade Point Average

A student who transfers from one graduate program to another may file a Recomputation of Grade Point Average Petition. If approved by the advisor and department chair, all courses completed on the original graduate program will be disallowed on the second program plan, all grades on previous course work will be disregarded, and the student will begin the new program with no cumulative grade point average. The Recomputation of Grade Point Average Petition must be filed within one calendar year of beginning the new program.

Note: All courses will still remain on the student’s transcript although the grades will not contribute to the grade point average or degree requirements.

Repeat Course Policy

To improve a grade previously earned at CMU, a student may repeat any course except an Independent Study course up to two times at the graduate level. The last grade and credit hours earned at CMU completely replace the previous grade and credit hours in computing the grade point average, although the earlier record remains a part of the student’s transcript. A grade of A through E must be earned in a repeat course to replace the previous grade in computing the average.

Transcripts

Official transcripts may be requested via an online form (https://www.cmich.edu/ess/registrar/RegistrarRecords/RegistrarTranscriptInformation/Pages/Official_Transcript_Request_ Form.aspx). Transcripts are free unless an expedited request is made.

Graduate Transfer Credit Policy

This policy relates to non-CMU coursework being considered for transfer into a CMU graduate degree program plan.

Transferable Credit:

- **Graduate Certificate:** maximum of 6 semester hours from a previous or concurrent graduate degree or certificate may be transferred toward a graduate certificate.
- **Master’s Degree:** maximum of 50% of the semester hours (exception: maximum of 30 semester hours on the 54 credit hour joint master’s degree in history are transferable).
• **Specialist’s Degree:** maximum of 12 semester hours beyond the master’s degree if the master’s degree was earned at CMU (exception: maximum of 9 semester hours beyond the master’s degree if the degree was not earned at CMU).

• **Doctoral Degree:** maximum of 50% of the post-baccalaureate semester hours. Minimum percentage that must be earned at CMU can vary among academic programs.

• **Maximum of 6 semester hours** may only once be transferred from one earned degree program to another master’s or higher degree program.

• **Military coursework:** coursework with a grade of outstanding or excellent is transferable. A separate policy exists for the following: Students entering the Au.D. with a master’s degree in Audiology and significant, relevant professional experience. See the Au.D. program description for details. Global Campus students are limited to six semester hours of prior learning according to California regulations.

Graduate transfer credits must be appropriate to the student’s program, recommended by the student’s academic advisor for use on the program plan, and approved by Graduate Student Services and the Office of Research and Graduate Studies for final review. Transfer credits are not considered in the computation of the student’s graduate grade point average. Graduate transfer credit must meet the following criteria:

1. Credits must have been earned at a regionally accredited higher education institution or one of the recognized standing (at the time the credits were earned) as defined by the Office of Research and Graduate Studies;
2. The credits are not in violation of any pertinent university or Office of Research and Graduate Studies regulation, procedure, or policy;
3. The credits do not correspond to a course previously taken at CMU;
4. The credits were earned within the time limit for program completion. Credits from a prior graduate degree or certificate that are to be applied to a doctoral degree may be exempt for the time limit for doctoral degree completion (see individual program description);
5. The credits are appropriate to the student’s program and are not in conflict with credit limitation specified elsewhere in the Graduate Bulletin;
6. As certified on the official graduate transcript, courses must be at the graduate level.
7. The grade for the credits must be B or higher. Ungraded coursework will not be accepted in transfer unless accompanied by evidence that the work was of B or higher quality; Military coursework with a grade of outstanding or excellent is transferable.
8. The student is in good standing (3.0 cumulative graduate GPA or higher) at the institution at which the credit was earned.
9. Doctoral degree students must have regular admission to their degree program.
10. The student is responsible for having official graduate transcripts sent by the institution in which the credit was earned directly to Graduate Student Services at CMU and for completing the most recent version of the Graduate Transfer Credit Request form (available online at www.grad.cmich.edu under New and Current Students: Applications and Forms).
11. The credits must be approved by the student’s academic advisor (for graduate certificates and Master’s degrees) or Program Director (doctoral degrees), Graduate Student Services, and the Office of Research and Graduate Studies for final review.
12. Courses earned by correspondence will be eligible for graduate transfer credit unless otherwise stipulated in department admission requirements.
13. Transfer credits must be earned within the time limit for program completion. Transfer credits are not eligible for extension of time consideration.

Transfer credits are not included in the computation of the student’s CMU graduate grade point average.

---

**Withdrawals**

**Withdrawals from All Courses**

Students may withdraw from all courses through the tenth week of classes using the complete withdrawal functionality in Course Search and Registration on CentralLink. Students enrolled in short term courses, on-line courses, or have already withdrawn from a single course will be referred to the Registrar’s Office for assistance.

A student will automatically receive W’s as an indicator of withdrawal through the tenth week of the Fall and Spring semesters or through the midpoint of all courses shorter than one semester. The instructor will be notified of the course withdrawal. In cases of academic dishonesty, the instructor will notify the Registrar’s Office to reinstate the course and the instructor will submit the final grade.

Students withdrawing from the university between the tenth week and the Friday of the 14th week must contact the Registrar’s office. W’s will be assigned for passing work of C or better and E’s for failing work. During this period, students enrolled in a CR/NC only course will receive W’s for passing work of C or better and a grade of E (which is converted to NC) for failing work. The Registrar’s Office will contact each instructor to verify whether or not the student is earning a passing grade.

No student may withdraw from all classes during the week preceding final examination week.

A student following the above procedures may receive certain refunds, if eligible, in accordance with university regulations.

A student leaving the university without officially withdrawing will not be eligible for refunds and will not be eligible for a W grade.

**Involuntary Withdrawal**

Students who are dismissed for administrative or disciplinary reasons or who owe past due amounts may be subject to involuntary withdrawal from classes and will receive a “W” for each class as an indicator of withdrawal. In addition, students living in residence halls with a past due balance may have their meals and long distance telephone privileges discontinued until their accounts are brought to a current status. Any delinquencies in the Family Housing Apartments may result in the initiation of eviction proceedings.

University staff will counsel students who:

a. engage or threaten to engage in behavior that poses a danger of causing physical harm to self or others, or
b. engage or threaten to engage in behavior that would cause significant property damage, or directly and substantially impede the lawful activities of others.

In situations a. and b. above, the Associate Vice President for Student Affairs or designee may refer a student to the Behavior Evaluation Team to assist the student in functioning effectively within the university environment. Referral to the Behavioral Evaluation Team does not preclude removal from the university, or university housing, in accordance with provisions of the Code of Student Rights, Responsibilities and Disciplinary Procedures and/or the Housing Agreement. A student referred to the Behavioral Evaluation Team shall be notified in writing, and shall be provided written information on the procedures to follow.

**Individual Class Drops/Withdrawals**

Information on dropping a class or withdrawing from a class appears in the Registration section of this Bulletin.

**Withdrawal To Enter Military Service**

A graduate or undergraduate student who is drafted or recalled to military service after previous active duty may be entitled to receive (a) credit for the semester, (b) refund of fees, or (c) partial credit and partial refund, according to the following conditions:

1. The student who is unable to complete the first half of a session shall be entitled to a full refund of fees.
2. The student who has completed the first half or more of a given session may receive credit or partial credit and proportional refund of fees.

The student shall apply at the Registrar’s Office for confirmation of his or her eligibility to receive credit. The Registrar shall advise the student concerning withdrawal, refund, or credit procedures. If the Registrar confirms eligibility for credit, the student may present the confirmation to the appropriate academic dean. The academic dean, the chairperson of the department in which the student is enrolled, and the instructor of the class shall determine the amount of credit which has been earned. The academic dean reports the amount which has been earned, in writing, to the Registrar and the instructor shall submit the appropriate grade at the end of the semester.

Students who enlist or volunteer for military service during the session must withdraw from the university according to regular withdrawal and refund procedures.

CMU Online Courses

Online course delivery provides each student with a virtual classroom where lectures, multimedia study materials and class discussion are all provided using the latest technology, over the internet. Interactive online tools offer students the opportunity to connect with faculty and peers to discuss course content in cyberspace. Online courses still have specific start and end dates and assignment/exam due dates. Careful review of the course syllabus prior to the enrollment of a course will provide these dates. Questions regarding online courses should be directed to staff at cmuonline@cmich.edu or 989-774-1129.

Courses offered through CMU Online mirror main campus face-to-face courses in terms of their scope, study requirements and level of difficulty. Most students limit themselves to two online courses per term, especially if a student is new to independent learning, is employed full time, or has a large semester class load.

Online Learning Environment

To ensure success in online classes, CMU encourages students to familiarize themselves with the online learning environment prior to enrolling in CMU Online courses. Preview a sample online class, run a diagnostics check on your computer and take the Online Learning Assessment on our website: http://global.cmich.edu/cmuonline/about.

Drop and Withdrawal Policy for Online Courses

All CMU Online courses start on a Monday and end on a Friday. Students are encouraged to frequently and consistently log into their online course, ideally every day. Tuition refunds requested prior to the start date of the course shall be made in full. The start time for CMU Online courses is 12:01 a.m. on the first day of class. Drop/withdrawal requests received after that will be assessed a $50 fee. Each new week for an online class begins on Monday at 12:01 a.m. and ends on the following Sunday at 12:00 midnight. The amount of tuition refunded is based on the week the request is received within. Holidays do not have any effect on this definition of a week. Students may not withdraw after the midpoint of the course.

Students who cease/fail to attend (virtual or otherwise) and have not formally withdrawn from the course will receive a grade of “E.” A charge-back for financial aid may be incurred based on student’s last date of academic participation in the class. See Scholarships and Financial Aid section of this Bulletin for additional information.

Examination Proctors

A proctor is a person approved by CMU Online to administer exams to a student for an online course requiring a proctor. Not all online courses require a proctor. For those courses that do require a proctor, students must identify a proctor and provide the necessary information through the Proctor Designation Form to CMU Online for approval. Once a proctor has been approved, CMU Online will provide exam materials to the proctor. The student arranges for an exam appointment with the proctor to take their exam.

Acceptable proctors include school counselors, school/college administrators/teachers, military/industry education or testing centers, or librarians at a local library. In addition, CMU centers proctor exams. Unacceptable proctors include, but are not limited to, family members, friends, co-workers, other CMU students, anyone with whom the student has a personal relationship, or anyone who cannot provide a suitable testing environment. CMU reserves the right to deny any proctor or assign proctors to students as deemed necessary by the CMU Online staff. More information on proctoring can be found on the Proctor FAQs at: http://global.cmich.edu/CMUOnline/proctoring/what-is-a-proctor.aspx.

CMU Online proctors exams at the Park Library and Global Campus offices at CMU North. For more information on using CMU Online as a proctor see: http://global.cmich.edu/cmuonline/proctoring/exam-appointment.aspx.

The student is responsible for any proctor’s fees. If one of the CMU centers is to be used as a proctor, please check with that center to determine available times and dates for testing. Should you have any questions, contact CMU Online at 800-688-4268, option 1.

Post-Baccalaureate Teacher Certification

See Appendix III, Standards Leading to Teacher Certification, for information on Post-Baccalaureate Teacher Certification.

Changing Degree Programs

To change graduate programs, the student should send a completed Request for Change of Program form along with the appropriate fee to Graduate Student Services. The request will be reviewed by the new graduate department. Acceptance into one graduate program does not guarantee acceptance into another.

If the program change is approved, the student should meet with the new academic advisor and complete a new Authorization of Degree Program - Graduate or Certificate Program form and submit the completed form to Graduate Student Services.

Courses of Unspecified Content or Variable Credit

Variable credit courses are identified by a semester hour designation such as 1-3 (Spec). The maximum hours that a student may earn in a variable credit course to apply toward graduation is the highest number in the semester hour designation for the course (i.e., 3 hours maximum in the example listed above).

Unspecified content courses are defined to be courses in which the student or department is not restricted by the course description in the graduate Bulletin to a specific area or subject matter to be included within the course.

It is up to each graduate advisor to ensure that a student’s authorized program plan has sufficient university-approved coursework to provide the student with a solid grounding in the academic discipline. In order to assist advisors, a list of variable credit and unspecified content courses is given before the course listings of each department.

Independent Study and Thesis

Not more than a total of ten hours of independent study and thesis shall be allowed on any master’s degree program. Exceptions to this regulation may be granted by the Vice President/Dean of the Office of Research and Graduate Studies.
Assignment to Advisor and Authorization of Degree Program

As a graduate student studying for a certificate, master’s, specialist’s, or doctoral degree, an advisor in your department will be assigned to you. Within the first semester of graduate study, an Authorization of Degree Program – Graduate or Doctoral form should be completed in consultation with your advisor and submitted to Graduate Student Services. If registering for course work prior to being assigned to an advisor, graduate students should contact the department chairperson or graduate coordinator to ensure that the coursework can be counted toward the graduate certificate or degree. Changes to an authorized program are made via the Course Substitution Form on the Office of Research and Graduate Studies website.

Residence Requirement

A graduate student should devote such time to graduate study and research in residence at CMU as may be appropriate to the program of study. Students are expected to take every opportunity to work in close association or collaboration with graduate faculty members, with other graduate students in the same program, and with distinguished visiting scholars. These opportunities exist at the university campus and in classes, seminars, internships, and research projects organized or placed elsewhere as part of the university’s continuing involvement in a broadly-based commitment to education.

General Course Information

Course Numbers
- Courses numbered 500 through 599. A student who has been admitted to graduate studies and who takes courses numbered 500 and higher will receive graduate credit.
- Courses numbered 600-699. Graduate courses open only to students who have been admitted to Graduate Studies, and to students in the Honors Program.
- Courses numbered 700-799. Graduate courses open only to students who have been admitted to Graduate Studies.
- Courses numbered 800-899. Graduate courses open only to students who have been admitted to Graduate Studies and who are at the post-master’s level or are completing a full-time internship at the specialist’s level.
- Courses numbered 900-999. Graduate courses open only to doctoral students who are in the last years of their program.

600-Level Course Policy for Undergraduate Students. Open only to students who have been admitted to Graduate Studies, to students on the Honors Program, and to students who are approved by their advisor, course instructor, chairperson of the department offering the course, and Graduate Studies.

Cognate Courses

A cognate course is one outside of but related to the principal discipline.

Substitutions

Course substitutions appropriate to the student’s program may be authorized by the advisor.

Prerequisites

A student may register for a class only if he or she has met the prerequisites prescribed or the requirements stated in this Bulletin. Procedures for granting exception vary by graduate program. Students should check with their department chairperson or graduate program coordinator to determine waiver procedures for their program.

In general, only immediate prerequisites for courses are listed. Some courses listed as prerequisites may have their own prerequisites. You may need to plan more than one semester in advance when deciding which semester to take a particular course.

Students seeking to substitute prerequisite courses with equivalents or permission of instructor may do so only with departmental permission. Such substitutions are not automatic.

Definitions

- Prerequisite – Any course(s) and/or other requirement(s) that must be completed prior to enrolling in a particular course.
- Pre/Co-requisite(s) – Any course and/or other requirement(s) that students may take prior to, or concurrently, with the particular course.
- Co-requisite – Any course and/or other requirement(s) that students must take concurrently with a particular course.
- Recommended – Any course and/or other requirement(s) that might be useful for students to complete prior to enrolling in a particular course.

Syntax Guidelines

- Multiple Course Requirements are separated by a comma. Example: ART 105, 115.
- Compound requirements are separated by a semi-colon. Example: ART 105, 115; Admission to the Teacher Education Program.
- Alternative courses are separated by "or,"Example: ART 105 or 115.
- Multiple alternative courses are preceded by the use of “One of:”. Example: One of: ART 105, 115, 215.
- Default prerequisites. "or permission of instructor" and "or equivalent" are default prerequisites and therefore apply to any course. It is understood that students may contact a faculty member for permission to register for a class (with a bump card) or have previous coursework evaluated for equivalency (with a bump card). Thus, these phrases should not appear in course descriptions.
- "Or graduate standing" should appear only in 500 level classes to permit graduate students to register without CMU’s undergraduate requirements.

Cross-Listed Courses

Cross-listed courses are those courses identified in the course listing as “identical to” another course. Credit may not be earned in more than one of these courses.

Credit and Attendance Hours

The number of semester hours of credit in each course is indicated by the first number following the title of the course. Within the parentheses, the first number indicates the number of hours of lecture per week; the second number, the hours of laboratory per week. EXAMPLE: 4(3-2) means four hours of credit, three hours of lecture, 2 hours of laboratory.

Variable Credit Courses

Variable credit courses are indicated by a semester-hour designation such as 1-3(Spec). (Spec) means there are special arrangements regarding the number of hours spent in class. Maximum hours which a student may earn in a variable credit course to apply toward graduation are the highest number in the semester-hour designation for the course (i.e., three hours maximum in example listed above).

Distance Learning Courses

Distance learning courses include web-based courses, learning package courses, and other courses that do not have the traditional face-to-face classroom format. Course approved for offering in a distance learning format are identified in each department’s course listing section.

Other Designation

- CR/NC Credit/No Credit. see index for more information.
- Courses are listed in alphabetical order by designator.
Additional Academic Programs

Michigan Intercollegiate Graduate Studies (MIGS)

The Program. The Michigan Intercollegiate Graduate Studies (MIGS) program enables graduate students who are in good standing in a degree program to elect courses at various graduate schools in Michigan, with the approval of both Host and Home faculty. This program for guest scholars enables graduate students to take advantage of unique educational opportunities throughout the state. The schools participating in MIGS include: Andrews University (Berrien Springs), Aquinas College (Grand Rapids), Calvin College (Grand Rapids), Central Michigan University, Eastern Michigan University (Ypsilanti), Grand Valley State University (Allendale), Madonna University (Livonia), Marygrove College (Detroit), Michigan State University (East Lansing), Michigan Technological University (Houghton), Northern Michigan University (Marquette), Oakland University (Rochester), Saginaw Valley State University (University Center), Siena Heights College (Adrian), University of Detroit Mercy (Detroit), University of Michigan (Ann Arbor), Wayne State University (Detroit), and Western Michigan University (Kalamazoo).

Procedures. The Home Institution is where the student is currently enrolled in a degree program; that is, CMU. The Host Institution is where the student wishes to be a guest.

Degree Candidacy and Requirements

Degree Candidacy

Admission to Candidacy

Specialist’s Degree. Admission to graduate study does not imply Admission to Candidacy for any specialist’s degree. Admission to Candidacy is granted only after the applicant has:

1. Fulfilled all the prerequisites for admission to the degree program;
2. Fulfilled all special requirements, such as admissions tests, letters of recommendation, and qualifying examinations specified by the department which has jurisdiction over the curriculum;
3. Submitted an Authorization of Degree Program - Graduate form approved and signed by the advisor;
4. Completed at least ten hours of graded graduate coursework on the chosen program at CMU with a cumulative graduate grade point average of 3.0 or higher in all of this work;
5. Filed an Admission to Candidacy - Specialist Degree form approved by the advisor and the department chair and submitted to Graduate Student Services.

Ph.D. or Ed.D. Degree. (Other doctoral programs may require candidacy.) Admission to graduate study does not imply Admission to Candidacy for a Ph.D. or Ed.D. degree. Admission to Candidacy is granted only after the applicant has:

1. Fulfilled all the prerequisites for admission to the degree program;
2. Fulfilled all special requirements, such as admissions tests, letters of recommendation, and additional student background information specified by the department;
3. Submitted an Authorization of Degree Program - Doctoral form approved and signed by the advisor.
4. Completed most of the prescribed coursework for the degree with a cumulative graduate grade point average of 3.0 or higher, satisfied any research or professional tool requirements established by the department, and passed a comprehensive examination conducted and evaluated by the student’s examination committee;
5. Filed an Admission to Candidacy - Doctoral Degree form approved by the advisor and the department chair, and submitted to Graduate Student Services.

Degree Requirements

Students may elect to graduate under the curricular requirements and regulations in any Graduate Bulletin in effect between the date of the original admission on a graduate degree or certificate program and the date that degree or certificate was received with such modifications and substitutions as may be necessitated by changes and developments in the university’s programs.

Graduate Certificate

You are eligible to receive a graduate certificate* after you have:

1. Received Regular Admission to the graduate program and filed an Authorization of Degree Program - Graduate form approved and signed by an advisor;
2. Completed 15 to 18 hours of graduate coursework approved by the advisor. A maximum of six (6) semester hours from a previous or concurrent graduate degree or certificate may be transferred (continued)
Policies and Procedures

toward a graduate certificate. Military coursework with a grade of outstanding or excellent is transferable. If a student has not had adequate preparatory coursework for the curriculum chosen and has to take additional coursework to make up any deficiencies, these courses are not included in the fifteen to eighteen hour graduate course work requirement. These courses will, however, be stated on the Authorization of Degree Program - Graduate form. Any course in which the student earns a grade below C is not acceptable in fulfillment of a graduate certificate requirement.

3. Fulfilled all of the requirements of the curriculum on which the student is enrolled and all other university regulations pertaining to the program;

4. Obtained a cumulative graduate grade point average of 3.0 (B) or higher in graded graduate coursework at CMU and a cumulative graduate grade point average of 3.0 (B) in all coursework on the student’s authorized graduate certificate program;

5. Completed all requirements for the graduate certificate within seven years after matriculation in the program. Courses completed more than seven years prior to graduation cannot be used to meet graduation requirements without an extension of the time request. Please note that extension of time requests are serious and approval by the advisor and department does not guarantee approval by Graduate Studies. Extensions of time to complete a degree or certificate are rarely granted and only considered if there are clearly extenuating circumstances. Typically “life” events (employment changes, responsibilities, or promotions, marriage and births) do not count as extenuating circumstances. Extension requests are limited to a one time request of twelve to eighteen months and for up to 9 graduate credit hours. See Extension of Time section for further information.

6. Made application for the graduate certificate by the date specified in the section titled “Deadlines” on the inside front cover of this Bulletin, filed a Graduation Application in Graduate Student Services, and paid the required graduation fee. (See Graduation Procedures.)

*NOTE: Graduate Certificates as described in this section are not related to earning a teaching certificate. See page 230 of this Bulletin for Teacher Certification Information (See Graduate Procedures).

Master’s Degree

You are eligible to receive a master’s degree after you have:

1. Received Regular Admission to the degree program and filed an Authorization of Degree Program - Graduate form, approved and signed by the advisor;

2. Completed a minimum of thirty hours of graduate work approved by the advisor. Courses in which you earn a grade below C are not acceptable in fulfillment of this degree requirement. If you have not had adequate preparatory coursework for the curriculum chosen, you must take additional coursework to make up the deficiencies either in the field of specialization, in cognate areas, or both, as determined by your advisor. If you must earn more than thirty hours to receive the degree, the additional hours and their nature will be stated in the Authorization of Degree Program - Graduate form;

3. Fulfilled all of the requirements of the curriculum on which you are enrolled and all other university regulations pertaining to the program;

4. Obtained a cumulative graduate grade point average of 3.0 (B) or higher in graded graduate coursework at CMU and a cumulative graduate grade point average of 3.0 (B) in all coursework on the student’s authorized degree program;

5. Earned at least fifteen of the hours presented for the degree in courses at or above the 600 level;

6. Fulfilled all other university regulations pertaining to your program;

7. Submitted evidence of scholarship and/or creative or artistic ability beyond the completion of coursework. Two plans, differing to some extent in the various departments, are in general use. Subject to the approval of the major advisor, students may choose either plan.

Plan A consists of coursework, a thesis (6-9 credits), and an oral defense of the thesis.

Plan B consists of primarily coursework, requires no thesis, but must include additional significant evidence of scholarship, such as research, independent studies, internships, or practica and/or creative or artistic ability which the department of the field of specialization may wish to prescribe.

A comprehensive examination over the field of specialization may be required under either Plan A or Plan B. It is the responsibility of the student to complete the Authorization form, obtain the appropriate signatures, and submit the form to Graduate Student Services outlining which plan the student will be completing.

8. Made application for the degree and diploma by the date specified in the section titled Deadlines on the inside front cover of this Bulletin;

9. Completed all requirements for the graduate degree within seven years after matriculation in the program. Courses completed more than seven years prior to graduation cannot be used to meet graduation requirements without an extension of the time request. Please note that extension of time requests are serious and approval by the advisor and department does not guarantee approval by Graduate Studies. Extensions of time to complete a degree or certificate are rarely granted and only considered if there are clearly extenuating circumstances. Typically “life” events (employment changes, responsibilities, or promotions, marriage and births) do not count as extenuating circumstances. Extension requests are limited to a one time request of twelve to eighteen months and for up to 9 graduate credit hours. See Extension of Time section for further information.

10. Filed a Graduation Application in Graduate Student Services and paid the required graduation fee. (See Graduation Procedures.)

Specialist’s Degree

You are eligible to receive the Specialist’s in Psychological Services degree or Specialist’s in Education degree after you have:

1. Received the master’s degree, if this is a prerequisite on your curriculum;

2. Been admitted to candidacy for the appropriate specialist’s degree;

3. Completed a minimum of sixty semester hours (thirty hours beyond the master’s degree if the master’s is required or was earned elsewhere) of graduate work approved by your advisor. Courses in which you earn a grade below C are not acceptable in fulfillment of this degree requirement;

4. Fulfilled all of the requirements of the curriculum program in which you are enrolled and all other university regulations pertaining to your program;

5. Obtained a cumulative graduate grade point average of 3.0 (B) or higher in graded graduate coursework at CMU and a cumulative graduate grade point average of 3.0 (B) in all coursework on the student’s authorized degree program;

6. Completed a thesis or field study as part of your master’s or your specialist’s degree.

7. Earned at least twenty of the last thirty hours of coursework at or above the 600 level;

8. Applied for the degree and diploma by the date specified in the Deadline section on the inside front cover of this Bulletin;

9. Completed all requirements for the specialist degree within seven years after matriculation in the program. Courses completed more than seven years prior to graduation cannot be used to
meet graduation requirements without an extension of the time request. Please note that extension of time requests are serious and approved by the advisor and department does not guarantee approval by Graduate Studies. Extensions of time to complete a degree or certificate are rarely granted and only considered if there are clearly extenuating circumstances. Typically “life” events (employment changes, responsibilities, or promotions, marriage and births) do not count as extenuating circumstances. Extension requests are limited to a one time request of twelve to eighteen months and for up to 9 graduate credit hours. See Extension of Time section for further information.

10. Filed a Graduation Application in Graduate Student Services and paid the required graduation fee. (See Graduation Procedures.)

**Doctoral Degree**

You are eligible to receive a doctoral degree as approved and implemented by the university after having:

1. Received a master’s or specialist’s degree, if this is a prerequisite on the curriculum;
2. Acquired the research skills of the discipline as required by the department;
3. Passed a comprehensive examination or comprehensive clinical assessment evaluated by more than one member of the graduate faculty;
4. Been admitted to candidacy for the doctoral degree (if a Ph.D., Ed.D., or DHA degree program);
5. Completed the minimum of 60 graduate credit hours beyond the bachelor’s degree with a cumulative graduate GPA of 3.0 (B) or better and a graduate GPA of 3.0 (B) or better in all coursework on the student’s authorized degree program. The required number of graduate credit hours varies by graduate program. Students should check with their department to ensure they are completing the required number of graduate credit hours beyond the bachelor’s degree.
6. Maintained at least a cumulative grade point average of 3.0. Courses in which the student earns or has earned a grade below a C do not count toward meeting any degree requirements. A student with three or more grades of C+, C, or C- may not be awarded a doctoral degree. Coursework that is not part of the student’s doctoral program of study is excluded from this policy. Particular programs may have more stringent grade requirements.
7. Fulfilled all the requirements on the authorized doctoral program as developed by the student and the student’s advisor or advising committee. The advisor or advising committee will supervise the program until the degree is completed or until it has been determined that the student should discontinue doctoral study;
8. Earned at least fifteen hours in courses at the 700 level or above (excluding dissertation, doctoral project and internship credits) and fifty of the total hours at the 600 level or above;
9. Prepared a doctoral dissertation, or in the case of some applied programs, a doctoral project. A doctoral project must be conducted under an advisor who meets the requirements for regular graduate faculty status as defined by the Academic Senate’s Graduate Education Policy. All other policies and procedures for the doctoral project are to be determined by the academic program and will be presented in the section of the bulletin pertaining to the academic program. For the dissertation, you may receive a minimum of twelve hours of credit and a maximum of thirty-six hours of credit as specified on the authorized doctoral program under the guidelines of the specific department. The research for the dissertation will be conducted under the guidance of a dissertation supervisor and must be approved by a doctoral committee consisting of at least three graduate faculty members. The student must pass an oral defense of the completed dissertation. The committee members are the examining committee and determine whether the student passes the defense. The dissertation must be prepared according to the regulations prescribed in the Office of Research and Graduate Studies’ most recent edition of the *Guidelines for the Preparation of Theses, Doctoral Projects, and Dissertations*.
10. Completed the requirements for the doctoral degree within eight years prior to the award of the doctoral degree with prior relevant graduate degree and ten years if the student began doctoral study without prior relevant graduate degree. Courses completed outside these time frames cannot be used to meet graduation requirements without an extension of the time request. Please note that extension of time requests are serious and approval by the advisor and department does not guarantee approval by Graduate Studies. Extensions of time to complete a degree or certificate are rarely granted and only considered if there are clearly extenuating circumstances. Typically “life” events (employment changes, responsibilities, or promotions, marriage and births) do not count as extenuating circumstances. Extension requests are limited to a one time request of twelve to eighteen months and for up to 9 graduate credit hours. See Extension of Time section for further information.
11. Filed a Graduation Application in Graduate Student Services and paid the required graduation fee. (See Graduation Procedures.)

**NOTE:** Particular doctoral programs may have more specific or more stringent program requirements.

**Thesis, Doctoral Project, Dissertation, or Journal Article**

The satisfactory completion of a thesis is a requirement on some master’s degree programs and optional on others. The satisfactory completion of a thesis at CMU is a requirement for some specialist’s degrees, and satisfactory completion of a doctoral project or dissertation is a requirement for some doctoral degrees. Satisfactory completion is determined by the student’s committee, department, college, and Graduate Studies.

Students should be aware that the university has specific policies that govern research involving human or animal subjects and recombinant DNA. Information on experimentation may be obtained from the department chairperson, committee chairperson, or the Office of Research and Graduate Studies.

For stylistic guidelines, students are expected to follow the most recent Office of Research and Graduate Studies’ requirements, which are explained in the Guidelines for the Preparation of Theses, Doctoral Projects, Dissertations, and Journal Articles. These guidelines are available online at [www.grad.cmich.edu](http://www.grad.cmich.edu).

Theses/doctoral projects/dissertations/journal articles are evaluated by a committee. Students should consult their advisor in selecting a committee chairperson and at least two committee members. The advisor may or may not be the committee chairperson, depending upon the student’s academic emphasis. One member of the committee may be from a discipline other than that of the student’s area of concentration. All members of the committee must have graduate faculty status. Students can check their committee members’ status by contacting Graduate Studies.

For theses/doctoral projects/dissertations/journal articles completed through Central Michigan University’s Global Campus, one of the three committee members must be a CMU main campus regular faculty member or a regular faculty member from a collaborating university (such as in a joint program), or if all committee members are from Global Campus, the committee chair must meet the requirements for regular graduate faculty status as defined by the Academic Senate’s Graduate Education Policy and be approved as committee chair by the department.

The chairperson of the thesis/doctoral project/dissertation/journal article committee will have active direction of the work, but may wish to consult with other members of the committee about matters pertinent to its development. The committee as a whole, however, will determine the quality of the work.
After a committee has been selected and a topic chosen, a Prospectus - Theses, Doctoral Projects, Dissertations, and Journal Articles form must be completed by the student and approved at the department level as well as by the Vice President/Dean of the Office of Research and Graduate Studies as well as the committee verified by Graduate Studies. A student may not enroll for more than three credits of the thesis or dissertation and projects must not be undertaken until this has taken place. Projects undertaken prior to the Vice President/Dean of the Office of Research and Graduate Studies approving the Prospectus may be denied, the project deemed invalid, and the student will have to begin the thesis/dissertation project/dissertation process anew. The department may require a more detailed prospectus.

Each student who writes a thesis/dissertation/journal article must enroll for such credit. Letter grades are not used in the evaluation of the thesis/dissertation/journal article; therefore, the student’s grade point average is not affected by credit earned for these. In all departments the thesis/dissertation/journal article is designated as credit (CR) if acceptable and no credit (NC) if not acceptable. Students will receive 6-9 semester hours of credit for an acceptable thesis/dissertation/journal article. For a doctoral project/dissertation/journal article, a minimum of twelve and a maximum of thirty-six semester credit hours may be earned depending on the guidelines for the specific department.

In order to obtain a graduate degree, a student must have at least a 3.0 (B) cumulative grade point average, and a cumulative graduate grade point average of 3.0 (B) in all course work on the student’s authorized degree program. The policies which follow deal with cumulative graduate grade point average; Graduate Studies monitors overall graduate grade point averages and follows these procedures when a student’s cumulative graduate grade point average is below a 3.0. When a student’s cumulative graduate grade point average in the academic program falls below a 3.0, the student’s academic file is reviewed by Graduate Studies. Graduate students are given two semesters after being placed on academic probation to raise their cumulative graduate GPA to the required 3.0.

A field study requires the student to conduct a major project approved and directed by an advisor who meets the requirements for regular graduate faculty status as defined by the Academic Senate’s Graduate Education Policy. Upon completion of the field study, the student must pass a publicly announced oral defense of the project.

In addition to maintaining a satisfactory cumulative grade point average, students in graduate programs must abide by the university’s “Academic Integrity Policy,” which specifically prohibits “plagiarism, cheating and other forms of dishonest or unethical behavior...” Violations of the Academic Integrity Policy may lead to sanctions as described in the policy.

In addition, departments involved in clinical programs may evaluate students on the basis of their ability to relate successfully with clients. Students who do not meet the professional standards established by departments may be placed on probation, suspended, or dismissed from a program.

In cases where a student fails to satisfy departmental graduate program requirements, Graduate Studies, upon the recommendation of the advisor and the departmental chairperson or program coordinator, and after review of the student’s academic progress, may remove the student from the graduate program. Examples of specific departmental requirements to be met by students include, but are not limited to the following: (1) writing competency; (2) the number of attempts made in passing comprehensive or qualifying exams; (3) the completion of required papers or theses; and (4) meeting university and departmental time limitations.

Students dismissed from graduate study, regardless of whether they were non-degree students or students pursuing a graduate certificate or degree, may petition for readmission no sooner than one academic year after the semester they were dismissed. Exceptions to this waiting period may granted by Graduate Studies. A dismissed student may apply for either non-degree admission or admission to a graduate program. Admission as a non-degree student will be decided by Graduate Studies. Admission to a graduate program will be decided by the procedures normally used for that program.
Graduation Procedures

At least eight weeks prior to the end of the semester in which a student intends to graduate, he/she must submit a graduation application; the link can be found on the Graduate Student Services website or the Registrar’s website. Application deadline dates are published on the front inside cover of this Bulletin.

Application for Graduation. At the time of completing the graduation application, it is the responsibility of the student to determine whether his/her advisor will be available to approve the thesis or to sign any other papers necessary for graduation. In the event the student’s advisor will not be available on campus at such a time, the student assumes responsibility for making suitable arrangements for the approval of the thesis, field study, dissertation, or other papers with the advisor prior to the advisor’s departure.

Graduation Audit. After a student completes a Graduation Application, the student’s record is audited by Graduate Student Services to verify completion of program requirements. After the audit is complete, the student and advisor will each be e-mailed an audit form indicating either that all requirements are satisfied or that the student has requirements left to complete. If there are requirements left to complete, the audit form will indicate what requirements the student must complete in order to graduate. Students who fail to complete requirements by the deadline will receive a Failure to Complete Requirements for Graduation letter, indicating that they will not graduate at the upcoming graduation and advising them to apply for the next graduation period. Students must reapply to graduate in a subsequent semester; the fee for each subsequent graduate application is $50.00.

To encourage students to monitor their own progress toward graduation, a Self Audit form is available on the Graduate Studies website. Although it is not mandatory, students are urged to complete the Self Audit before submitting a Graduation Application.

Diplomas. Diplomas are mailed to the student’s permanent address about six weeks after commencement. If a student needs evidence of degree completion in less than six weeks, written verification is available through the Registrar’s office.

Waiver of a Program Requirement

An advisor/program director has the authority to waive a program requirement only if the proposed waiver is not in violation of any pertinent university regulation, procedure, or policy. Circumstances under which a course might be waived include:
1. The student has already met the required course objectives through some experience which was not in the form of a transferable course;
2. The student has not met the objectives of the course, but the advisor/program director determines that the student would derive greater benefit from a different course.
If a program requirement is waived, the minimum number of hours required for the program is unaffected.
A separate policy exists for students entering the Au.D. with a master’s degree in Audiology and significant, relevant professional experience. See the Au.D. program description for details.

Additional Master’s Degrees

A student who holds a master’s or higher degree may earn an additional master’s degree in another discipline. With the approval of the department chairperson and the graduate dean, a student holding a degree in a discipline may earn another master’s degree in the same discipline, provided it is on a different published option. In any case, a maximum of six semester hours submitted in fulfillment of the prior degree program at CMU or elsewhere may subsequently be transferred to another master’s degree program, provided the hours apply to the stated requirements of the subsequent program and were earned within seven years of the student’s completion of the additional degree.

Distance Learning Courses

Courses in distance learning format (e.g. web-based courses and other non-face-to-face formats for delivering instruction) may be used to complete degree requirements unless otherwise specifically excluded. CMU courses and programs approved for distance learning delivery (as well as restrictions) are given in the descriptions of courses and degrees in this Bulletin.
School of Accounting
College of Business Administration

Chad Stefaniak, Chairperson
312 Grawn Hall, 989-774-3796

Robert G. Bromley, Ph.D., CPA, Information Systems
Steve Harrast, Ph.D., Information Systems
William C. Hood, J.D., CPA, Tax Accounting
Philip L. Kintzele, D.B.A., CPA, Financial Accounting and Governmental Accounting
Vernon E. Kwiatkowski, D.B.A., CPA, Governmental Accounting
Debra McGlisky, Ph.D., CPA, Tax Accounting
Chad Stefaniak, Ph.D., CPA, Auditing
Thomas R. Weirich, Ph.D., CPA, Auditing, Financial Accounting

Course Designator:
ACC - Accounting

Master of Business Administration (MBA)
See the College of Business Administration for information.

Department of Biology
(BIO, MAR)
College of Science and Engineering

Tracy Galarowicz, Chair
217 Brooks Hall, 989-774-3227; https://www.cmich.edu/colleges/cst/biology

Elizabeth Alm, Ph.D., microbial ecology, environmental microbiology
Robert E. Bailey, Ph.D., quaternary paleoecology, ecological systems analysis, environmental impact assessment
Hunter Carrick, Ph.D., aquatic ecology, health and biogeochemistry of aquatic systems
Gregory Colores, Ph.D., microbial ecology, soil microbiology, biodegradation
Cynthia Damer, Ph.D., molecular mechanisms of membrane trafficking, cell biology, genetics, microscopy
Joanne Dannenhoffer, Ph.D., botany, plant cell biology, plant physiology
Peter D. Dijkstra, Ph.D., behavioral ecology, endocrinology, comparative physiology, evolutionary biology
Tracy Galarowicz, Ph.D., fish ecology and management
Thomas M. Gehring, Ph.D., GIS applications, landscape ecology, management of wildlife-human conflicts, predator-prey ecology, wildlife conservation
Steven W. Gorsich, Ph.D., stress tolerance and oxidative damage during yeast fermentation and spor development using cell, molecular, genetic and molecular techniques
Philip L. Hertzler, Ph.D., developmental biology of marine shrimp
Stephen J. Juris, Ph.D., toxin biochemistry, molecular mechanisms of bacterial pathogenesis, cellular biology of host-pathogen interactions
Xantha Karp, Ph.D., Developmental timing and cell fate plasticity in C. elegans, using genetic and molecular approaches
Jonathan Kelty, Ph.D., stress tolerance, neurobiology, neural control of respiration, environmental physiology
Peter S. Kourtev, Ph.D., structure and function of microbial communities in the environment
Deric R. Learman, Ph.D., geomicrobiology
Debra Linton, Ph.D., biology education, science teacher training
Eric W. Linton, Ph.D., bioinformatics, eukaryotic microbiology and systematics
Andrew Mahon, Ph.D., molecular ecology, aquatic surveillance for rare species, Antarctic phylogeography, systematics
A. Scott McNaught, Ph.D., limnology, zooplankton ecology, statistics
Anna K. Monfils, Ph.D., plant biology, systematics and evolution
Kirsten E. Nicholson, Ph.D., evolution and systematics of vertebrates, particularly reptiles and amphibians; museum studies
Charles E. Novitski, Ph.D., eukaryotic molecular biology, recombinant DNA technology, plant nematode development
Kevin Pangle, Ph.D., predator-prey interactions, phenotypic plasticity, Great Lakes food webs

Department of Art and Design
College of Communication and Fine Arts

Larry Burditt, Chairperson
132 Wightman Hall, 989-774-3025

Scott de Brestian, Ph.D., Art History
Jesse Dominguez, M.F.A., Painting
Brian Elder, M.F.A., Painting
Clark Most, M.F.A., Graphic Design
Johanna Paas, M.F.A., Printmaking
Sally Rose, M.F.A., Fibers
Jonathon Russell, M.F.A., Graphic Design
Kris Sanford, M.F.A., Photography
David Stairs, M.F.A., Graphic Design
Margaret Ware, M.F.A., Sculpture
Al Wildey, M.F.A., Photography

Course Designator:
ART - Art & Design

Graduate-level courses offered by the Department of Art & Design may be appropriate as electives on various graduate degree curricula.
John I. Scheide, Ph.D., mechanism and regulation of ion transport in cells and tissues of vertebrate and invertebrate species
Jennifer Schisa, Ph.D., cell and molecular effects of stress and aging
Nancy E. Seefelt, Ph.D., ecology and evolution of vertebrates, ecologi
cal modeling, ornithology
Michelle L. Steinhilb, Ph.D., genetic models of human neurodegenera
tive disease, cellular and molecular neurobiology
Bradley J. Swanson, Ph.D., ecology, molecular ecology, conservation
biology, population genetics, population dynamics, animal behavior
Don UzarSKI, Ph.D., limnology, wetland and stream ecology, experi-
mental design
Rebecca UzarSKI, Ph.D., toxicology, cell biology
Daelyn Woolnough, Ph.D., spatial ecology of aquatic and terrestrial
systems
Dave Zanatta, Ph.D., aquatic ecology, molecular ecology, conserva-
tion of freshwater mussels

Course Designators:
BIO - Biology
MAR - Marine Science

The Department of Biology has two Master of Science (MS) degree
programs: the M.S. in Biology (general) and the M.S. in Biology with
an emphasis on conservation. The general biology M.S. is designed to
prepare students for careers in all areas of biology. The conservation
biology M.S. is designed to prepare students for careers with state and
federal agencies or non-government organizations. Students enrolled
in the general M.S. in Biology program may pursue a Plan A (thesis) or
Plan B (non-thesis) option. Students enrolled in the M.S. conservation
concentration program may pursue a Plan A option only.

The Department of Biology supports teaching and research activi-
ties with excellent multi-user resources, including a microscopy
facility with confocal, transmission electron and scanning electron
microscopes; and a natural history and herbarium collection. The Depart-
ment also boasts a fleet of boats and research vehicles, a Biological
Station on Beaver Island in northern Lake Michigan with diverse and
pristine island habitat available for field-oriented research and labora-
tory studies, and Neithercut Woodlands, a 252-acre tract of
mixed hardwood forest providing habitats suitable for both aquatic
and terrestrial studies.

The CMU Biological Station on Beaver Island is an approved residence
center for graduate work in biology. It is possible to fulfill some course
requirements at the Biological Station.

A number of graduate teaching assistantships and graduate research
assistantships are available on a competitive basis in the Department
of Biology website. Application forms may be obtained from the Biol-
ogy Department. The deadline for applications is February 1 each year
for full consideration.

Graduate Teaching Assistantships (GTA) involve 8-9 hours per week
instructing laboratory sections in beginning and advanced under-
graduate courses plus assisting with laboratory preparation. During
the academic year, GTAs receive a competitive stipend, all fees paid
and a 20 credit tuition scholarship.

Most Graduate Research Assistantships (GRA) are supported through
college research grants or contractual agreements. A limited number
of GRAs are available for 12 months with highly competitive stipends.

Raymond E. Hampton Excellence in Biology Research Award
Established in 1994 in recognition and appreciation of Dr. Hampton,
who served 24 years as professor of biology at CMU. This merit-based
award will recognize second-year biology graduate students identified
as worthy of distinction. The award may be used for tuition, books, and
board at a biological station, and for research supplies and logistics.

The Department of Biology offers both the Plan A and the Plan B
Master of Science degree. Plan A requires completion of six to nine
credit hours in BIO 798 (Thesis), one credit hour in BIO 730 (Seminar),
20 to 23 hours of graduate course work approved by the student’s
advisor and advisory committee, and an oral defense of the thesis.
Plan A is recommended to those students preparing for research-
oriented careers or for doctoral study. Plan B requires the completion
of 36 credit hours of graduate-level course work approved by the
student’s advisor and advisory committee and a written and/or oral
comprehensive examination over the course work. Students enrolled
in the M.S. conservation concentration program may pursue a Plan
A (thesis) option only.

Minimum Totals for Graduation: 30 - 36 hours

The Department of Biology offers both the Plan A and the Plan B
Master of Science degree. Plan A requires completion of six to nine
credit hours in BIO 798 (Thesis), one credit hour in BIO 730 (Seminar),
20 to 23 hours of graduate course work approved by the student’s
advisor and advisory committee, and an oral defense of the thesis.
Plan A is recommended to those students preparing for research-
oriented careers or for doctoral study. Plan B requires the completion
of 36 credit hours of graduate-level course work approved by the
student’s advisor and advisory committee and a written and/or oral
comprehensive examination over the course work. Students enrolled
in the M.S. conservation concentration program may pursue a Plan
A (thesis) option only.

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

To be eligible for Regular Admission to the graduate program in biol-
ogy, applicants should have completed an undergraduate degree with
a major in a biological science with a 3.0 or better grade point average
in their major and a 3.0 GPA overall. Applicants will need to submit
general GRE scores, statement of interests, transcripts, and three let-
ters of recommendation as specified in the Biology Department Web
page (https://centralink.cmich.edu/academics/sci_tech/biology). In
addition, chemistry is required while mathematics and physics are
highly recommended. Admission to the program is contingent upon
advisor acceptance. An applicant who does not meet the foregoing
requirements may be granted Conditional Admission by the depart-
ment graduate committee.

Fifteen credit hours (seminar and thesis or research in biology in-
cluded) must be earned at the 600-level or above.

Degree Requirements

Select one of the following options:

Biology - Plan A (30 hours)

Required Courses (7-15 hours)
BIO 500 - Biological Statistics 3(2-2)
BIO 630 - Art of Scientific Communication 2(2-2)
BIO 730 - Seminar 1(1-0)
BIO 798 - Thesis 1-9(Spec)

Electives I (13-23 hours)
Select graduate course work approved by the student’s advisor
and advisory committee.

Electives II (0-10 hours)
Additional courses in cognate areas selected in consultation
with student’s advisor and advisory committee.

Total: 30 Semester Hours

(Continued)
Biology - Plan B (36 hours)

Thirty-six hours of graduate-level coursework approved by the advisory committee. Up to 10 hours may be in one or more cognate areas, subject to approval by the advisory committee. Students must submit an approved Plan B paper demonstrating either research, independent study, or internship. A comprehensive oral and/or written examination over the coursework administered by the advisory committee.

Total: 36 Semester Hours

Biology: Conservation Concentration

This concentration in Conservation Biology is designed to prepare students for career opportunities with state and federal agencies and conservation organizations. Fifteen credit hours (seminar and thesis or research in biology included) must be earned at the 600-level or above.

Required Courses (7-15 hours)
BIO 500 - Biological Statistics 3(2-2)
BIO 630 - Art of Scientific Communication 2(2-2)
BIO 730 - Seminar 1(1-0)
BIO 798 - Thesis 1-9(Spec)

Note: Also requires oral defense of thesis.

Required Courses II (9-10 hours)
Conservation Concentration
BIO 650 - Population Ecology 4(3-2)
BIO 680 - Conservation Biology 3(3-0)

Note: A course in community ecology is also required.

Electives (8-14 hours)
Select course work approved by the student’s advisor and advisory committee

Total: 30 Semester Hours

M.A.T. Integrated Science

This degree is an interdisciplinary program. Please see the index for the page number.

M.S. and Ph.D. in Neuroscience

These degrees are interdisciplinary programs. Please see the index for the page number.

Ph.D. in the Science of Advanced Materials

This degree is an interdisciplinary program. Please see the index for the page number.

Ph.D. in Earth and Ecosystem Science

This degree is an interdisciplinary program. Please see the index for the page number.

School of Broadcast and Cinematic Arts

College of Communication and Fine Arts

Peter B. Orlik, Director
340 Moore Hall, 989-774-3851.
Sarah Adams, M.A., Central Michigan University; Media Criticism
William Anderson, Ed.D., Northern Illinois University; Writing, Promotion, Public Relations
Edward Christian, M.A., Central Michigan University; Media Management, Sales
Kevin Corbett, Ph.D., Bowling Green State University; Film Studies, Scriptwriting
Aaron Jones, M.A., Central Michigan University; Video Production
Kenneth Jurkiewicz, Ph.D., University of Detroit; Film History, Theory, Criticism
Eric Limarenko, M.F.A., Savannah College of Art and Design; Video, Graphics, Multimedia Production
Maggie Mayes, M.A., Central Michigan University; Performance, Sports Broadcasting
Peter B. Orlik, Ph.D., (School Director) Wayne State University; Writing, Criticism
W. Lawrence Patrick, Ph.D., Ohio University; J.D., Georgetown; Media Management, Regulation, Economics
Mark Poinexter, Ph.D., University of Minnesota; Media Theory and Criticism, International and Comparative Media
Heather Polinsky, Ph.D., Michigan State University; Audio Production, Quantitative Research Methods, Radio Operations, Policy
Chad Roberts, M.S., St. Cloud State University; Radio Operations, Audio Production
Amy Sindik, Ph.D., University of Georgia; Electronic Media Law, Management, Entrepreneurship
Jeffrey Smith, Ph.D., (Internship Supervisor) Ohio University; Multimedia Applications
Trey Stohlman, Ed.D., Central Michigan University; Writing, Assessment, Qualitative Research Methods
William R. Sykes, M.A. (Assistant Director), Central Michigan University; Electronic Journalism
Tiffani Waite, M.A., Central Michigan University, Programming
Patty Williamson, Ph.D. (Graduate Coordinator), Michigan State University; Criticism, Research Theory, Film Studies

Course Designator:
BCA - Broadcast & Cinematic Arts

Facilities

The School of BCA oversees WMHW-FM, a two-service HD FM station which broadcasts 365 days a year at 91.5 and 101.1; two television studios servicing cable station MHTV; two advanced audio studios; video-editing suites; a computerized newsroom from which News Central, the area’s only locally focused television newscast, is produced; and an online production suite for M2D2, the school’s web and multimedia publisher. The school also maintains its own recording studio, Moore Media Records, and oversees CMU’s Film Society.

Graduate Assistantships

Broadcast and Cinematic Arts graduate assistants aid in teaching basic audio, video, and news production sections, and film survey courses, as well as performing other online and administrative duties as determined by the School Director. For a graduate assistantship application, contact the director at 340 Moore Hall, CMU, Mount Pleasant, MI 48859 or visit www.bca.cmich.edu.
Master of Arts (M.A.) in Broadcast and Cinematic Arts

Minimum Totals for Graduation: 33 hours

The Master of Arts program in Broadcast and Cinematic Arts offers opportunities for both industry professionals seeking new skills and recent undergraduates desiring to pursue advanced study in electronic media or film theory and criticism. Students interested in the electronic media studies, electronic media management, or electronic media production concentrations should possess a professional or academic background in mass communication. Students interested in the film theory and criticism concentration should have a background in film, mass communication, speech, or literary studies.

Graduate students can complete coursework in formal classroom, seminar, and independent study settings, leading to an emphasis in:
1. electronic media studies,
2. electronic media management,
3. film theory and criticism, or
4. electronic media production.

Classes are taught by a faculty possessing diverse professional and theoretical backgrounds. In addition, many students supplement their studies with offerings from Interpersonal and Public Communication, Political Science, English, and Journalism. One-on-one advising and personalized course study with members of the graduate faculty make the Broadcast and Cinematic Arts M.A. program one of the most attractive in the Midwest.

For an application, catalog, and graduate assistant information contact the Graduate Coordinator-School of Broadcast & Cinematic Arts, 340 Moore Hall, Central Michigan University, Mount Pleasant, MI 48859.

Required Courses I (12 hours)
- BCA 600 - Introduction to Electronic Media Research and Writing 3(3-0)
- BCA 601 - Theories of Mass Communication 3(3-0)
- BCA 603 - Qualitative Mass Communication Research Methods 3(3-0)
- BCA 604 - Quantitative Mass Communication Research Methods 3(3-0)

Electives (9-12 hours)
- Select from the following:
  - BCA 503WI - Critiquing Mass Media 3(3-0)
  - BCA 506WI - Series Script Writing For Visual Media 3(3-0)
  - BCA 508WI - Screenwriting for Cinematic Narrative 3(3-0)
- BCA 510 - Electronic Media Law 3(3-0)
- BCA 511 - Electronic Media Sales 3(3-0)
- BCA 512 - Electronic Media Promotion 3(3-0)
- BCA 515 - Sports Broadcasting 3(2-2)
- BCA 516WI - Electronic Media Management 3(3-0)
- BCA 517 - Advanced Audio and Video Performance 3(2-2)
- BCA 518 - Electronic News Reporting 3(2-2)
- BCA 519 - Electronic Media Programming 3(3-0)
- BCA 520 - Special Topics in Electronic Media 1-9(Spec)
- BCA 521 - Advanced Electronic Cinematography 3(2-2)
- BCA 522 - Multimedia Audio Post-Production 3(2-2)
- BCA 524 - Producing Television News 3(1-4)
- BCA 525 - Film Genre Study 3-9(Spec)
- BCA 527 - Film Directors 3-9(Spec)
- BCA 528 - History and Analysis of Nonfiction Film 3(2-2)
- BCA 529 - Internship in Electronic Media-Film 2-6(Spec)
- BCA 531 - Industrial and Educational Video/Media Production 3(2-2)
- BCA 532 - Advanced Video/Multimedia Post-Production 3(2-2)
- BCA 533 - Advanced Electronic Media Design 3(2-2)
- BCA 540WI - Recording Industry & Business 3(3-0)
- BCA 560 - Radio Operations 13(1-4)
- BCA 561 - Radio Operations II 3(1-4)
- BCA 566 - Hockey's Cinematic Depictions 1-1(Spec)
- BCA 611 - Seminar in Telecommunications Media Policy 3(3-0)
- BCA 612 - Electronic Media Seminar 3(3-0)
- BCA 613 - Media Entrepreneurship 3(3-0)
- BCA 619 - Continuing Registration for Final Research Project 1(Spec)
- BCA 625 - Film and Video Theory and Criticism 3(3-0)
- BCA 720 - Special Topics in Mass Media 3-9(Spec)
- BCA 729 - Advanced Independent Study in Electronic Media 1-9(Spec)

Note: Students may take a maximum of 9 hours outside of BCA.

Total: 33 semester hours

Required Courses II (6 hours)
- Select two of the following:
  - BCA 611 - Seminar in Telecommunications Media Policy 3(3-0)
  - BCA 612 - Electronic Media Seminar 3(3-0)
  - BCA 613 - Media Entrepreneurship 3(3-0)
  - BCA 625 - Film and Video Theory and Criticism 3(3-0)

Electives (9-12 hours)
- Select from the following:
  - BCA 730 - Plan B Project Research 3(3-0)
  - BCA 798 - Thesis 1-6(Spec)

Required Courses III (3-6 hours)
- Select one of the following:
  - BCA 730 - Plan B Project Research 3(3-0)
  - BCA 798 - Thesis 1-6(Spec)

Electives (9-12 hours)
- Select from the following:
  - BCA 503WI - Critiquing Mass Media 3(3-0)
  - BCA 506WI - Series Script Writing For Visual Media 3(3-0)
  - BCA 508WI - Screenwriting for Cinematic Narrative 3(3-0)
  - BCA 510 - Electronic Media Law 3(3-0)
  - BCA 511 - Electronic Media Sales 3(3-0)
  - BCA 512 - Electronic Media Promotion 3(3-0)
  - BCA 515 - Sports Broadcasting 3(2-2)
  - BCA 516WI - Electronic Media Management 3(3-0)
  - BCA 517 - Advanced Audio and Video Performance 3(2-2)
  - BCA 518 - Electronic News Reporting 3(2-2)
  - BCA 519 - Electronic Media Programming 3(3-0)
  - BCA 520 - Special Topics in Electronic Media 1-9(Spec)
  - BCA 521 - Advanced Electronic Cinematography 3(2-2)
  - BCA 522 - Multimedia Audio Post-Production 3(2-2)
  - BCA 524 - Producing Television News 3(1-4)
  - BCA 525 - Film Genre Study 3-9(Spec)
  - BCA 527 - Film Directors 3-9(Spec)
  - BCA 528 - History and Analysis of Nonfiction Film 3(2-2)
  - BCA 529 - Internship in Electronic Media-Film 2-6(Spec)
  - BCA 531 - Industrial and Educational Video/Media Production 3(2-2)
  - BCA 532 - Advanced Video/Multimedia Post-Production 3(2-2)
  - BCA 533 - Advanced Electronic Media Design 3(2-2)
  - BCA 540WI - Recording Industry & Business 3(3-0)
  - BCA 560 - Radio Operations 13(1-4)
  - BCA 561 - Radio Operations II 3(1-4)
  - BCA 566 - Hockey's Cinematic Depictions 1-1(Spec)
  - BCA 611 - Seminar in Telecommunications Media Policy 3(3-0)
  - BCA 612 - Electronic Media Seminar 3(3-0)
  - BCA 613 - Media Entrepreneurship 3(3-0)
  - BCA 619 - Continuing Registration for Final Research Project 1(Spec)
  - BCA 625 - Film and Video Theory and Criticism 3(3-0)
  - BCA 720 - Special Topics in Mass Media 3-9(Spec)
  - BCA 729 - Advanced Independent Study in Electronic Media 1-9(Spec)

Note: Students may take a maximum of 9 hours outside of BCA.

Total: 33 semester hours

Broadcast & Cinematic Arts:

Electronic Media Studies

In consultation with the School of BCA graduate advisor, M.A. students may choose Plan A or B. Plan A consists of course work, thesis (6 hours), and oral defense of the thesis. The oral examination may also include subject matter related to course work.

Students on Plan B must satisfactorily complete an independent research project (3 hours) and an oral examination related to the independent research and course work.

Required Courses I (12 hours)
- BCA 600 - Introduction to Electronic Media Research and Writing 3(3-0)
- BCA 601 - Theories of Mass Communication 3(3-0)
- BCA 603 - Qualitative Mass Communication Research Methods 3(3-0)
- BCA 604 - Quantitative Mass Communication Research Methods 3(3-0)

Broadcast & Cinematic Arts:

Film Theory & Criticism

In consultation with the School of BCA graduate advisor, M.A. students may choose Plan A or B. Plan A consists of course work, thesis (6 hours), and oral defense of the thesis. The oral examination may also include subject matter related to course work.

Students on Plan B must satisfactorily complete an independent research project (3 hours) and an oral examination related to the independent research and course work.

Required Courses I (18 hours)
- BCA 528 - History and Analysis of Nonfiction Film 3(2-2)
- BCA 600 - Introduction to Electronic Media Research and Writing 3(3-0)
- BCA 601 - Theories of Mass Communication 3(3-0)
- BCA 603 - Qualitative Mass Communication Research Methods 3(3-0)
- BCA 604 - Quantitative Mass Communication Research Methods 3(3-0)
- BCA 625 - Film and Video Theory and Criticism 3(3-0)
**Broadcast & Cinematic Arts: Electronic Media Management**

In consultation with the School of BCA graduate advisor, M.A. students may choose Plan A or B. Plan A consists of course work, thesis (6 hours), and oral defense of the thesis. The oral examination may also include subject matter related to course work.

Students on Plan B must satisfactorily complete an independent research project (3 hours) and an oral examination related to the independent research and course work.

**Required Courses I (21 hours)**

- BCA 516WI - Electronic Media Management 3(3-0)
- BCA 600 - Introduction to Electronic Media Research and Writing 3(3-0)
- BCA 601 - Theories of Mass Communication 3(3-0)
- BCA 603 - Qualitative Mass Communication Research Methods 3(3-0)
- BCA 604 - Quantitative Mass Communication Research Methods 3(3-0)
- BCA 611 - Seminar in Telecommunications Media Policy 3(3-0)
- BCA 613 - Media Entrepreneurship 3(3-0)

**Required Courses II (3 hours)**

Select one of the following:

- BCA 519 - Electronic Media Programming 3(3-0)
- BCA 533 - Advanced Electronic Media Design 3(2-2)
- BCA 540WI - Recording Industry & Business 3(3-0)

**Required Courses III (3-6 hours)**

Select one of the following:

- BCA 730 - Plan B Project Research 3(3-0)
- BCA 798 - Thesis 1-6(Spec)

**Electives (6 hours)**

Select from the following:

- BCA 503WI - Critiquing Mass Media 3(3-0)
- BCA 605WI - Series Script Writing For Visual Media 3(3-0)
- BCA 608WI - Screenwriting for Cinematic Narrative 3(3-0)
- BCA 520 - Special Topics in Electronic Media 1-9(Spec)
- BCA 521 - Advanced Electronic Cinematography 3(2-2)
- BCA 522 - Multimedia Audio Post-Production 3(2-2)
- BCA 525 - Film Genre Study 3-9(Spec)
- BCA 527 - Film Directors 3-9(Spec)
- BCA 566 - Hockey's Cinematic Depictions 1(1-0)
- BCA 611 - Seminar in Telecommunications Media Policy 3(3-0)
- BCA 612 - Electronic Media Seminar 3(3-0)
- BCA 613 - Media Entrepreneurship 3(3-0)
- BCA 619 - Continuing Registration for Final Research Project 1(1-0)
- BCA 720 - Special Topics in Mass Media 3-9(Spec)
- BCA 729 - Advanced Independent Study in Electronic Media 1-9(Spec)

**Electives (9-12 hours)**

Select hours from the following:

- BCA 508WI - Screenwriting for Cinematic Narrative 3(3-0)
- BCA 516WI - Electronic Media Management 3(3-0)
- BCA 519 - Electronic Media Programming 3(3-0)
- BCA 600 - Introduction to Electronic Media Research and Writing 3(3-0)
- BCA 601 - Theories of Mass Communication 3(3-0)
- BCA 603 - Qualitative Mass Communication Research Methods 3(3-0)
- BCA 604 - Quantitative Mass Communication Research Methods 3(3-0)
- BCA 611 - Seminar in Telecommunications Media Policy 3(3-0)
- BCA 613 - Media Entrepreneurship 3(3-0)
- BCA 619 - Continuing Registration for Final Research Project 1(1-0)
- BCA 720 - Special Topics in Mass Media 3-9(Spec)
- BCA 729 - Advanced Independent Study in Electronic Media 1-9(Spec)

**Electives (9-12 hours)**

Select hours from the following:

- BCA 508WI - Screenwriting for Cinematic Narrative 3(3-0)
- BCA 516WI - Electronic Media Management 3(3-0)
- BCA 519 - Electronic Media Programming 3(3-0)
- BCA 600 - Introduction to Electronic Media Research and Writing 3(3-0)
- BCA 601 - Theories of Mass Communication 3(3-0)
- BCA 603 - Qualitative Mass Communication Research Methods 3(3-0)
- BCA 604 - Quantitative Mass Communication Research Methods 3(3-0)
- BCA 611 - Seminar in Telecommunications Media Policy 3(3-0)
- BCA 613 - Media Entrepreneurship 3(3-0)
- BCA 619 - Continuing Registration for Final Research Project 1(1-0)
- BCA 720 - Special Topics in Mass Media 3-9(Spec)
- BCA 729 - Advanced Independent Study in Electronic Media 1-9(Spec)

**Total: 33 semester hours**

**Note:** Students may take a maximum of 9 hours outside of BCA.

**Broadcast & Cinematic Arts: Electronic Media Production**

Students on Plan B must satisfactorily complete an independent production project (3 hours) and an oral examination related to the independent research and course work.

**Required Courses I (18 hours)**

- BCA 600 - Introduction to Electronic Media Research and Writing 3(3-0)
- BCA 601 - Theories of Mass Communication 3(3-0)
- BCA 603 - Qualitative Mass Communication Research Methods 3(3-0)
- BCA 604 - Quantitative Mass Communication Research Methods 3(3-0)
- BCA 625 - Film and Video Theory and Criticism 3(3-0)
- BCA 729 - Advanced Independent Study in Electronic Media 1-9(Spec)

**Required Courses II (6 hours)**

Select two of the following:

- BCA 521 - Advanced Electronic Cinematography 3(2-2)
- BCA 522 - Multimedia Audio Post-Production 3(2-2)
- BCA 531 - Industrial and Educational Video/Media Production 3(2-2)
- BCA 532 - Advanced Video/Multimedia Post-Production 3(2-2)
- BCA 533 - Advanced Electronic Media Design 3(2-2)
- BCA 542 - Contemporary Recording & Mixing 3(2-2)

**Electives (6 hours)**

Select hours from the following:

- BCA 506WI - Series Script Writing For Visual Media 3(3-0)
- BCA 515 - Sports Broadcasting 3(2-2)
- BCA 517 - Advanced Audio and Video Performance 3(2-2)
- BCA 518 - Electronic News Reporting 3(2-2)
- BCA 520 - Special Topics in Electronic Media 1-9(Spec)
- BCA 521 - Advanced Electronic Cinematography 3(2-2)
- BCA 522 - Multimedia Audio Post-Production 3(2-2)
- BCA 524 - Producing Television News 3(1-4)
- BCA 525 - Film Genre Study 3-9(Spec)
- BCA 527 - Film Directors 3-9(Spec)
- BCA 528 - History and Analysis of Nonfiction Film 3(2-2)
- BCA 529 - Internship in Electronic Media Film 2-6(Spec)
- BCA 531 - Industrial and Educational Video/Media Production 3(2-2)
- BCA 532 - Advanced Video/Multimedia Post-Production 3(2-2)
- BCA 533 - Advanced Electronic Media Design 3(2-2)
- BCA 540WI - Recording Industry & Business 3(3-0)
- BCA 542 - Contemporary Recording & Mixing 3(2-2)
- BCA 560 - Radio Operations I 3(1-4)
- BCA 561 - Radio Operations II 3(1-4)
- BCA 611 - Seminar in Telecommunications Media Policy 3(3-0)
- BCA 612 - Electronic Media Seminar 3(3-0)
- BCA 613 - Media Entrepreneurship 3(3-0)
- BCA 729 - Advanced Independent Study in Electronic Media 1-9(Spec)

**Notes:**

- Student may take up to 6 credits of BCA 729 as an elective.
- BCA 560 and 561 are offered in Summer only.

**Total: 33 semester hours**
College of Business Administration

Debasish Chakraborty, Director, MBA Program
250 Grawn Hall; 989-774-3150

Departments:
School of Accounting
Department of Business Information Systems
Department of Economics
Department of Finance and Law
Department of Management
Department of Marketing & Hospitality Services Administration

Course Designators:
MBA - Master of Business Administration
BUS - Business

Master of Business Administration (MBA)

Minimum Totals for Graduation: 30 - 48 hours

The MBA program's mission is to prepare graduate business students for leadership positions in today's global economy. The program features an active student learning environment with a curriculum that meets the needs of both part-time and full-time students all over the world. Accredited by AACSB International - The Association to Advance Collegiate Schools of Business, the program is designed to meet the needs of three groups of people:

1. individuals whose business careers have focused on specialized areas and who seek to develop a more general management perspective in anticipation of further advancement;
2. individuals with previous education and work experience in areas other than business who seek a general business education that will allow them to move into management positions; and
3. individuals with limited work experience who plan to use the MBA as a foundation from which to begin their careers.

This program is approved for online delivery for the emphases in Information Systems, Logistics Management, and Value-Driven Organization, Marketing, and Human Resource Management.

The College of Business Administration offers the online program for working professionals who seek career-enhancing education but are not able to take classes in Mt. Pleasant. This online MBA is equivalent to our traditional MBA in that it has rigorous coursework from an AACSB International - The Association to Advance Collegiate Schools of Business - accredited business school.

In existence for over 40 years, the curriculum receives constant review to keep pace with emerging business trends. The graduate business faculty are not only well educated but also have substantial business experience. The faculty are committed to a program that emphasizes:

1. integration of the functional core areas of business;
2. providing the perspective required to manage in a global world;
3. awareness of ethical issues and standards and their influence on business decisions;
4. ability to work in teams through group projects and collaborative learning;
5. enhancement of oral and written communication skills integrating the most current technology;
6. application of theory and concepts to the solution of business problems through the use of cases, business exports, consulting projects, simulations and the study of real world business practice;
7. integration of business concepts in an applied project.

Degree Requirements I (0-18 hours)

Foundation Courses (Prerequisites)

Applicants must present evidence of a working knowledge of advanced business applications in spreadsheet, database, and presentation graphics.

In addition, the following courses or equivalents may be completed before or after admission to the MBA program.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MBA 503</td>
<td>Professional Business Communications 2(2-0)</td>
</tr>
<tr>
<td>MBA 504</td>
<td>Using Financial Accounting Information 2(2-0)</td>
</tr>
<tr>
<td>MBA 505</td>
<td>The Economic Environment of Business 2(2-0)</td>
</tr>
<tr>
<td>MBA 506</td>
<td>Legal Environment of Business 2(2-0)</td>
</tr>
<tr>
<td>MBA 507</td>
<td>Introduction to Marketing Management 2(2-0)</td>
</tr>
<tr>
<td>MBA 508</td>
<td>Management and Organization 2(2-0)</td>
</tr>
<tr>
<td>MBA 509</td>
<td>Production/Operations Management 2(2-0)</td>
</tr>
<tr>
<td>MBA 510</td>
<td>Financial Management and Analysis 2(2-0)</td>
</tr>
<tr>
<td>MBA 511</td>
<td>Statistics for Managerial Decisions 2(2-0)</td>
</tr>
</tbody>
</table>

Degree Requirements II (27 hours)

MBA Program Core Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MBA 610</td>
<td>Managing Information Systems in a Global Economy 3(3-0)</td>
</tr>
<tr>
<td>MBA 620</td>
<td>Managerial Accounting: A Management Perspective 3(3-0)</td>
</tr>
<tr>
<td>MBA 630</td>
<td>Managing and Leading Individuals and Groups in Organizations 3(3-0)</td>
</tr>
<tr>
<td>MBA 640</td>
<td>Data Analysis for Managers 3(3-0)</td>
</tr>
<tr>
<td>MBA 650</td>
<td>Marketing-Based Management 3(3-0)</td>
</tr>
<tr>
<td>MBA 660</td>
<td>Global Business and Sustainability 3(3-0)</td>
</tr>
<tr>
<td>MBA 670</td>
<td>Financial Analysis and Risk Management 3(3-0)</td>
</tr>
<tr>
<td>MBA 680</td>
<td>Global Economic Environment 3(3-0)</td>
</tr>
<tr>
<td>MBA 690</td>
<td>Strategic Management: Integrative Experience 3(3-0)</td>
</tr>
</tbody>
</table>

Plan B Requirement. The Plan B requirement is fulfilled through successful completion of MBA 690.

(Continued)
**Degree Requirements III (8-16 hours)**

**Areas of Emphasis**
- Select one of the following areas, to be approved by a graduate advisor:
  - Accounting
  - Business Economics
  - Consulting
  - Finance
  - General Business
  - International Business
  - Information Systems
  - Marketing
  - Human Resource Management
  - Value-Driven Organization
  - Logistics Management (currently offered only online)

**Minimum 35-43 Total Hours for MBA Degree**
(35-61 hours, with prerequisites)

**Accelerated Master of Business Administration: Accounting Emphasis**
- Students admitted to the Master's Degree Program who are studying an emphasis in accounting may earn up to six hours of credit for 500-level accounting courses taken. These courses will count both toward their undergraduate degree and toward their MBA Degree with an Accounting Emphasis.

**Admission:** Generally, students will apply during their junior year for admission into the Master's Degree Program to begin Fall Semester in their senior year.

**Admission Requirements:** GPA of 3.25; and have completed ACC 302 and ACC 370; plus, meets the regular admission requirements of the MBA Program.

**Plan of Study:** For students admitted to the MBA with an accelerated Accounting emphasis, ACC 501 and ACC 531 with minimum grades of B will be counted toward both the undergraduate degree and will count as six hours of the eight elective hours on the MBA Degree with an Accounting Emphasis. At least one 600- or 700-level accounting elective, not including ACC 689, must be taken.
Admissions Process and Deadlines for Master of Science in Information Systems

<table>
<thead>
<tr>
<th>Who may apply</th>
<th>Application Due Date*</th>
<th>Decision Notification</th>
<th>Advanced Deposit Due Date**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fall Admission, classes begin late August:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U.S. Applicants</td>
<td>June 1*</td>
<td>June 30</td>
<td>July 31**</td>
</tr>
<tr>
<td>International Applicants</td>
<td>March 1*</td>
<td>March 31</td>
<td>April 30**</td>
</tr>
<tr>
<td>Spring Admission, classes begin January:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>U.S. Applicants</td>
<td>Sept. 15*</td>
<td>Oct. 15</td>
<td>Nov. 15**</td>
</tr>
<tr>
<td>All Applicants</td>
<td>Aug. 15*</td>
<td>Sept. 15</td>
<td>Oct. 15**</td>
</tr>
</tbody>
</table>

*Completed Applications Only
**$250 Nonrefundable. Note: With a proof of denied student visa, an international student may request the deposit to be refunded.

The admissions committee reviews completed applications according to the preceding schedule. Therefore, it is prudent to apply early.

Degree Requirements

Required Courses (12 hours)
BIS 601 - Information Systems 3(3-0)
BIS 628 - Application Development 3(3-0)
BIS 630 - Systems Analysis and Design 3(3-0)
BIS 638 - Database Management for Business Systems 3(3-0)

Area of Concentration (9 hours)
A planned course of study in one of the following areas, to be approved by the graduate advisor:
- Enterprise Systems using SAP Software
- Business Informatics
- Accounting Information Systems
- Information Systems

Electives (6 hours)
Graduate-level courses approved by the graduate advisor.

Other Requirement
Pass a written comprehensive examination in information systems.

Research Requirement (6 hours)
Select one of the following plans:

Plan A: Thesis
BIS 798 - Thesis 1-6(Spec)
Completion of a thesis includes an oral examination over the thesis.

Plan B Requirement
Plan B requirement is fulfilled with successful completion of:
BIS 625 - Research in Information Systems 3(3-0)
BIS 635 - Business Systems Applications 3(3-0)

To provide evidence of scholarship, each student will complete a substantial written report in the application of information systems within an organization. The project will typically include significant information systems development activity demonstrating evidence of creative ability.

Total: 33 credit hours

Master of Business Administration (MBA)
See the College of Business Administration for information.

Graduate Certificate in Cybersecurity
Minimum Totals for Graduation: 15 hours
This is a standalone certificate in the Department of Business Information Systems in College of Business Administration. At the current time, this certificate is offered through Global Campus only.

Admission Requirements, Retention & Termination Standards
The Graduate Certificate in Cybersecurity is designed for regularly admitted graduate students who meet graduate school admissions requirements who desire to acquire advanced knowledge and skills in cybersecurity.

To be considered for regular admissions, an applicant must have:
1. A bachelor's degree with a cumulative GPA of 2.7 from an accredited institution.
2. Computer network literacy as demonstrated by prerequisite coursework or professional certifications in computer networking or cybersecurity.

See an advisor for more information.

Required Courses (15 hours)
Students will take BIS 510 as the first course, followed by BIS 521, 523, and 525 (which may be taken in any order). The culminating course is BIS 530.

BIS 510 - Network & Systems Security Fundamentals 3(3-0)
BIS 521 - Governance, Risk, & Compliance in Cybersecurity 3(3-0)
BIS 523 - Cybercrime Forensics 3(3-0)
BIS 525 - Managing Security & Privacy in the Cloud 3(3-0)
BIS 530 - Cybersecurity, Systems, and Network Certification 3(3-0)

Total: 15 semester hours
Department of Chemistry and Biochemistry
College of Science and Engineering

Mary M.J. Tecklenburg, Chairperson
268 Dow, 989-774-3981
https://centrallink.cmich.edu/academics/sci_tech/chemistry

David E. Ash, Ph.D., University of Pennsylvania, Biochemistry
Gabriel Caruntu, Ph.D., University of Orleans, Inorganic/Materials Chemistry
Minghui Chai, Ph.D., University of Akron, Analytical Chemistry
Anthony Chappaz, Ph.D., INRS-ETE, University of Quebec, Geochemistry and Environmental Chemistry
Wenjun Du, Ph.D., University of California - Davis, Biomaterials, Organic and Polymer Chemistry
Bradley D. Fahiman, Ph.D., Rice University, Inorganic Materials Chemistry
Bob A. Howell, Ph.D., Ohio University, Organic and Polymer Chemistry
Anton W. Jensen, Ph.D., Brigham Young University, Organic Chemistry
Estelle L. Lebeau, Ph.D., University of North Carolina, Inorganic Chemistry
Dale J. LeCaptain, Ph.D., Michigan State University, Analytical Chemistry
Choon Young Lee, Ph.D., Northeastern University, Organic/Medicinal Chemistry
Bingbing Li, Ph.D., Virginia Polytechnic Institute and State University, Physical Chemistry
Dillip K. Mohanty, Ph.D., Virginia Polytechnic Institute and State University, Polymer Chemistry
Anja Mueller, Ph.D., Washington University in St. Louis, Polymer Chemistry/Biomaterials
Ajit Sharma, Ph.D., Wayne State University, Biochemistry/Clinical Chemistry
Philip J. Squattrito, Ph.D., Northwestern University, Inorganic Chemistry/Crystallography
Benjamin M. Swarts, Ph.D., Wayne State University, Organic/Biochemistry
Mary M.J. Tecklenburg, Ph.D., Texas A & M University, Physical/Analytical Chemistry
Janice HallTomaskik, Ph.D., University of Wisconsin - Madison, Chemical Education
Linlin Zhao, Ph.D., University of Connecticut, Biochemistry

Course Designator:
CHM - Chemistry

Programs of Study
As detailed below, the Department of Chemistry and Biochemistry offers programs of study leading to the master of science (M.S.) degree and the master of arts (M.A.) degree with emphasis in teaching high school chemistry and college chemistry. The M.S. is a research degree and specializations are possible in biochemistry, and in analytical, inorganic, organic, materials, physical and polymer chemistry.

A minimum of 30 semester hours must be satisfactorily completed for either master’s degree. A maximum of 15 hours of satisfactory graduate credit may be transferred into the CMU program. Regular students are expected to be in residence for a period of two years.

Research may be started at any time and may be carried out in the Central Michigan University laboratories, at the Michigan Molecular Institute’s complex in Midland or, by special arrangement, at nearby industrial locations.

Many CMU chemistry graduates enter employment in the Tri-Cities industrial complex which includes the Dow Chemical and Dow Corning companies. Graduates may choose to enter the Ph.D. program in the Science of Advanced Materials at CMU or Ph.D. programs of other institutions.

Research Facilities
The department occupies approximately 62,000 square feet in the Dow Science Complex, which contains research stations for more than 20 full-time graduate students.

Instrumentation includes specialized equipment used in specific research projects, GC/MS, thermal analysis systems, Raman, GPC and HPLC chromatographic systems, as well as UV, AA, FT-IR, AFM, and superconducting NMR instruments.

A small collection of bound research journals is kept within the department, and a complete research library is located in nearby Park Library.

Financial Aid
Financial support for chemistry graduate students is available in several forms. Graduate teaching assistantships, the most common form of support, involve full-time graduate study and require teaching activities. Graduate teaching assistants receive a cash stipend (adjusted annually) and remission of 20 credits of tuition. Full-time students with outstanding records may receive graduate research fellowships. A reduced amount of teaching is required of fellows. Individual faculty research grants support fellowship or summer research activities as well. Generally all full-time graduate students receive aid in one of the categories described above.

Master of Science (M.S.) in Chemistry
Minimum Totals for Graduation: 30 hours

<table>
<thead>
<tr>
<th>Admission Requirements, Retention &amp; Termination Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPA: 2.7 (and 2.7 in Chemistry)</td>
</tr>
<tr>
<td>Entrance Exam: GRE – General</td>
</tr>
</tbody>
</table>

Internat’l Application Deadline: July 1 (Fall), Oct.1 (Spring)

See Admission Requirement Details Below

Applicants for admission to the Chemistry M.S. program must be admitted initially to Graduate Studies. In addition to the Office of Research and Graduate Studies admission materials, the applicant must provide the GRE general exam scores and two to three letters of reference. Students from non-English speaking countries may be required to submit TOEFL scores. Upon submission of all required materials, the College forwards the materials to the Department of Chemistry and Biochemistry for admission recommendation. Final notice of admission comes from the Office of Research and Graduate Studies. Applicants should submit all required materials at least six weeks before the beginning of the semester.

Applicants should have received a baccalaureate degree in chemical, biochemistry, or related area, with a minimum grade point average of 2.7 overall and 2.7 in chemistry courses. Undergraduate coursework should include mathematics through calculus and one year of physics. Students with deficiencies in chemistry, mathematics, or physics may receive conditional admission. Regular admission is granted when those deficiencies are removed by completing coursework in addition to that required for the M.S. degree.

Financial support in the form of teaching and research assistantships is available. In order to receive full consideration for all scholarships and assistantships, completed applications and all transcripts, scores, and letters should be received by February 1 for fall semester admission and by October 1 for spring semester admission.
Financial support in the form of teaching and research assistantships is available. In order to receive full consideration for all scholarships and assistantships completed applications and all transcripts, scores, and letters should be received by February 1 for fall semester admission and by October 1 for spring semester admission.

Full time students are required to attend and actively participate in all department seminars.

Satisfactory progress through the M.S. program involves maintaining a 3.0 cumulative grade point average in graduate courses, completion of a faculty directed program of research, and successful preparation and defense of a written thesis.

### Foundation Courses (9-10 hours)
- Select three from the following:
  - CHM 511 - Advanced Analytical Chemistry 4(2-4)
  - CHM 521 - Fundamentals of Biochemistry 3(3-0)
  - CHM 531 - Advanced Inorganic Chemistry 3(3-0)
  - CHM 541 - Intermediate Organic Chemistry 3(3-0)
  - CHM 555 - Advanced Physical Chemistry 3(3-0)

Note: Students are expected to show competency in all foundation areas at the undergraduate level. The Graduate Program Committee will determine any required foundation courses based on transcripts and placement exam performance (Chemistry department or American Chemical Society exams taken the week before the student's initial semester).

### Required Courses (3 hours)
- CHM 601 - Chemistry Seminar Presentations 2(2-0)
- CHM 602 - Scientific Writing in Chemistry 1(1-0)

### Electives (11-12 hours)
- At least 6 credit hours must be earned in Chemistry courses at the 600 level. Electives must be approved by the Graduate Program Committee.

### Thesis (6 hours)
- CHM 798 - Thesis 1-6(Spec)

Note: Arrangements for completion of the thesis requirements are worked out between the student, research director and thesis committee chair. For further information, the student may confer with the graduate program coordinator or the Department of Chemistry and Biochemistry.

**Total: 30 semester hours**

### Master of Arts (M.A.) in Teaching Chemistry: Teaching College Chemistry

**Minimum Totals for Graduation: 30 hours**

### Admission Requirements, Retention & Termination Standards

#### Admission Requirement Snapshot

- **GPA:** 2.7 (and 2.7 in Chemistry)
- **Entrance Exam:** GRE – General
- **International Application Deadline:** July 1 (Fall), Oct. 1 (Spring)

See Admission Requirement Details Below

Applicants for admission to the M.A. in Teaching College Chemistry program must be admitted initially to Graduate Studies. In addition to the Office of Research and Graduate Studies admission materials, the applicant must provide the GRE general exam scores and 2-3 letters of reference. Students from non-English speaking countries may be required to submit TOEFL scores. Upon submission of all required materials, the College forwards the materials to the Department of Chemistry and Biochemistry for admission recommendation. Final notice of admission comes from the Office of Research and Graduate Studies. Applicants should submit all required materials at least six weeks before the beginning of the semester.

Applicants should have received a baccalaureate degree in chemistry, biochemistry, or related area, with a minimum grade point average of 2.7 overall and 2.7 in chemistry courses. Undergraduate coursework should include mathematics through calculus and one year of physics. Students with deficiencies in chemistry, mathematics, or physics may receive conditional admission. Regular admission is granted when those deficiencies are removed by completing coursework in addition to that required for the M.A. degree.

Ph.D. in the Science of Advanced Materials

This degree is an interdisciplinary program. Please see the index for the page number.

Ph.D. in Earth and Ecosystem Science

This degree is an interdisciplinary program. Please see the index for the page number.
Department of Communication and Dramatic Arts
College of Communication and Fine Arts

William Dailey, Chairperson
333 Moore Hall, 989-774-3177

Steven Berglund, M.F.A., Theatre, Interpretation and Dance
Elizabeth Carlson, Ph.D., Communication
Paul Collins, M.F.A., Theatre, Interpretation and Dance
Timothy Connors, Ph.D., Theatre, Interpretation and Dance
William Dailey, Ph.D., Communication
Ann Dasen, M.F.A., Theatre, Interpretation and Dance
Daniel Daugherthy, M.F.A., Theatre, Interpretation and Dance
Tisha Dejmanee, Ph.D., Communication
Nancy Eddy, M.F.A., Theatre, Interpretation and Dance
Edward Hinck, Ph.D., Communication
Diane Krider, Ph.D., Communication
Alyssa Lucas, Ph.D., Communication
Lauren McConnell, Ph.D., Theatre, Interpretation, and Dance
Joseph Packer, Ph.D., Communication
Michael Papa, Ph.D., Communication
Wendy Papa, Ph.D., Communication
Shelly Scharafer Hinck, Ph.D., Director of Graduate Studies; Communication
Keeley Stanley-Bohm, M.F.A., Theatre, Interpretation and Dance
Jill Taft-Kaufman, Ph.D., Theatre, Interpretation and Dance
Annette Thornton, Ph.D., Theatre, Interpretation and Dance
Kirsten Weber, Ph.D., Communication
Lesley Withers, Ph.D., Communication

Course Designators:
COM - Communication
TAI - Theatre and Interpretation
DAN - Dance

Master of Arts (M.A.) in Communication

Minimum Totals for Graduation: 33 hours

The graduate program of study in Communication provides a strong background in communication research methods and classical and contemporary communication theory. Graduates from the program follow a variety of careers. Many continue graduate work in Ph.D. programs, become secondary or community college teachers, or find positions in business and media (marketing, management, training, consulting) or as coordinators of social service and volunteer organizations. Still others pursue careers in law, politics or the ministry.

Admission Requirements, Retention & Termination Standards

Admission Requirement Snapshot
GPA: 2.7 (and 3.0 in last 15 hours in Communication)
Entrance Exam: N/A
Application Deadline: March 15 (Fall), Oct.15 (Spring)
International Students not from English Proficiency Exempted Countries: TOEFL required – minimum score of 100 (some exceptions may apply)

See Admission Requirement Details Below

In addition to the general university requirements, for regular admission to this program, the student must have an overall grade point average of 2.7 or higher in the last 60 hours of undergraduate credit, and a grade point average of 3.0 or higher in the last 15 hours of communication courses or courses determined by the department to be related to communication. A student who does not meet the above requirements may be admitted to graduate study on a conditional basis. Acceptance of transfer credit will be dependent upon the decision of the academic advisor. A maximum of 15 semester hours of approved graduate-level courses appropriate to a student’s degree program from an accredited college or university may be transferred. Students must receive approval from the Director of Graduate Studies or their academic advisor and apply to the Office of Research and Graduate Studies for permission to transfer credit.

English Language Competency Requirements for International Students

The Department of Communication and Dramatic Arts has introduced guidelines for the English language competency requirements of international graduate students seeking admission to the department’s graduate program. The guidelines are as follows:

1. International students who have a score of 600 PBT (250 CBT; 100 iBT) or better on the International TOEFL are eligible for regular admission to the graduate program in the Department of Communication and Dramatic Arts if all other requirements are met.
2. International students who have a score of between 575 PBT (232 CBT, 90 iBT) and 599 PBT (249 CBT, 99 iBT) on the International TOEFL, a score of 80 points or higher on CMU’s ELI Written English Competency Test, and a score of 25 or higher on CMU’s ELI Oral English Language Competency Test are eligible for regular admission to the graduate program in the Department of Communication and Dramatic Arts if all other requirements are met.
3. International students who have a score between 575 (232 CBT, 90 iBT) and 599 (248 CBT, 99 iBT) on the International TOEFL, but have a score of 79 points or less on CMU’s ELI Written English Competency Test, and/or a score of 24 or less on CMU’s ELI Oral English Language Competency Test are eligible for conditional admission to the graduate program in the Department of Communication and Dramatic Arts if all other requirements are met. Such students must complete by the end of their first semester of graduate work, a course of English language study as outlined by the ELI in conjunction with the Department of Communication and Dramatic Arts.
4. International students with a score of less than 574 (230 CBT, 89 iBT) on the International TOEFL will be denied admission to the graduate program of the Department of Communication and Dramatic Arts.

iBT = internet-Based Test
CBT = Computer-Based Test
PBT = Paper-Based Test

Core Courses (6 hours)
COM 600 - Introduction to Research and Graduate Study in Communication 3(3-0)
COM 601 - Research Design in Communication 3(3-0)

Required Courses I (3 hours)
Select one of the following:
COM 602 - Qualitative Research Methods 3(3-0)
COM 750 - Seminar in Rhetorical Criticism 3(3-0)

Required Courses II (12 hours)
COM 603 - Professional Seminar in Communication 1-3(Spec)
COM 604 - Contemporary Communication Theory 3(3-0)
COM 664 - Seminar in Organizational Communication 3(3-0)
COM 668 - Seminar in Interpersonal Communication 3(3-0)

Additional Requirement (0-6 hours)
Student must complete either a comprehensive examination or a 6-credit hour thesis (research or applied).

COM 798 - Thesis 1-6(Spec)

Electives (6-12 hours)
Courses in Communication selected in consultation with advisor. No more than 3 credits from COM 764 or COM 790.

Total: 33 semester hours
Financial Aid

The department offers the following kinds of financial aid: teaching assistantships and forensics assistantships. Graduate teaching assistants teach two classes of COM 101 per semester, graduate forensics assistants work and travel with either the debate team or individual events participants and may teach one COM 101 class. Graduate administrative assistantships may also be available. All assistantships begin in the fall semester. Assistants in good standing are eligible for a minimum of two semesters of financial support and a 20-credit tuition scholarship. Graduate assistantships may be renewed for an additional two semesters. Application deadline: March 15.

Department of Communication Disorders

(Audiology, Speech Language Pathology)

Mark Lehman, Chairperson
989-774-1323, 2186 Health Professions

Kathryn Atkinson, Clinical Supervisor, CCC-SLP; M.A., Central Michigan University. Adult traumatic brain injury, adult dysphagia, adult neurogenic group therapy, multidisciplinary therapeutic processes

Laurie Bahlke, Clinical Supervisor, Speech-Language Pathology; CCC-SLP; M.A., Central Michigan University. Dysphagia, traumatic brain injury, adult neurogenic, child speech and language

Jill Bollman, Clinical Supervisor, Audiology; CCC-A; M.S., Rush University; Au.D., A.T. Still University. Child diagnostics and amplification, educational audiology and teaching

Natalie Douglas, Assistant Professor, CCC-SLP; M.A., Ohio University; Ph.D., University of South Florida. Adult cognitive-communicative disorders, aphasia, implementation science

Nicole M. Ferguson, Director of Clinical Services & Instruction in Audiology; CCC-A, FAA; Au.D., Central Michigan University. Pediatric & Adult Diagnostics, Electrophysiology, Vestibular Assessment, Amplification, Tinnitus, Teleaudiology, and Veteran Hearing & Balance Health

Nickole A. Hines, Clinical Supervisor; CCC-SLP, BIES; M.A., Michigan State University. Neonatal and infant feeding and swallowing, dysphagia, voice and voice disorders

Barbara Jackson, Clinical Supervisor, CCC-A, Au.D. Central Michigan University. Cochlear implants, amplification and educational audiology

Theresa Jones, Director of Clinical Instruction and Services in Speech-Language Pathology Services; CCC-SLP; M.S., Howard University. Infant-toddler specialization, early intervention, sensory integration, pediatric traumatic brain injury, voice, multidisciplinary and transdisciplinary therapy

Mark Lehman, Professor and Department Chairperson; CCC-SLP; M.A. and Ph.D., University of Michigan. Speech science, anatomy and physiology, dysarthria, voice in adults.

Stacey Lim, Assistant Professor, CCC-A, Au.D., University of Akron; Ph.D., Kent State University. Cochlear implants, aural rehabilitation, language and literacy development of children with hearing loss, educational audiology

Jennifer Thompson Mackovjak, Clinical Supervisor; CCC-SLP, CBIS; M.A. Central Michigan University. Brain injury, Vital Stim treatment, autism

Susan Naeve-Velguth, Professor and Director of American Sign Language Division; CCC-A; M.S. and Ph.D., University of Minnesota. Rehabilitative audiology, American Sign Language, speech and language development of children with hearing loss

M. Dawn Nelson, Associate Professor; FAA; CCC-A; M.S., University of Maryland; Ph.D., Vanderbilt University. Auditory electrophysiology, central auditory processing, vestibular assessment and rehabilitation, neuroanatomy

Shannon Palmer, Assistant Professor; CCC-A; Au.D. and Ph.D., University of Connecticut; Diagnostic audiology, electrophysiology, central auditory processing disorders, cochlear implants

Claudia Pastorelli, Clinical Supervisor, CCC-A; M.A., University of Maryland; Au.D., University of Florida. Adult and pediatric diagnostics, vestibular testing, hearing aids

Lori Pietrandrea-Bissell, Fixed Term Faculty; CCC-SLP, M.A., Central Michigan University. Language development, anatomy and physiology.

Ann Ratcliff, Professor; CCC-SLP; M.S., University of Redlands; Ph.D., University of Wisconsin. Child language development and disorders, craniofacial anomalies including cleft palate, augmentative and alternative communication

Stephanie Richards, Assistant Professor, CCC-SLP; M.A., Central Michigan University; Ph.D., Bowling Green State University. Adolescent and adult language and literacy

MaryBeth Smith, Fixed Term Faculty; CCC-SLP, M.A., Michigan State University. Phonology, autism
The Programs

The Department of Communication Disorders offers the Doctor of Audiology degree for audiologists and Master of Arts degree in Speech-Language Pathology for speech-language pathologists, which lead to eligibility to apply for clinical certification and licensure and are accredited by the American Speech-Language-Hearing Association’s (ASHA) Council on Academic Accreditation. The high quality research facilities of the department are exemplary and extensive. Students are encouraged to participate in research and grant writing. A range of state-of-the art instruments and software is available for specialized audiometric, acoustic and speech-language analyses.

Students and faculty study a wide range of speech, language, and hearing problems. The Carls Center clinical population furnishes appropriate opportunities to carry out research projects. Many off-campus clinical facilities welcome student training and research activity. The clinic offers experiences in both individual and group treatment. There are opportunities available for pre-school placements within the speech-language clinic as well as clinical experience with those in need of augmentative and alternative communication services and endoscopic visualization of the larynx for voice/swallow assessment. In addition, a number of students are afforded the opportunity to travel to local schools to work with school-aged children in programs which involve traditional speech and language therapy as well as phonemic awareness programs. Experiences with adult populations involve innovative therapy for all types of speech and language disorders, including those secondary to traumatic brain injury (TBI), aphasia and voice, stuttering, among others. The Summer Speech-Language Specialty Clinics include a specialized five-week treatment program for children and adolescents with all types of communication disorders. A number of graduate students are awarded competitive assistantships, which may be renewed for students whose academic achievement and clinical skills warrant continued support. Stipend amounts vary, depending upon the funding source. Appointment to an assistantship qualifies graduate students for in-state tuition rates.

In order for prospective students to receive full consideration for admission and financial assistance, applications and all accompanying documents must be received by January 15 for both degree programs for entrance in the fall semester. There are no spring semester admissions. (Early applications are encouraged.) Both graduate programs participate with the Communication Sciences and Disorders Centralized Application System (CSDCAS) on-line application process. This can be accessed at [http://csdcas.org](http://csdcas.org). Admission to both graduate programs is a competitive process. Neither successful completion of an undergraduate degree at CMU or another university, nor meeting the minimal entrance requirements of CDO or the Office of Research and Graduate Studies guarantees admission. The number of students admitted each fall is governed by the number of available openings in the program.

Scholarships

CDO-SLP Alumni Scholarship

Established in 1998 through alumni support, for a second-year graduate student in the Speech-Language Pathology Program in the Department of Communication Disorders.

J. Dean and Betty L. Eckersley Audiology Scholarship

Established in 1996 as a renewable scholarship for a graduate status audiology student within the Department of Communication Disorders who earned a minimum GPA of 3.5 as a senior with financial need as determined by CMU. Preference will be given to students from Isabella County, other counties of Michigan and transfer students from Mid-Michigan Community College who were recipients of the J. Dean and Betty L. Eckersley Scholarship.

Nicholas P. Redfield Scholarship

Established in 1998 by colleagues in memory of Dr. Redfield for a third-year Au.D. doctoral student who demonstrates a “client-centered” approach in clinical performance. Volunteer work and efforts to better the audiology program at CMU will also be considered in selecting a candidate for this award.

Master of Arts (M.A.) in Speech-Language Pathology

Minimum Total for Graduation: 62 hours

Admissions Requirements, Retention & Termination Standards

Admission Requirement Snapshot

- Entrance Exam: GRE
- GPA: 3.25 (see admission standards)
- Application Deadline: January 15 (Summer II)
- International Students from not from English Proficiency Exempted Countries: TOEFL required – minimum score of 100 iBT, 250 CBT, 600 PBT (some exceptions may apply)

See Admission Requirement Details Below

Retention Standards

All students pursuing the Master of Arts in Speech-Language Pathology degree must comply with the American Speech-Language-Hearing Association national certification requirements and maintain a 3.0 GPA. All students concentrating in speech-language pathology must complete a minimum of 400 hours of directly supervised clinical experience under the supervision of an ASHA certified (and state licensed, if applicable) supervisor during their undergraduate and/or graduate programs. Of these, a minimum of 325 hours must be completed at the graduate level. On-campus classes will begin during summer II of the year admitted. During the first summer of matriculation, graduate students will be enrolled in three classes and an online clinical orientation. No clinical assignments will be made during the first summer of matriculation. Following the first summer enrollment, each full-time graduate student will be expected to enroll in clinical practicum each semester in addition to classes.

Various clinical duties will be assigned in consultation with the Director of Clinical Instruction and Speech-Language Pathology Services. In addition, graduate students will be expected to participate in the Summer Speech-Language Specialty Clinics as a student clinician during the summer following their first year in the graduate program. Additional courses may be required, depending on the student’s academic background. The final determination of course requirements is made in consultation with the student’s academic advisor.

The Speech-Language Pathology program at Central Michigan University is designed to prepare graduates for clinical careers as Speech-Language Pathologists. The Essential Functions and Technical Standards for Speech-Language Pathology establish essential qualities...
that each individual admitted to the program and graduate of the program must possess in preparation for national certification by the American Speech-Language and Hearing Association. In the event that, during the educational process, a student is unable to fulfill these standards, with or without reasonable accommodation, then the student may be dismissed from the program. Acknowledgment and signatory of the document by the student is required upon admission. It is also reviewed on an annual basis or as appropriately requested by the student, faculty, or clinical supervisor. This document can be accessed at: http://www.cmich.edu/academics/health_professions/docs/Documents/slp_tech_standards.pdf.

To participate in clinical practicum in the CMU Carls Center (Speech and Language Clinic) as well as extern and internship sites, a National Criminal Background Check (CBC) is required. In addition, each student will be responsible to disclose any subsequent infractions which appear on her/his background checks during the duration of the graduate program to the Director of Clinical Instruction and Speech-Language Services. Failure to complete and pass a background check, or to disclose an infraction which subsequently appears on a background check could be grounds for dismissal from the Speech-Language Pathology Program. Please note that certain criminal convictions may preclude clinical externship and/or internship at certain facilities, which may impact the student’s ability to complete the Master’s degree in Speech-Language Pathology. Be aware that some internships/externships may require a different form of background check than the one CMU requires and it will be the student’s responsibility to complete such requirement before beginning an assignment with that site. All background check expenses are the responsibility of the student.

Admission Standards

Admission to the graduate program in speech-language pathology is a competitive process. Each Summer II semester, the program accepts approximately 40 students. The number of applicants ranges from 200-300 each year. In order to apply for admission, the student must meet the general university requirements, have a grade point average of 3.00 or higher in the last 60 semester hours of undergraduate credit and a grade point average of 3.25 or higher with no grade lower than a C in the major courses or courses determined by CDO to be communication-disorders related. Over the past decade, those accepted into the program have had a major GPA ranging from 3.40 to 4.00 and a mean of 3.80. Successful applicants have had strong overall and major GPAs, and strong letters of recommendation. (The GRE is a criterion for admission.)

Capstone Experience

All speech-language pathology graduate students will complete a 6 credit hour “capstone” experience prior to graduation. Students may choose in consultation with an advisor one of the following options:

1. Students will conduct a research project resulting in a thesis study.
2. Students will complete a clinical internship at an off-campus site, and participate in a presentation to synthesize and integrate their learning during this experience.

Required Courses (54 hours)

<table>
<thead>
<tr>
<th>Course ID</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CDO 632</td>
<td>Counseling Issues in Communication Disorders 3(3-0)</td>
</tr>
<tr>
<td>CDO 638</td>
<td>Seminar: Adult and Pediatric Swallowing and Feeding Disorders 3(3-0)</td>
</tr>
<tr>
<td>CDO 704</td>
<td>Language Disorders in Preschool Children 3(3-0)</td>
</tr>
<tr>
<td>CDO 705</td>
<td>Cognitive-Communicative Disorders of Traumatic Brain Injury 3(3-0)</td>
</tr>
<tr>
<td>CDO 708</td>
<td>Language Disorders in School-Age Children 3(3-0)</td>
</tr>
<tr>
<td>CDO 713</td>
<td>Voice/Resonance Disorders/Laryngectomee Rehabilitation 3(3-0)</td>
</tr>
<tr>
<td>CDO 714</td>
<td>Motor Speech Disorders 3(3-0)</td>
</tr>
<tr>
<td>CDO 717</td>
<td>Aphasia 3(3-0)</td>
</tr>
<tr>
<td>CDO 732</td>
<td>Cognitive-Communicative Disorders of Dementia 3(3-0)</td>
</tr>
<tr>
<td>CDO 734</td>
<td>Applied Speech Science 3(3-0)</td>
</tr>
<tr>
<td>CDO 735</td>
<td>Augmentative and Alternative Communication 3(3-0)</td>
</tr>
<tr>
<td>CDO 736</td>
<td>Speech Sound Disorders in Children 3(3-0)</td>
</tr>
<tr>
<td>CDO 739</td>
<td>Stuttering 3(3-0)</td>
</tr>
<tr>
<td>CDO 749</td>
<td>Clinical Practicum in Speech-Language Pathology or Audiology 1-15(Spec)</td>
</tr>
</tbody>
</table>

Note:

- Fifteen (15) hours of CDO 749 is required. Each full-time graduate student is expected to enroll in clinical practicum each semester for three (3) credits beginning with the first Fall Semester of enrollment.
- Participation in the Summer Speech-Language Specialty Clinics is required during the summer following the first year in the graduate program.
- Practicum coursework includes obtaining clock hours with clients. These clock hours are based upon student need as determined by the academic guidance committee and the Director of Clinical Instruction and Speech-Language Pathology Services.

Additional Requirement

Select one of the following capstone experiences:

**Plan A**

- **Required Course (6 hours)**
  - CDO 798 - Thesis 1-6(Spec)

**Plan B**

- **Required Course (6 hours)**
  - CDO 795 - Internship 3-6(Spec)

**Electives (2 hours)**

Select from the following courses in consultation with student’s academic advisor and approval of student’s academic advising committee to bring total program credits to a minimum of sixty-two (62):

- CDO 537 - Special Topics in Communication Disorders 1-9(Spec)
- CDO 551 - Autism Spectrum Disorders: A Clinical Focus 3(3-0)
- CDO 637 - Special Topics in Communication Disorders 3(Spec)
- CDO 639 - Hypopharyngeal Visualization 2(1-2)
- CDO 640 - Cadaveric Anatomy for Communication 3(2-2)
- CDO 702 - Infant-Toddler Communication: Assessment and Intervention 2(2-0)
- CDO 711 - Craniofacial Disorders 2(2-0)
- CDO 740 - Neuroanatomy 3(3-0)
- CDO 790 - Advanced Independent Study 1-9(Spec)

**Total: 62 semester hours**

**Doctor of Audiology (Au.D.)**

**Minimum Totals for Graduation: 115 hours**

**Audiology, Post Baccalaureate**

Doctors of Audiology are highly skilled in the wide array of diagnostic, remedial and related areas associated with hearing-impaired persons and their families. Although the Au.D. is not a research-oriented degree, students will acquire the knowledge and skills requisite to evaluate/interpret the existing literature, and will be required to synthesize and apply pertinent research knowledge to clinical practice and personal research activities. The first two years of study are devoted primarily to the mastery of the audiological knowledge base. Clinical experience evolves in scope and complexity, with the final two years heavily weighted toward clinical training in a variety of settings with practicing audiologists.

**ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS**

**ADMISSION REQUIREMENT SNAPSHOT**

**Entrance Exam:** GRE

**Application Deadline:** January 15 (Fall)

**International Students not from English Proficiency Exempted Countries:** TOEFL required - minimum score of 100 iBT, 250 CBT, 600 PBT (some exceptions may apply)

See Admission Requirement Details Below

**Admission**

The deadline for receipt of all application materials is January 15 for the professional doctoral (Au.D.) program in Audiology. Admission requirements may be obtained from the Department of Communication Disorders.

The admissions committee will consider the applicant’s undergraduate transcript, GRE scores and letters of recommendation. In addition, personal statements and relevant professional experiences will be
considered. Applicants from non-English speaking countries must also submit a minimum score of 100 (Internet-based), 250 (Computer-based) or 600 (Paper-based) on the TOEFL. Since an audiologist interacts with patients, an applicant’s maturity and interpersonal skills will also be considered. After the initial screening of paper credentials, an interview with each of the most qualified applicants will be used to select the final candidates for admission.

Students normally are accepted into the program on a full-time basis and maintain a course load of approximately 13 credit hours per semester. Exceptions to this are considered on a case by case basis. Each student is assigned a faculty advisor, who will help the student in course selection and monitor his/her progress through the program.

The Audiology program at Central Michigan University is designed to prepare graduates for clinical careers as Audiologists. The Essential Functions and Technical Standards for Audiology establish essential qualities that each individual admitted to the program and graduate of the program must possess. In the event that, during the educational process, a student is unable to fulfill these standards, with or without reasonable accommodation, then the student may be dismissed from the program. Acknowledgment and signatory of the document by the student is required upon admission. It is also reviewed on an annual basis or as appropriately requested by the student, faculty, or clinical supervisor. The document can be accessed at: [http://www.cmich.edu/academics/health_professions/Documents/aud_tech_standards.pdf](http://www.cmich.edu/academics/health_professions/Documents/aud_tech_standards.pdf)

### Retention Standards

Progress through the program is based upon compliance with university grading standards. In addition, the student must successfully pass comprehensive examinations at the end of his/her third year of the program in order to enroll in CDO 995.

The Au.D. degree will be awarded upon successful completion of course work, clinical practica, comprehensive examination, doctoral project defense, and clinical residency requirements.

Although the curriculum has the flexibility to incorporate the latest advances in the field of audiology, the current curriculum requirements are listed below under Degree Requirements in order of the year they are typically taken.

Students will be placed on probation for:

1. Any grade below a C (2.0) or NC (No credit) in any course required in the Au.D. curriculum.
2. A semester GPA below 3.0 for courses required in the Au.D. curriculum.
3. A cumulative GPA below 3.0 for any semester.

### Termination Standards

Students may be dismissed from the program for:

1. Failure to satisfactorily complete any assigned academic or clinical remediation plan.
2. Failure to meet and maintain any of the Au.D. program technical standards.
3. Failure to satisfactorily complete a repeated course at a level of C (or above) or CR (credit) for CR/NC courses the next time the course is offered.
4. Failure (grade of C- or E) of any three courses (academic or on-campus practicum) on the Au.D. curriculum.
5. A failing final grade on the comprehensive examinations. A failing final grade on the comprehensive examinations means that the student has failed a rewrite and oral examination of one or more of the comprehensive questions. Determination of whether to retain or dismiss the student from the program will be reached by a majority vote of the faculty/staff of Audiology.
6. Failure (NC) of any of the fourth year clinical externship courses.
7. A lack of professional conduct and/or any behavioral patterns that may jeopardize the safety or wellbeing of patients or others.
8. Unethical or illegal activity including, but not limited to academic dishonesty or violations of the AAA and/or ASHA Codes of Ethics.

### Degree Requirements

#### Required Courses I (33 hours)

- CDO 643 - Disorders of Hearing 3(3-0)
- CDO 720 - Anatomy and Physiology Underlying Neuro-otology 3(3-0)
- CDO 730 - Experimental Studies in Communication Disorders 3(3-0)
- CDO 731 - Diagnostic Audiology 3(3-0)
- CDO 740 - Neuroanatomy 3(3-0)
- CDO 750 - Advanced Hearing Science 3(3-0)
- CDO 752 - Amplification for Individuals with Hearing Loss 3(3-0)
- CDO 759 - Introduction to Clinical Practicum: Audiology 2-6(Spec)
- CDO 771 - Seminars in Audiology 3(3-0)
- CDO 775 - Auditory Processing Disorders 3(3-0)

#### Required Courses II (36 hours)

- The following courses should be taken in the second year:
  - CDO 754 - Pediatric Audiology 3(3-0)
  - CDO 757 - Geriatric Audiology 3(3-0)
  - CDO 763 - Audiological Rehabilitation Considerations in Education 3(3-0)
  - CDO 764 - Audiologic Rehabilitation for Adults 3(3-0)
  - CDO 765 - Cochlear Implants and Other Implantable Technologies 3(3-0)
  - CDO 769 - Intermediate Clinical Practicum: Audiology 3-9(Spec)
  - CDO 773 - Advanced Amplification Fitting Strategies 3(2-2)
  - CDO 781 - Electrophysiological Techniques in Audiology 3(2-2)
  - CDO 782 - Evaluation and Management of Vestibular Disorders 3(3-0)
  - CDO 853 - Psychosocial Aspects of Hearing Loss 3(3-0)

#### Required Courses III (28 hours)

- The following courses should be taken in the third year:
  - CDO 744 - Occupational and Environmental Hearing Conservation 3(3-0)
  - CDO 783 - Advanced Electrophysiological and Vestibular Techniques in Audiology 3(3-0)
  - CDO 849 - Advanced Clinical Practicum: Audiology 4-12(Spec)
  - CDO 863 - Professional Issues in the Practice of Audiology 3(3-0)
  - CDO 898 - Doctoral Project 1-12(Spec)
  - CDO 995 - Clinical Externship 5-23(Spec)

#### Notes:

- CDO 898: Students must complete CDO 898 for a total of 6 credit hours. The doctoral project will be an evidenced-based endeavor designed to enhance the student’s capacity to be a critical consumer of audiological research and to create an opportunity for the student to engage in an in-depth study of an area of Audiology. Students may enroll for CDO 898 as variable credit in blocks ranging from 1-6 credit hours. Concurrent with enrollment in CDO 898, the student will select a doctoral project advisor who must have graduate faculty status at Central Michigan University. Prior to initiating the doctoral project, it must be approved by the Division of Audiology Doctoral Project Committee. Upon completion of the doctoral project, the student must submit it to the Division of Audiology Doctoral Project Committee in an acceptable format.

- CDO 995: 5 credit hours of CDO 995 in year 3.

#### Required Courses IV (18 hours)

- The following course should be taken in the fourth year:
  - CDO 995 - Clinical Externship 5-23(Spec)

#### Note:

18 credit hours of CDO 995 in year 4 (9 each semester).

**Total: 115 semester hours**
Department of Computer Science
College of Science and Engineering

Patrick Kinnicutt, Chairperson
413 Pearce Hall, 989-774-3774
https://www.cmich.edu/academics/sci_tech/comp_sci

Jesse Hickolt, Ph.D., Machine Learning and Informatics
Lisa Gandy, Ph.D., Natural Language Processing and Text Informatics
Gongzhu Hu, Ph.D., Databases, Distributed Programming, Pattern Recognition
Patrick Kinnicutt, Ph.D., Geostatistics, Science Informatics
Roger Y. Lee, Ph.D., Software Engineering, Object-oriented Modeling
Qi Liu, Ph.D., Computer and Network Security, Economics/Game Theory for Cybersecurity
Tony Morelli, Ph.D., Gaming and Accessibility
S. N. Jayaram Murthy, Ph.D., Multimedia, Pattern Recognition, Data Mining
Ishwar Rattan, Ph.D., Operating Systems, Distributed Processing
Patrick Seeling, Ph.D., Multimedia, Networks, Engineering Education
Lal P. S. Singh, Ph.D., Databases, Intelligent Tutoring Systems
Michael C. Stinson, Ph.D., Neural Networks, Software Engineering
Ahmet Ugur, Ph.D., Evolutionary Programming, Generic logarhythm, Biocomputing

Course Designators:

CPS - Computer Science
ITC - Information Technology

The Program
The graduate programs in computer science are supported by a UNIX lab, 3 PC labs and dedicated laboratories for computer graphics, databases, operating systems, networks, and software engineering. In addition, the university's computer network is available.

Some graduate assistantships are available; the application deadline is February 15 for fall and October 1 for spring. Research assistantships may be available depending on funding.

Master of Science (M.S.) in Computer Science

Minimum Totals for Graduation: 30 hours

Admissions Requirements, Retention & Termination Standards

Admission Requirement Snapshot

GPA: 3.0 (in the last two years of study)
GRE
Entrance Exam: GRE
Application Deadline: July 1 (Fall), Oct. 1 (Spring)
See Admission Requirement Details Below

Conditional admission may be granted upon completion of a bachelor's degree, including a two semester sequence in a modern programming language with elementary data structures (CPS 180, CPS 181), from an accredited institution with a minimum overall grade point average of 3.0 in the last two years of study, as well as in the programming courses. International students are required to demonstrate English competency. (See section on English Language Competency in this Bulletin).

Regular admission is granted to students who meet the above conditional requirements and have completed the following or the equivalent:

- Computer Architecture
- Data Structures and Algorithms
- Program Languages
- Operating Systems
- Calculus I
- Discrete Mathematics

Conditionally admitted students who have not met all these requirements will be required to get the department chairperson's permission to register in each graduate course.

Students are required to achieve a minimum grade point average of 3.0 in the above-listed courses.

Degree Requirements

Required Courses I (6 hours)
CPS 541 - Databases 3(3-0)
ITC 510 - Software and Data Modeling 3(3-0)

Required Courses II (12 hours)
Students must choose one track as a cohort:

CPS Track
Select CPS 542 and 691 (required) plus 6 additional hours:
CPS 520 - Software Architecture 3(3-0)
CPS 542 - Analysis and Design of Algorithms 3(3-0)
CPS 585 - Applied Data Engineering 3(3-0)
CPS 610 - Advanced Software Design and Development 3(3-0)
CPS 685 - Pattern Recognition and Data Mining 3(3-0)
CPS 691 - Graduate Seminar 3(3-0)
CPS 710 - Software Engineering Metrics, Models and Management 3(3-0)

ITC Track
Select ITC 520 (required) plus 9 additional hours:
ITC 530 - Mobile Computing 3(3-0)
ITC 620 - Information Security and Privacy 3(3-0)
ITC 630 - Cloud Computing 3(3-0)
ITC 686 - Big Data Analysis 3(3-0)

Other Requirement (3-6 hours)
Select either Plan A or Plan B.

Plan A Requirement (6 hours)
The 30-hour requirements include 24 hours of coursework, a Master's thesis of 6 hours (CPS 798 or ITC 798), and an oral examination on the thesis. For Master's thesis, a Thesis Committee shall be formed according to the procedure outlined in the Thesis, Field Study, or Dissertation section of the Graduate Studies Bulletin.

Select one of:
CPS 798 - Thesis 1-6(Spec)
ITC 798 - Thesis 1-6(Spec)

Plan B Requirement (3 hours)
The 30-hour requirements include 27 hours of coursework and a Plan B Project. A student must complete a substantial written report in computer science or an application of computer science for the Plan B project.

Copies of procedures for such projects are available from the department chairperson. The project will ordinarily include a significant original programming component with a written defense of the programming component and must include evidence of scholarly and creative ability. The project must be supervised while in progress and approved by a committee of two faculty members.

Select one of:
CPS 697 - Independent Study 1-6(Spec)
ITC 691 - Information Technology Project 3(3-0)

Electives (6-9 hours)
At most 3 hours of electives may be non-CPS/ITC designator and must be approved in advance by faculty advisor in the CPS department.

Total: 30 semester hours

Notes:
At least 15 semester hours of courses must be at 600-level or above.
A student who satisfied any of the course requirements prior to entering the program may be excused from that course requirement. However, the 30-hour requirement will not be affected.
**Accelerated Master of Science in Computer Science**

Undergraduate students in Computer Science can pursue a Master of Science program in Computer Science while still fulfilling the requirements for their Bachelor’s degree. The Accelerated Master’s Degree Program (AMDP) allows students to reduce the total number of credits required to complete their undergraduate and graduate level degrees by applying up to 12 credits (500 and 600 level courses) towards graduation requirements on both degree programs.

**Admission Criteria:**

To be eligible for the accelerated program, a student must have completed a minimum of 90 credits (including transfer and/or AP credits) towards a Bachelor’s degree, including all University Program requirements. An overall grade point average (GPA) of at least 3.25 is required, as well as a minimum of 3.00 in Computer Science coursework. In addition, students must satisfy all requirements for regular admission to the Master’s program in Computer Science, with the possible exception of completing CPS 450 and 470 courses, which may be completed during the senior year.

During the fourth year, students will complete 12 credits of graduate level course work (excluding independent study credits) that will be counted towards both the undergraduate and graduate degrees. In addition, students will take either CPS 450 and 470 or 6 hours of CPS electives. Other courses may be taken to complete Bachelor of Science degree requirements. Students will complete the course work required for a Master of Science degree and complete either Plan A or Plan B option by the end of the fifth year.

A sample curriculum for a student who has completed 90 credit hours of undergraduate course work is given below:

**Sample Curriculum for Plan A or Plan B option:**

**Year Four**

- **Fall (15 hours):**
  - CPS 541 (Elective for BS, required for MS) - 3 hours
  - CPS Elective or CPS 450 - 3 hours
  - Undergraduate Courses - 9 hours

- **Spring (15 hours):**
  - CPS Elective or CPS 470 - 3 hours
  - Other BS Requirement - 3 hours
  - ITC 510 (Elective for BS, required for MS) - 3 hours
  - CPS/ITC courses for both BS and MS - 6 hours

- **Summer (3 hours):**
  - UG Courses - 3 hours (if necessary?)

**Year Five**

- **Fall (12 hours):** Requirements for MS* - 12 hours

- **Spring (12 hours):**
  - CPS 650 (Required for MS) - 3 hours
  - Requirements and Electives for MS* - 12 hours

  *Note: Students may complete CPS 798 - 6 hours over the course of two semesters for the MS Plan A Option.

**Graduate Certificate in Data Mining**

This is an interdepartmental graduate certificate. Please check the index for the page number.

---

**Department of Counseling and Special Education**

**College of Education and Human Services**

**Andrea Jasper, Chairperson**
321 EHS Building, 989-774-3205

Ellen Armbruster, Ph.D., Counseling
Allison Arnekrans, Ph.D., Counseling
Dawn Decker, Ph.D., Special Education
Laura M. Frey, Ph.D., Special Education
JoDell Heroux, Ph.D., Special Education
Holly Hoffman, Ph.D., Special Education
Andrea Jasper, Ph.D., Special Education
Meaghan McCollow, Ph.D., Special Education
Terry McGlasson, Ph.D., Counseling
Twinet Parmer, Ph.D., Counseling
Suzanne Shellady, Ph.D., Special Education
Jordan Shurr, Ph.D., Special Education
Jennifer Klemm, Ph.D., Special Education

**Course Designators:**

- CED - Counselor Education
- SPE - Special Education

**Master of Arts (M.A.) in Counseling**

**Minimum Totals for Graduation: 48 hours**

The Counselor Education faculty at Central Michigan University offer courses and programs designed to prepare students to work as counseling personnel in public and private schools, institutions of higher education, community-based social service agencies, and private practice. Many classes are offered afternoons, evenings, and weekends to better accommodate nontraditional students. Students who successfully complete a program for Counselor Education earn a Master of Arts degree in Counseling.

Faculty members include licensed professional counselors. Full-time counselor education faculty hold doctoral degrees in counselor education. Teaching excellence is a top priority of the faculty.

**Admission Requirements, Retention & Termination Standards**

<table>
<thead>
<tr>
<th>Admission Requirement Snapshot</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPA: 2.7</td>
</tr>
<tr>
<td>Application Deadline: February 1 for Summer/Fall admission OR September 1 for Spring admission</td>
</tr>
<tr>
<td>See Admission Requirement Details Below</td>
</tr>
</tbody>
</table>

**Note:** See the Global Campus Bulletin for Admission Requirements and Program Requirements for Global Campus students.

**Admission Requirements**

To be eligible for Conditional Admission to the M.A. in Counseling program, a complete application includes:

- a graduate application;
- all transcripts from undergraduate and graduate degree work;
- recent (not more than five years old) Graduate Record Exam (GRE) score to be sent directly to the College of Graduate Studies;
- written statement of purpose and general plans for graduate study; and
- two (2) letters of recommendation (one professional [e.g. supervisor, employer, academic professor/instructor] and one personal [not a family member]).

Specific details about the requirements may be found on the Counseling and Special Education website at [www.cse.cmich.edu](http://www.cse.cmich.edu).
All application materials and GRE score must be received in the Department of Counseling and Special Education before a decision will be made whether to invite the applicant on-campus for the in-person interview process. Application deadlines are: February 1 for Summer/Fall admission and September 1 for Spring admission.

An applicant chosen in the screening process will be admitted to the program on a conditional basis. To be eligible for regular admission status, the student must first complete a minimum of 9 semester credit hours of course work in the Counselor Education program with a minimum 3.0 GPA. The student must then submit an application for regular admission, which will be reviewed by the Counselor Education faculty, using established department criteria to determine the student’s suitability for regular admission.

In addition, for an applicant interested in school counseling, admission consideration will be based on the following:

• An applicant interested in school counseling who is a certified teacher with a valid Michigan teaching certificate may be admitted to the School Counseling program option. Upon completion of the degree program this student may apply through CMU’s EHS Center for Student Services to add a counseling endorsement to his/her teaching certificate.

• An applicant interested in school counseling who does not have a valid Michigan teaching certificate must be admitted to the Professional Counseling program option. This student’s program of study will consist of additional course work and require a portion of the internship requirement to be completed in a school setting. Upon completion of the degree program this student may apply for a school counseling license through CMU’s EHS Center for Student Services.

Program Requirements

Students will gain knowledge and experience in research, group techniques, counseling theories, counseling techniques, ethics, counseling philosophy, multicultural counseling, testing procedures, career development, and consulting. Practicum and internship experiences will complete the minimum requirements. Elective courses will provide students additional studies and experience in areas of personal interest.

Each student will participate in a supervised counseling experience (practicum) in the Center for Community Counseling and Development on CMU’s campus (Global Campus students’ practicum will take place in the field), and a field-based 600 hour internship experience. This program also requires successful completion of a comprehensive examination.

The candidate should complete their Authorization of Degree Program form with their assigned advisor after achieving Regular Admission status. Elective courses will be selected with the approval of the advisor. The faculty recommends taking the comprehensive examination during the semester the student intends to graduate.

Progress through the program is based on satisfactory grades (grade point average of "B" or better) and satisfactory evaluations of pre-professional functioning (e.g., demonstration of appropriate personal and professional skills, ethical standards, and behaviors). Serious and persistent difficulties in pre-professional functioning may result in dismissal from the program.

Degree Requirements

Select one of the following options:

**Counseling: Professional Counseling**

This option is designed for students with a valid Michigan teaching certificate interested in elementary or secondary school counseling. K-12 counseling, early childhood development, or vocational career counseling. In addition, graduates will meet the academic requirements for licensure as a Professional Counselor (LPC) in Michigan. Upon completion of the degree program this student may apply through CMU’s EHS Center for Student Services to add a counseling endorsement to his/her teaching certificate.

**Core Courses I (3 hours)**

Select one of the following:

CED 610 - Career Counseling 3(3-0)

CED 611 - Developmental Career Counseling 3(2-1)

**Core Courses II (30 hours)**

CED 566 - Lifespan Development for Counselors 3(3-0)

CED 620 - Introduction to Multicultural Issues in Counseling 3(3-0)

CED 630 - Ethics and Consultation in Counseling 3(3-0)

CED 640 - Assessment in Counseling 3(3-0)

CED 650 - Theories and Techniques of Group Counseling 3(3-0)

CED 660 - Counseling Techniques 3(3-0)

CED 677 - Theories of Counseling 3(3-0)

CED 690 - Counseling Practicum 3(1-3)

CED 695/SPE 695 - Research for Counseling and Special Education 3(3-0)

CED 699 - Diagnosis & Treatment Planning in Counseling 3(3-0)

**Additional Requirements (3 hours)**

Select one of the following:

CED 502 - Student Development in Higher Education 3(3-1)

CED 603 - Introduction to Clinical Mental Health Counseling 3(3-0)

CED 604 - Introduction to School Counseling 3(3-0)

**Electives (6 hours)**

Select other CED courses, approved SPE courses, or approved transfer credits to bring credit hour total to at least 48.

**Plan B Requirement (6 hours)**

Satisfied by CED 691 (6 hours) and Comprehensive Examination.

CED 691 - Internship in Counseling 1-6(Spec)

**Total: 48 semester hours**

**Counseling: School Counseling**

This option is designed for students with a valid Michigan teaching certificate interested in elementary or secondary school counseling. K-12 counseling, early childhood development, or vocational career counseling. In addition, graduates will meet the academic requirements for licensure as a Professional Counselor (LPC) in Michigan. Upon completion of the degree program this student may apply through CMU’s EHS Center for Student Services to add a counseling endorsement to his/her teaching certificate.

**Core Courses I (3 hours)**

Select one of the following:

CED 610 - Career Counseling 3(3-0)

CED 611 - Developmental Career Counseling 3(2-1)

**Core Courses II (30 hours)**

CED 566 - Lifespan Development for Counselors 3(3-0)

CED 620 - Introduction to Multicultural Issues in Counseling 3(3-0)

CED 630 - Ethics and Consultation in Counseling 3(3-0)

CED 640 - Assessment in Counseling 3(3-0)

CED 650 - Theories and Techniques of Group Counseling 3(3-0)

CED 660 - Counseling Techniques 3(3-0)

CED 677 - Theories of Counseling 3(3-0)

CED 690 - Counseling Practicum 3(1-3)

CED 695/SPE 695 - Research for Counseling and Special Education 3(3-0)

CED 699 - Diagnosis & Treatment Planning in Counseling 3(3-0)

**Additional Requirements (3 hours)**

Select one of the following:

CED 502 - Student Development in Higher Education 3(3-1)

CED 603 - Introduction to Clinical Mental Health Counseling 3(3-0)

CED 604 - Introduction to School Counseling 3(3-0)

**Electives (6 hours)**

Select other CED courses, approved SPE courses, or approved transfer credits to bring credit hour total to at least 48.

**Plan B Requirement (6 hours)**

Satisfied by CED 691 (6 hours) and Comprehensive Examination.

CED 691 - Internship in Counseling 1-6(Spec)

**Total: 48 semester hours**

(Continued)
Electives (3 hours)
Select other CED courses, approved SPE courses, or approved transfer credits to bring credit hour total to at least 48.

Plan B Requirement (6 hours)
Satisfied by CED 691 (6 hours) and Comprehensive Examination.
CED 691 - Internship in Counseling 1-6(Spec)

Total: 48 semester hours

Master of Arts (M.A.) in Special Education:
The Master Teacher
Minimum Totals for Graduation: 33 hours
The Master of Arts in Special Education is designed for students who seek advanced study in special education. These programs are designed to provide training experiences leading to the development of those competencies specifically related to working with persons with disabilities in a variety of public education and community settings as a teacher or teacher consultant.

The Master Teacher
The Master of Arts Degree in Special Education: The Master Teacher is conceptualized as a degree designed specifically to build upon the strengths of certified educators. It is intended to expand their skills and knowledge base in order to prepare them to assume the role of what the Carnegie Institute refers to as "The Master Teacher."

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS
Note: This program is offered through CMU Online. Contact Global Campus for more information.

ADMISSION REQUIREMENT SNAPSHOT
GPA: 3.00
Entrance Exam: N/A
Application Deadline: At least 6 weeks before desired enrollment; 6-12 weeks for International students
See Admission Requirement Details Below

Beyond the standards of Graduate Studies admission, Special Education requires the following:
1. Prior to admission to a master's degree program, the candidate must have a bachelor's degree and a valid Michigan Elementary or Secondary Provisional, Permanent, or Life certificate or special education endorsement. If applicants do not meet this requirement, they should contact the EHS Center for Student Services (421 EHS Building, CMU, Mt. Pleasant, MI 48859, 989-774-3309).
2. Conditional Admission to the Master of Arts degree program in Special Education requires an undergraduate cumulative grade point average of 3.00. (Applicants below the required grade point average may appeal through the chairperson for exception.) Additionally, applicants are required to submit a current statement of purpose for pursuing the degree, and two letters of recommendation regarding the applicant’s performance with Special Education populations.
3. After each applicant with Conditional Admission has completed 12 semester hours of graduate study on the program at Central Michigan University with a grade point average of 3.0 or higher, he or she may petition for reclassification for Regular Admission. The faculty will then determine whether Regular Admission will be granted. An Authorization of Degree Program form must be filed at this time by students granted Regular Admission.

Prerequisites:
Special Education endorsement OR the following courses within the last ten years.
SPE 126 - Introduction to Special Education 3(3-0)
SPE 550 - Teaching Culturally Diverse Students 3(3-0)

Retention and Termination Standards
These graduate programs lead to a Master of Arts degree in Special Education. The degree is based upon satisfactory completion of a minimum of 33 semester hours of graduate work and satisfactory demonstration of the competencies identified within the stated objectives and activities of the program.

Degree Requirements
Core Courses (15 hours)
SPE 600 - Current Issues in Special Education 3(3-0)
SPE 679 - Behavioral and Curricular Interventions for Individuals with Mild Disabilities 3(3-0)
SPE 695/CED 695 - Research for Counseling and Special Education 3(3-0)
SPE 750 - Consultation and Collaboration in Special Education 3(3-0)
SPE 785 - Assessment and Program Improvement in Special Education 3(3-0)

Additional Requirements (15 hours)
Required classes to be selected in consultation with an advisor.
Plan B Requirement (3 hours)
SPE 790 - Seminar: Investigations and Solutions in Special Education 3(3-0)

AND
Comprehensive Examination

Total: 33 semester hours

Graduate Endorsements in Special Education
For specific details and requirements, please visit the Counseling and Special Education webpage at: www.cse.cmich.edu.

Initial Endorsement Programs
Cognitive Impairment
Emotional Impairment

Additional Endorsement Programs
Autism Spectrum Disorder
Cognitive Impairment
Emotional Impairment
Learning Disabilities
Department of Earth and Atmospheric Sciences

College of Science and Engineering

Martin Baxter, Interim Chairperson
314 Brooks Hall, 989-774-3179
https://www.cmich.edu/academics/sci_tech/earth_atmos

Martin Baxter, Ph.D., Synoptic Meteorology
Anthony Chappaz, Ph.D., Geochemistry/Water Chemistry
Daria Kluver, Ph.D., Snowfall Prediction and Climate
Sven Morgan, Ph.D., Structural Geology
R. Neil Mower, Ph.D., Tropical Meteorology
Mona Sirbescu, Ph.D., Mineralogy

Course Designator:
GEL - Geology

Graduate-level courses offered by the Department of Earth and Atmospheric Sciences may be appropriate as electives on various graduate degree curricula.

Ph.D. in Earth and Ecosystem Science
This degree is an interdisciplinary program. Please see the index for the page number.

Department of Economics

College of Business Administration

Paul Natke, Chairperson
321 Sloan Hall, 989-774-3870

Vikesh Amin, Ph.D., Royal Holloway University of London; Labor, Education Economics
Bharati Basu, Ph.D., University of Rochester; International Trade, Economic Development
Lawrence Brunner, Ph.D., Johns Hopkins University; Public Finance, Urban Economics
A. Aydin Cecen, Ph.D., Indiana University; International Trade, Mathematical Economics
Debasish Chakraborty, Ph.D., University of Pittsburgh; International Trade, Monetary Theory, Economic Development
Gregory A. Falls, Ph.D., Purdue University; Econometrics, Macroeconomics
James Richard Hill, Ph.D., University of Kentucky; Labor, Sports Economics
James R. Irwin, Ph.D., University of Rochester; Economic History, International Trade, Monetary Theory, Econometrics
Aparna Lhila, Graduate Coordinator, Ph.D., Cornell University; Health Economics, Household Economics
Catherine L. McDevitt, Ph.D., University of Rochester; Macroeconomics, Monetary Theory, Public Finance
Paul Natke, Ph.D., University of Notre Dame; Monetary Theory, Managerial Economics
Samuel Raisanen, Ph.D., University of Colorado; Industrial Organization, Applied Game Theory
Jason E. Taylor, Ph.D., University of Georgia; Economic History, Industrial Organization
Linlan Xiao, Ph.D., University of Western Ontario; Econometrics, Mathematical Models

The Program
The Department of Economics at Central Michigan University offers a program leading to the degree of master of arts in economics. The program is designed for two types of students: those who wish to gain marketable skills in applied economics and those who wish to strengthen their preparation in order to continue work toward a doctorate in economics.

Graduate assistantships, which involve the student in either teaching or research, are available on a competitive basis from the Economics Department. Currently, most of the economics graduate students are from countries other than the United States.

The program is designed to meet the needs of the individual student, and students may choose to write a thesis or may select a non-thesis option. The M.A. program is designed so that it can be completed in one calendar year but normally requires three semesters.

Graduate courses in economics may be selected as elective or cognate courses on various graduate curricula including the following: business administration, geography, history, mathematics, political science, statistics.

Requirements of the interdisciplinary curriculum for the Master of Science in Administration are stated in the section on Interdisciplinary Degrees.

Course Designator:
ECO - Economics
Master of Arts (M.A.) in Economics
Minimum Totals for Graduation: 30 hours

Degree requirements will be satisfied by completing the common core and the Plan A or Plan B alternative. Candidates may not offer more than six hours of cognate courses for this 30-hour program. All cognate courses must be selected in consultation with the candidate’s advisor.

**ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS**

<table>
<thead>
<tr>
<th>GPA</th>
<th>Entrance Exam</th>
<th>Internat’l Application Deadline</th>
<th>Admission Requirement Details Below</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.7</td>
<td>N/A</td>
<td>July 1 (Fall), Oct.1 (Spring)</td>
<td>See Admission Requirement Details Below</td>
</tr>
</tbody>
</table>

There are no specific undergraduate requirements for admission to the Master of Arts degree program in economics. Students who, in the opinion of the Graduate Coordinator, are deficient in background will be advised to take additional courses. Students who do not meet the graduate school requirements may apply for nondegree admission. A maximum of 15 credits earned during non-degree status may be applied toward a graduate degree in Economics.

**Core Courses (12 hours)**
ECO 535 - Fundamentals of Mathematical Economics 3(3-0)
ECO 585 - Econometrics 3(3-0)
ECO 616 - Advanced Microeconomic Theory 3(3-0)
ECO 620 - Advanced Macroeconomic Theory 3(3-0)

**Additional Requirement (18 hours)**
Choose one of the following plans:

**Plan A: Thesis**
1. 12 hours of courses approved by an advisor, inclusive of cognate courses.
2. ECO 798 - Thesis 1-6(Spec)

**Plan B: Non-thesis**
1. Courses approved by advisor, inclusive of cognate courses - 18 hours.
2. Research paper under the direction of a faculty member.

**Total: 30 credit hours**

**ACCELERATED MASTER OF ARTS IN ECONOMICS**
Students admitted to the Accelerated Master’s Degree Program may earn up to twelve hours of graduate credit toward the MA in Economics for courses taken during their senior year. These courses will count both toward their undergraduate degree and toward their MA degree in Economics. The student will need, first, to be admitted to the program and, second, to have completed the agreed-to plan of study.

**Admission Requirements**
Within 30 credit hours of graduating with a BS or BS in BA with a GPA of 3.25. In addition, the student should have completed the University competency requirements and ECO 365, ECO 370, MTH 217, and ECO 285 or STA 282.

**Plan of Study**
Courses to be counted toward both the undergraduate degree and the MA in Economics when taken during the senior year by a student admitted to the Accelerated Master’s Degree Program prior to the senior year and completing the courses during the senior year.

**Fall Semester:** ECO 585 (3 hours); ECO elective (3 hours)
**Spring Semester:** ECO 685 (3 hours); ECO elective (3 hours)

The electives must be at the 500 level and above and be approved by the graduate coordinator of Economics.

**Master of Business Administration (MBA)**
See the College of Business Administration for information.

Department of Educational Leadership
College of Education and Human Services

Anne Hornak, Chairperson
334 EHS Building, 989-774-3204

Frimpomaa Ampaw, Ed.D., Quantitative Analysis, Educational Finance
Eric Buschien, Ed.D., Leadership Development and Civic Engagement
Mark Deschaine, Ph.D., K-12 Leadership
Anne Hornak, Ph.D., Higher Education Administration, Ethics, Student Affairs
Wafa Hozien, Ph.D., Business Administration, Qualitative Analysis
Benjamin Jankens, Ed.D., Charter School Leadership, School and Community Relations
Matthew Johnson, Ph.D., Leadership Theory, Student Affairs, Student Development Theory
Daniel Kaczynski, Ph.D., Qualitative Analysis, Program Evaluation
Barbara Klocko, Ph.D., Leadership Philosophy, PK-12 Administration
Ethan Kolek, Ed.D., Research Methods, Assessment
Sarah Marshall, Ph.D., Student Affairs Administration, Work-Family Issues
Mildred Taylor, Ph.D., Leadership Internship, Instructional Supervision
Regina Umpstead, J.D., Ph.D., Educational Law, Educational Policy
David E. Whale, Ed.D., Secondary Administration and Curriculum, Educational Technology

Course Designator:
EDL - Educational Leadership

The department provides courses and programs for graduate students preparing for leadership positions in schools, institutions of higher learning, and other community-based human service organizations. Opportunities for advanced specialized study are available in addition to pre-service preparation programs. The programs and courses in educational administration and leadership are:

- Graduate Certificate in College Teaching
- M.A. in Higher Education Administration
- M.A. in School Principalship
- M.A. in Teacher Leadership
- Specialist in Education: General Educational Administration
- Ed.D. in Educational Leadership
- Ph.D. in Educational Leadership

Graduate Certificate in College Teaching
Minimum Totals for Graduation: 15 hours

The Graduate Certificate in College Teaching is designed to prepare students for a faculty teaching career in post-secondary education. The 15-credit hour certificate is intended for graduate students who desire preparation and training in the area of college teaching. Courses eligible for the certificate program include an assortment of topics relevant to teaching in higher education such as student background (adult learners and traditionally-aged students), classroom teaching theory and strategies, online/hybrid or distance education, the faculty role, and an internship in college teaching.

Students enrolled in the Graduate Certificate in College Teaching will take 15 credit hours, selected with their advisor from the courses listed below. Students with little or no teaching experience will be highly encouraged to complete an internship in college teaching (EDL 697).

**ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS**
- Undergraduate degree with cumulative GPA of 3.0 or higher from an accredited institution.
- Master’s degree in student’s teaching-related discipline with a cumulative GPA of 3.0 or current enrollment in a master’s degree program.
- Official transcripts from all undergraduate and graduate schools you have attended.
• Current résumé identifying training, experience, and professional accomplishments.
• A one-page personal statement addressing 1) what courses or discipline you intend to teach; 2) your interest in pursuing the Graduate Certificate in College Teaching as it relates to your professional goals.
• Applicants must meet the requirements for admission to Graduate Studies.

Students may utilize certificate courses (a maximum of six (6) semester credits) to meet program requirements for other degrees, allowing for a concurrent awarding of both a degree and an earned certificate. Students must be accepted into both a degree program and the certificate option to obtain both options and work with their advisor to determine appropriate courses and eligibility. Students may also enroll in the certificate option alone. Students must receive a B or better in their first six (6) hours to remain in the program.

A Master's degree is required for admission into the Graduate Certificate in College Teaching unless one is not offered in your field. Applicants must then provide evidence of disciplinary content knowledge and expertise suitable to being hired to teach at the community college level in their chosen field or discipline. The Department of Educational Leadership will be responsible for the final determination of evidence suitability for waiving the Master's degree requirement.

**Required Courses (15 hours)**
Select from the following:
- EDL 626 - The Adult Learner 3(3-0)
- EDL 677 - The American College Student 3(3-0)
- EDL 680 - Teaching in Higher Education Settings 3(3-0)
- EDL 681 - Teaching with Technology in Higher Education Settings 3(3-0)
- EDL 697 - College Teaching Internship 3(3-6)
- EDL 763 - The Academic Profession 3(3-0)

**Total: 15 semester hours.**

**Master of Arts (M.A.) in Educational Leadership**

**Minimum Totals for Graduation: 30-36 hours**

The Master of Arts in Educational Leadership program prepares students with the knowledge and skills needed to effectively lead schools and meet the needs of 21st Century learners. The purpose of this degree is to provide an academic foundation for school leadership and develop the skills and abilities of educational leaders through performance-based learning. Applicants selecting this program are educators who would like to broaden their career options to include school administration. Students completing this program can apply to the Michigan Department of Education and receive initial administrative certification. This certification is a state requirement for school principals.

The Master of Arts in Educational Leadership is a nationally accredited program by the TEAC.

**Admission Requirements, Retention & Termination Standards**

**Admission Requirement Snapshot**
- GPA: 3.0
- Entrance Exam: N/A
- Application Deadline: Rolling Application
- See Admission Requirement Details Below

**Important Message for Prospective Students:** It is highly recommended that students contact the appropriate licensing agency in their state of residence if they are considering an academic program that leads to a professional license. CMU offers state-by-state information at [http://dev.cell.cmich.edu/compliance/professionallicensure.aspx](http://dev.cell.cmich.edu/compliance/professionallicensure.aspx) with web links to the appropriate licensing agencies. It is the responsibility of students to contact the appropriate licensing agency and to understand the requirements in their state of residence as applied to their specific situation.

1. Applicants must meet the requirements for admission to Graduate Studies.
2. Regular admission in the program requires an undergraduate grade point average of at least 3.0 (on a 4-point scale).
3. Applicants must provide evidence of promise as an administrator by preparing and submitting an admission portfolio directly to the Department of Educational Leadership. The following items must be included in the contents of the portfolio:
   a. a current resume identifying training, experience, and professional accomplishments;
   b. a minimum of two letters of reference (dated and submitted on organizational letterhead) from individuals who can appropriately address the applicant’s potential as an administrator and attest to the applicant’s potential for success in the program;
   c. a two page statement incorporating how the applicant’s program goals and beliefs about leadership connect to the Educational Leadership program and these principles:
      • Vision for student success and achievement,
      • Involvement of all stakeholders,
      • Leadership for a diverse and complex society, and
      • Demonstration of ethical behavior
   d. identification of at least two significant activities which indicate experiences, abilities, and potential for educational leadership. For each activity identified, applicants should clearly describe the activity and the role and responsibilities they assumed, include the number of people involved or impacted by the activity, describe the budget (if applicable) or resources used, and summarize with a self-reflective statement addressing the insight and learning that occurred.
4. Regular admission will be granted only after the admission portfolio has been reviewed and deemed acceptable by a committee of Educational Leadership faculty. Acceptability will be judged on the appropriateness of the contents of the admission portfolio relative to the degree program to which application is being made. The applicant’s statements about beliefs, professional goals, and activities must show evidence of thoughtfulness, thoroughness, and congruence with the degree program to which the application is directed.

**Additional Admission Requirements** - Must have either a valid teaching certificate and three years of experience or three years of other qualifying experience.

It is advantageous for the applicant to submit the admission portfolio as early as possible. Applicants must submit a complete admission packet and it must be approved before a student is granted regular admission.

**Core Courses (21 hours)**
- **Required for State Certification**
  - EDL 661 - Public School Law 3(3-0)
  - EDL 661 - School and Community Relations 3(3-0)
  - EDL 662 - School Business Administration 3(3-0)
  - EDL 670 - The Principalship 3(3-0)
  - EDL 690 - Administration of School Curriculum 3(3-0)
  - EDL 694 - Educational Leadership Capstone 3(3-0)
  - EDL 699 - Leadership Internship 1-15(Spec)

**Note:** 3 hours of EDL 699.

**Required Course (3 hours)**
- EDL 600 - Research for Educational Leadership 3(3-0)

**Emphasis Area**
Select one of the following:

- **Emphasis Area: Supervision (6 hours)**
  - EDL 660 - Principles of Educational Administration 3(3-0)
  - EDL 773 - Instructional Supervision and Leadership 3(3-0)

- **Emphasis Area: Charter School Leadership (6 hours)**
  - EDL 645 - Charter School Leadership 3(3-0)
  - EDL 678 - Emerging Issues and Reform Efforts in Educational Leadership 3(3-0)

- **Emphasis Area: Virtual Education Leadership (6 hours)**
  - EDL 615 - Educational Technology for Administrators 3(3-0)
  - EDL 650 - Professional Studies: Special Topics 1-6(Spec)

(Continued)
Admission Requirements, Retention & Termination Standards

1. Applicants must meet the requirements for admission to Graduate Studies.
2. Regular admission in the program requires an undergraduate grade point average of at least 3.0 (on a 4-point scale).
3. Applicants must provide evidence of promise as an administrator by preparing and submitting an admission portfolio online at apply.cmich.edu. The following items must be included in the contents of the portfolio:
   a. A current résumé identifying skills, experiences, positions held, and professional accomplishments;
   b. A minimum of two letters of reference (dated and submitted on organizational letterhead) from individuals who can appropriately address the applicant’s potential as an administrator and attest to the applicant’s potential for success in the program;
   c. A 2-3 page (single-spaced) statement detailing reasons for pursuing a master’s degree in higher education administration at Central Michigan University, professional goals, and what problems or challenges in higher education the applicant feels passionately about addressing.
4. Regular admission will be granted only after the admission portfolio has been reviewed and deemed acceptable by a committee of Educational Leadership faculty. Acceptability will be judged on the appropriateness of the contents of the admission portfolio relative to the degree program to which the application is being made. The applicant’s statement must show evidence of thoughtfulness, thoroughness, and congruence with the degree program.

It is advantageous for the applicant to submit the completed admission portfolio as early as possible. Applicants must submit a complete admission portfolio, and it must be approved before a student is granted regular admission.

Core Courses (21 hours)
- EDL 512 - Assessment in Higher Education (3-0)
- EDL 636 - Higher Education Law (3-0)
- EDL 677 - The American College Student (3-0)
- EDL 757 - Student Development Theory (3-0)
- EDL 764 - Financing of Higher Education (3-0)
- EDL 776 - Administration of Higher Education (3-0)
- EDL 777 - Student Affairs Administration (3-0)

Electives (9 hours)
Select in consultation with an advisor.

Capstone Project (6 hours)
All students earning a M.A. in Higher Education Administration will take a written comprehensive exam during their last semester of enrollment in the M.A. program.

Plan B
- EDL 696 - Higher Education Practicum (3-6)
- EDL 698 - Master’s Colloquium (3-0)

Total: 36 semester hours

Accelerated M.A. in Higher Education Administration
Advance undergraduate students in the Leadership in Student Affairs minor who would like to pursue advanced studies in higher education administration may consider an option whereby they can complete their bachelor’s degree and a Master of Arts in Higher Education Administration. The program requirements on the Accelerated Master’s Degree Program are identical to those of the Master of Arts in Higher Education Administration, but allow the student to apply 12 credit hours of graduate coursework toward both their bachelor’s degree and their Master of Arts in Higher Education Administration.

Admission Criteria for Accelerated Program
To be eligible for the Accelerated Master of Arts in Higher Education Administration, the student must have:
1. Overall undergraduate grade point average (GPA) of at least 3.0;
2. Completed a minimum of 86 credit hours;
3. Completion of all University Program and Competency requirements;
4. Signed Leadership in Student Affairs minor;
5. Acceptance of applicant’s admission portfolio by the Department of Educational Leadership.

Application Process:
1. Undergraduate students seeking admission to the Accelerated Master’s Degree Program must submit the application for admission to Graduate Studies no later than January 15 of the year prior to graduation from their undergraduate program.
2. Applicants must provide evidence of promise as an administrator by preparing and submitting an admission portfolio directly to the Department of Educational Leadership. The following items must be included in the contents of the portfolio:
   a. current resume identifying training, experience, and professional accomplishments;
   b. minimum of two letters of reference (dated and submitted on organizational letterhead) from individuals who can appropriately address the applicant’s potential as an administrator and attest to the applicant’s potential for success in the program;
   c. a 2-3 page (single-spaced) statement detailing reasons for pursuing a master’s degree in higher education administration at Central Michigan University, professional goals, and what problems or challenges in higher education the applicant feels passionately about addressing;

Retention Standards
The student is responsible for fulfilling all of the requirements for the undergraduate degree and, therefore, additional credits may be taken to complete the Bachelor’s degree requirements during the final year. The student must earn a minimum of a 3.0 GPA or higher in the four courses that count towards the master’s degree. If a student does not earn a 3.0 GPA or higher in each course that is intended to be applied to the graduate degree, they must reapply for admission to the MA in HE program.

Courses that will count towards the Minor as well as the Master’s degree:
EDL 512 Assessment in Higher Education 3(3-0)
EDL 516 Social Justice Leadership 3(0)
EDL 557 Helping Skills 3(3-0)
EDL 598 College Student Development 3(3-0)

Specialist in Education (Ed.S.) in General Educational Administration

Minimum Totals for Graduation: 30 hours
The Specialist in Education (Ed.S.) in General Education Administration is an advanced degree program that prepares professional educators with instructional and leadership skills beyond the master’s level of competence. The purpose of this degree is to extend the academic foundation, skills, and abilities of educational leaders and to build leadership capacity in a variety of educational settings. The Ed.S. degree is based upon the satisfactory completion of 30 semester hours of graduate-level coursework. Applicants may choose one of two concentration areas (Administrative Leadership K-12 or Instructional Leadership K-12). The program is aligned to state standards and is approved by the state of Michigan.

Applicants who successfully complete the Administrative Leadership K-12 concentration and the Exit Examination may apply to the Michigan Department of Education for administrative certification.

ADMISSION REQUIREMENTS; RETENTION & TERMINATION STANDARDS

<table>
<thead>
<tr>
<th>Admission Requirement Snapshot</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPA: 3.0</td>
</tr>
<tr>
<td>Entrance Exam: N/A</td>
</tr>
<tr>
<td>Important Message for Prospective Students: It is highly recommended that students contact the appropriate licensing agency in their state of residence if they are considering an academic program that leads to a professional license. CMU offers state-by-state information at <a href="http://dev.cmich.edu/compliance/professionallicensure.aspx">http://dev.cmich.edu/compliance/professionallicensure.aspx</a> with web links to the appropriate licensing agencies. It is the responsibility of students to contact the appropriate licensing agency and to understand the requirements in their state of residence as applied to their specific situation.</td>
</tr>
</tbody>
</table>

Admission
1. Applicants for the Educational Specialist degree must have three years of experience in an educational setting.
2. Applicants must meet the requirements for admission to Graduate Studies.
3. Applicants must have completed a master’s degree in education or related field.
4. Applicants must provide evidence of promise as an administrator by preparing and submitting an admission portfolio directly to the Department of Educational Leadership. The following items must be included in the contents of the portfolio:
   a. a current resume identifying training, experience, and professional accomplishments;
   b. a minimum of two letters of reference (dated and submitted on organizational letterhead) from individuals who can appropriately address the applicant’s potential as an administrator and attest to the applicant’s potential for success in the program;

Exit Exam: Praxis SSA (School Leadership Series-School Superintendent Assessment)
Students are responsible for scheduling the Praxis SSA at a testing center of their choosing. A full list of locations and registration information can be found at: https://www.ets.org/praxis/register/.

Required Courses I (9 hours)
EDL 651 - Program Review and Evaluation 3(3-0)
EDL 760 - Leadership Theory and Practice 3(3-0)
EDL 765 - Organizational Change in Educational Institutions 3(3-0)

Required Courses II (3 hours)
Select one of the following:
EDL 700 - Educational Research Design 3(3-0)
EDL 710 - Action Research 3(3-0)

Concentrations
Concentration is selected based upon students’ needs assessment. The specific courses will be determined in consultation between the student and academic advisor.

(Continued)
Concentration I: Administrative Leadership K-12 (12 hours)
- EDL 745 - Administration of the School District 3(3-0)
- EDL 761 - Advanced School and Community Relations 3(3-0)
- EDL 766 - Advanced Educational Law 3(3-0)
- EDL 773 - Instructional Supervision and Leadership 3(3-0)
- EDL 775 - Educational Policy Analysis

Note: You may choose only one of EDL 766 OR 775, not both.

Concentration II: Instructional Leadership K-12 (12 hours)
- EDL 773 - Instructional Supervision and Leadership 3(3-0)

Plus 9 hours of electives to be chosen in consultation with program advisor.

Capstone Project (6 hours)
Select either Plan A or Plan B.

Plan A: Thesis
- EDL 798 - Thesis 1-6(Spec)

Plan B: Field Based Project
- EDL 699 - Leadership Internship 1-15(Spec)
- EDL 797 - Field Study 1-6(Spec)

Total: 30 semester hours

Doctor of Education (Ed.D.) in Educational Leadership

Minimum Totals for Graduation: 63 - 66 hours

The Ed.D. degree in Educational Leadership is designed to provide in-depth knowledge and skills to educational leaders who seek to develop and refine their knowledge and skills to help transform through practice the educational institution. The program emphasizes the application of scholarship (theory) to the improvement of educational practice. It is intended for individuals in educational leadership careers. Students accepted into the program will be part of a cohort. Students entering the Doctor of Education program, who have an earned Specialist in Education degree in Educational Leadership from an approved institution, may receive up to a maximum of 27 credits toward the Educational Leadership degree in Educational Leadership from an approved institution. A full list of locations and registration information can be found at: https://www.ets.org/praxis/register/

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

ADMISSION REQUIREMENT SNPAPSHOT
Masters’ GPA: 3.5
Entrance Exam: GRE
Priority Application Deadline: February 1
Regular Application Deadline: April 1
See Admission Requirement Details Below

Admission. In order to be considered for admission to the program, an applicant must have completed a master’s degree with a minimum graduate grade point average of 3.5 and have completed three years of professional education experience. (Preference will be given to those with leadership experience.)

There are two application deadlines, February 1 and April 1. Preference will be given to February 1 applicants. Admission will continue until the cohort is filled. A completed application packet will include the following materials:
To the Office of Research and Graduate Studies
1. Graduate Application
2. Application Fee
3. Official transcript(s) pertaining to all previous undergraduate and graduate coursework

To the Department of Educational Leadership:
1. Three Recommendations: Use the EdD Letter of Recommendation Form (found on EDL website) and submit recommendations from three individuals who can attest to the applicant’s leadership ability and potential for success in this program.
2. Personal Statement: A two- or three-page typewritten statement incorporating how the applicant’s program goals and beliefs about leadership connect to the Educational Leadership program and these principles:
   a. Vision for student success and achievement,
   b. Involvement of all stakeholders,
   c. Leadership for a diverse and complex society, and
   d. Demonstration of ethical behavior.

3. A two-page written statement that identifies at least two significant activities which indicate experiences, abilities, and potential for educational leadership. For each activity identified, applicants should clearly describe the activity and the role and responsibilities they assumed, include the number of people involved or impacted by the activity, describe the budget (if applicable) and resources used, and summarize with a self-reflective statement addressing the insight and learning that occurred.
4. GRE Score: An official score report from the Graduate Record Examination (GRE) earned within the last five years.
5. Current Resume or Vita identifying training, experience, and professional accomplishments. Applicant must have at least three years of experience in education or a related field.
6. Signed Declaration of Commitment (found on EDL website)
7. Participation in Doctor of Education Interview/Group Process
8. TOEFL Score: If your native language is not English, submit an official score report from the Test of English as Foreign Language (TOEFL). The TOEFL is required of all non-native speakers unless they have completed two years of university-level coursework in an English-language institution.

The Doctoral Program Committee will make all decisions regarding admissions, selecting the cohort from those interviewed. Preference will be given to those applicants who have a demonstrated history of educational leadership and who have career goals consistent with the expectations of this program. The total application package will be evaluated holistically.

Exam for those who seek Michigan Central Office Certification: Praxis SSA (School Leadership Series-School Superintendent Assessment) Students are responsible for scheduling the Praxis SSA at a testing center of their choosing. A full list of locations and registration information can be found at: https://www.ets.org/praxis/register/

Program Requirements. Progress through the program is based upon obtaining satisfactory grades (a 3.25 GPA average overall), passing written and oral comprehensive exams, and completing a doctoral dissertation.

Continuous Progress Policy. In order to encourage degree completion and current knowledge of the dissertation process and research methodology, the faculty in the Department of Educational Leadership enact the following policy:

- EdD students have one calendar year following their final course (EDL 897) or comprehensive exam; whichever is the latter, to successfully defend their dissertation proposal.
- In the event that a student does not successfully defend his/her dissertation proposal within the allotted one-year time frame, the student will be required to take or retake EDL 897, in person, within six months of the one-year date. If the course is a retake, the three credits will not count toward the student’s degree completion. If the student fails to take EDL 897 within the required time frame, the student may be dismissed from the program.
- In the event that a student does not successfully defend his/her dissertation proposal within two years following the final course (EDL 897) or comprehensive exam, whichever is the latter, the student will be required to take or retake EDL 700, in person, within 6 months of the two year date. If the student fails to take EDL 700 within the required time frame, the student may be dismissed.
from the program. The course retake will not count toward the student's degree completion.

- In the event that a student has not successfully defended his/her dissertation proposal within three years following his/her final course (EDL 897) or comprehensive exam, whichever is the later, the student will be dismissed from the program.
- Typically EDL 897 and EDL 700 will be offered as week-long, in person summer courses. If these courses are retaken as part of the continuous progress policy, the credits will not count toward the degree and will not count as continuous enrollment.

**Research Requirements (9 hours)**

The research component encompasses both quantitative and qualitative research methods. The competencies to be developed are essential to interpreting and evaluating research studies to be encountered in all course work as well as to completing the dissertation requirement.

EDL 700 - Educational Research Design 3(3-0)
EDL 800 - Qualitative Research in Educational Leadership 3(3-0)
EDL 801 - Quantitative Analysis in Educational Leadership 3(3-0)

**Academic Core (15 hours)**

The academic core component includes all of the critical areas of study for future educational leaders: foundations, organizational and leadership analyses, and the issues which change and dominate over time. The courses are designed to provide students with the underpinnings to understand and to act effectively upon the challenges confronting the educational organization.

EDL 815 - Ethical Leadership 3(3-0)
EDL 855 - Organizational Culture and Change in Educational Institutions 3(3-0)
EDL 860 - Organizational Theory in Educational Institutions 3(3-0)
EDL 899 - Doctoral Seminar 3-6(Spec)

**Concentration (12 hours)**

There are four choices from which students may select a concentration, based upon their needs assessment. The specific courses will be determined in consultation between the student and the academic advisor.

**Concentration I**

K-12 Leadership

EDL 775 - Educational Policy Analysis 3(3-0)
Plus nine hours of electives to be chosen in consultation with program advisor.

**Concentration II**

K-12 Curriculum

EDL 773 - Instructional Supervision and Leadership 3(3-0)
Plus nine hours of electives to be chosen in consultation with program advisor.

**Concentration III**

Higher Education Leadership

EDL 876 - Higher Education Policy 3(3-0)
Plus nine hours of electives to be chosen in consultation with program advisor.

**Concentration IV**

Educational Technology

EDU 707 - Seminar: Issues in Educational Technology 3(3-0)
Plus nine hours of electives to be chosen in consultation with program advisor.

**Cognate (9 hours)**

The cognate, to be determined jointly by the student and advisor, can be completed in one academic discipline or by taking a combination of courses from more than one academic discipline.

**Field-Based Experience (3-6 hours)**

This internship experience will assist students in strengthening their leadership competencies. The number of credit hours required will be determined with the student's advisor based upon the student's past professional experience and personal career objectives. Forty-five contact hours will be required for each credit earned. A letter of understanding will be developed between the student, district, and university supervisor as to the responsibilities and expectations for the experience.

EDL 880 - Doctoral Internship 3-6(Spec)

**Comprehensive Exams**

Students will be expected to take written qualifying exams upon the completion of their academic core classes. Qualifying exams will be administered in the fall and spring of each year. Comprehensive review of all program materials is completed with the successful defense of a student's dissertation proposal. At this point, students are advanced to candidacy.

**Dissertation (15 hours)**

The student will complete three steps in the dissertation process:
1. the proposal review stage in which there is a formal defense of the dissertation proposal;
2. conducting the research, analyzing the results, and writing the final document;
3. an oral defense of the dissertation.

**Total: 63-66 semester hours**

Note: Students with an earned Ed.S. may be eligible for fewer than the maximum total program credits indicated if they meet university requirements.

**Doctor of Philosophy (Ph.D.) in Educational Leadership**

**Minimum Totals for Graduation: 66 hours**

The Ph.D. degree in Educational Leadership is designed to provide in-depth knowledge and skills to educational leaders who seek to develop and refine their knowledge and skills to help transform through practice. The centerpiece of the Ph.D. curriculum is a personal transformation to a critical understanding of knowledge and the way it is conveyed. The purpose of the program is to develop a critical understanding of knowledge claims, culture and policy; to be able to engage effectively with multiple perspectives; and to work toward social change and social justice. It is intended for individuals focused on careers in higher education and K-12 administration, including faculty roles, post-secondary schools, and administration of institutions, policy, research centers, community educational institutions and agencies. Students entering the Ph.D. program, who have an earned Specialist in Education degree in Educational Leadership from an approved institution, may receive up to a maximum of 27 credits toward the degree. Remaining Ph.D. requirements must be completed at Central Michigan University.

**Admission Requirements; Retention & Termination Standards**

**Admission Requirement Snapshot**

Master's GPA: 3.5
Priority Application Deadline: Feb. 1 (for international students, fellowships, and assistantships)
Regular Application Deadline: April 1 (Fall only)

See Admission Requirement Details Below

**Application**

In order to be considered for admission to the program, an applicant must have completed a master's degree with a minimum graduate grade point average of 3.5 and the Graduate Record Exam. The Office of Research and Graduate Studies:

1. Graduate Application
2. Application Fee
3. Official transcript(s) pertaining to all previous undergraduate and graduate coursework

(Continued)
84 | Educational Leadership

To the Department of Educational Leadership:

1. Three Recommendations: Use the doctoral Letter of Recommendation Form (found on the department website) and submit recommendations from three individuals familiar with your academic and scholarly work.

2. Personal Statement: A two- or three-page typewritten statement describing your educational and professional goals as they relate to pursuing the Ph.D. at Central Michigan University.

3. Two-page reflection on current issues in your area of research.

4. GRE Score: An official score report from the Graduate Record Examination (GRE) earned within the last five years.

5. TOEFL Score: If your native language is not English, submit an official score report from the Test of English as a Foreign Language (TOEFL). The TOEFL is required of all non-native speakers unless they have completed two years of university-level coursework in an English-language institution. TOEFL Exempt countries list: http://www.cmich.edu/academics/graduate_studies/landing_pages/Documents/TOEFL-list.pdf

6. Current Resume or Curriculum Vita

7. Signed Declaration of Commitment (found on EDL website): After reviewing the credentials of the applicants, the Doctoral Program Committee will select candidates to be interviewed. The Doctoral Program Committee will make all decisions regarding admissions, selecting the cohort from those interviewed. The total application package will be evaluated holistically.

**Program Requirements**

Progress through the program is based upon obtaining satisfactory grades (a 3.25 GPA average overall), passing the Preliminary Progress Assessment (PPA), written and oral comprehensive exams, dissertation concept paper and completing a doctoral dissertation.

**Academic Core I (15 hours)**

The academic core component includes all of the critical areas of study for future educational leaders: foundations, organizational and leadership analyses, and the issues, which change and dominate over time. The courses are designed to provide students with the underpinnings to understand and to act effectively upon the challenges confronting the educational organization.

EDL 815 - Ethical Leadership 3(3-0)
EDL 820 - Critical Perspectives of Development Theory 3(3-0)
EDL 830 - Educational Foundations of Philosophy 3(3-0)
EDL 860 - Organizational Theory in Educational Institutions 3(3-0)
EDL 890 - Doctoral Proseminar: Writing and Inquiry 3(3-0)

**Academic Core II (3 hours)**

Select one of the following:

EDL 752 - Social Justice in Global Studies Education 1-12(Spec)
EDL 816 - Social Justice in Education 3(3-0)

**Research Requirements (15 hours)**

The research component encompasses both quantitative and qualitative research methods. The competencies to be developed are essential to interpreting and evaluating research studies to be encountered in all course work as well as to completing the dissertation requirement.

EDL 700 - Educational Research Design 3(3-0)
EDL 800 - Qualitative Research in Educational Leadership 3(3-0)
EDL 801 - Quantitative Analysis in Educational Leadership 3(3-0)
EDL 900 - Advanced Qualitative Analysis in Educational Leadership 3(3-0)
EDL 901 - Advanced Quantitative Analysis in Educational Leadership 3(3-0)

**Concentrations (18 hours)**

There are two concentration areas in the program and students may select a concentration based upon their needs assessment. The specific courses will be determined in consultation between the student and the academic advisor.

Select one of the following:

**Concentration 1: K-12 Leadership (18 hours)**

EDL 766 - Advanced Educational Law 3(3-0)
EDL 767 - Public School Finance 3(3-0)
EDL 775 - Educational Policy Analysis 3(3-0)
Plus nine hours of electives to be chosen in consultation with program advisor.

**Concentration 2: Higher Education Leadership (18 hours)**

EDL 768 - Advanced Higher Education Law 3(3-0)
EDL 864 - Economics and Finance of Higher Education 3(3-0)
EDL 876 - Higher Education Policy 3(3-0)
Plus nine hours of electives to be chosen in consultation with program advisor.

**Preliminary Progress Assessment**

(taken after the completion of first 15 credits)

Ph.D. students are required to complete Preliminary Progress Assessment (PPA) upon completion of their first year in the doctoral program (e.g., upon completion of 15 credits following their matriculation into the doctoral program). The PPA will be scheduled annually in August as students begin their second year of doctoral work. Students will be asked to submit a 10-15 page sample of their written work (e.g., revised class paper, research proposal, conference paper, manuscript for publication), which will be reviewed by three faculty members, including the student’s advisor.

**Comprehensive Exam**

Within one year of completing all coursework (except EDL 898), a Ph.D. student must successfully pass a comprehensive exam. The student’s dissertation committee evaluates the comprehensive exam. The comprehensive examination for the Ph.D. entails developing a research prospectus that includes the following components: an explanation of the research problem, a series of research questions and/or hypotheses, a review of the literature and related theory, and a description of the method.

**Dissertation (15 hours)**

Candidates will undertake original research relevant to the program focus. Completion of the dissertation will require a minimum of 15 credits of EDL 898 Dissertation. The course description includes: design and complete the dissertation including data collection, analysis, written report, and oral defense.

EDL 898 - Dissertation 1-15(Spec)

**Total: 66 semester hours**
**School of Engineering and Technology**  
**College of Science and Engineering**

Terrance Lerch, Interim Director  
100 ET Building, 989-774-3033  
https://centrallink.cmich.edu/academics/sci_tech/Engi_Tech

Daniel Chen, Ph.D., Mechanical Engineering/CAD & CAE  
Frank Cheng, Ph.D., Industrial Robotics, Automation Manufacturing  
Brian DeJong, Ph.D., Mechanical Engineering  
Qin Hu, Ph.D., Electrical Engineering  
Tolga Kaya, Ph.D., Electrical Engineering, MEMS  
David Kelley, Ph.D., Computer Aided Design  
Joseph Langenderfer, Ph.D., Mechanical Engineering  
Terry Lerch, Ph.D., Mechanical Engineering, mechanics  
David Lopez, Ph.D., Manufacturing Management, Quality  
Adam Mock, Ph.D., Electrical Engineering, photonics and electromagnetics  
Molu Olumolade, Ph.D., Manufacturing Systems  
Albert Peng, Ph.D., Electrical Engineering/Electronics  
Dru Wilson, Ph.D., Industrial Technology/Plastics  
Kumar Yelamarthi, Ph.D., Electrical Engineering, circuit design

The Engineering and Technology Building contains 30 state-of-the-art laboratories and support spaces. Facilities are provided for research and development, automotive technology, plastics technology, mechanical/energy technology, robotics, materials testing, metal fabrication, computer-aided design, manufacturing systems, construction/wood technology, graphic arts, industrial education, safety, electronics instrumentation and design, and engineering design graphics. An auditorium and classrooms are also included in the building.

Since students need a balance of knowledge and applied experience to succeed in today's industrial environment, ample learning opportunities are provided in CMU's laboratories. Selected resources of the university are available for special projects. Contacts with industry are maintained in a variety of ways.

The interaction between E&T faculty and students is continuous. A well-qualified faculty member counsels and advises each student. E&T faculty not only have appropriate academic credentials, many also have technical certificates, professional state engineering registrations, and other forms of recognition for technical applications expertise.

**Course Designators:**
EGR - Engineering  
IET - Industrial and Engineering Technology

---

**Master of Science in Engineering**  
**Minimum Totals for Graduation: 30 hours**

**ADMISSION REQUIREMENTS; RETENTION & TERMINATION STANDARDS**

**GPA:** 3.3  
**ADMISSION REQUIREMENT SNAPSHOT**

Students pursuing the MS in Engineering degree are required to meet with an engineering advisor during the first semester of attendance at CMU.

MS in Engineering majors are required to meet with their engineering advisor each semester to ensure students select appropriate courses to facilitate their progress through the program. Registration is not allowed until after this meeting. Prerequisites are strictly enforced for all engineering classes.

**Admission Requirements**

Program quality is emphasized by requiring students to meet the following criteria:

1. Accepting only students with:  
   a. 3.3 GPA (conditional admission between GPA 3.0 and 3.3) and 720/156+ GRE Quantitative for minimum admission  
   b. 563/223/84+ TOEFL for international students  
   c. Strong reference letters and statement of purpose by applicants

2. Students must have completed an undergraduate ABET-accredited engineering degree. Students who have degrees from a non-ABET accredited school, or have an undergraduate degree in a different discipline, must show an average GPA of 3.3 in the following classes (or equivalent) to be admitted for the MS in Engineering degree:  
   - Science (13 Cr Hrs): CHM 131, PHY 145, PHY 146, PHY 175  
   - Mathematics (11 Cr Hrs): MTH 132, MTH 133, MTH 232  
   - Engineering (15 Hrs): EGR 251, EGR 253, EGR 255, EGR 356, EGR 358, or EGR 190, EGR 290, EGR 298, EGR 391 and EGR 396

If needed, the school may require students to pass an entrance exam to show competency in the above subjects.

**Retention & Termination Standards**

In order to remain in the MS in Engineering program, a student must meet the following criteria:

1. Students must select courses in consultation with an engineering advisor.  
2. Students may not take courses required for this degree Credit/No Credit (except the EGR 798 course).  
3. At least 24 credits must be taken at CMU to graduate with this degree.  
4. If a student does not meet the retention standards, s/he may be asked to withdraw. The school maintains the right to terminate a student if s/he is not progressing satisfactorily.  
5. The student who does not meet degree requirements by the end of the 4th year will be terminated.

**Required Courses I (6 hours)**

EGR 600 - Advanced Engineering Analysis 3(3-0)  
EGR 601 - Advanced Engineering Experimentation 3(2-2)

**Required Courses II (6-15 hours)**

Select 6-15 credit hours in consultation with the student's advisor and advisory committee.

EGR 553 - Mechanical Vibrations 3(3-0)  
EGR 554 - Mechanical Controls 3(3-0)  
EGR 576 - Mechanics of Composite Materials 3(3-0)  
EGR 578 - Advanced Mechanics of Materials 3(3-0)  
EGR 588 - Photonics 3(3-0)  
EGR 591 - CMOS Circuit Design 3(2-2)  
EGR 594 - Power Electronics 3(3-0)

(Continued)
EGR 595 - Nanoscale Transistors 3(3-0)
EGR 597 - Special Topics in Engineering 1-6(Spec)
EGR 637 - Directed Research in Engineering 1-6(Spec)
EGR 697 - Special Topics in Engineering 1-6(Spec)

Note: EGR 637 may be counted twice.

Required Courses III (3 hours)
EGR 685 - Seminar: Current Topics in Engineering 1-3(Spec)

Note: must be taken three (3) times.

Electives (0-9 hours)
Graduate courses approved by the advisor and school director.

Thesis (6 hours)
EGR 798 - Thesis Research 1-6(Spec)

Total: 30 semester hours
Courses offered for graduate students only are Seminar, Directed Research, Special Topics (as merit is established), and Thesis. This is carefully done to make sure that faculty members will have an increased emphasis on research, yet reasonably loaded for teaching courses.

Accelerated MS in Engineering
Up to 9 credit hours may be double counted from appropriate courses in undergraduate degree for an accelerated MS in Engineering Program at CMU. Contact the Office of Research and Graduate Studies for more information regarding admission for accelerated programs.

Department of English Language and Literature
College of Humanities and Social & Behavioral Sciences

Nicole Sparling, Chairperson
215 Anspach Hall, 989-774-3171
Desmond Harding, Associate Chair
Kristen McDermott, Coordinator of Graduate Studies
Anne Alton, Ph.D., Children’s Literature, British Literature
Jeffrey Bean, M.F.A, Creative Writing and Poetry
Ari Berk, Ph.D., Myth, Folklore, Native American Literature
William Brevda, Ph.D., American Literature
Elizabeth Brockman, Ph.D., English Education, Composition
April Burke, Ph.D. Linguistics
Tracy Davis, Ph.D. Linguistics
JoEllen Delucia, Ph.D. British Literature
Darrin Doyle, Ph.D., Creative Writing, Fiction
Maureen Eke, Ph.D., African-American, African, and World Literature
Robert Fanning, M.F.A., Creative Writing and Poetry
Amy Carpenter Ford, Ph.D., English Education
Richard Forest, Ph.D., Linguistics
Mark Freed, Ph.D., Literary Theory
Pamela Gates, Ph.D., Children’s Literature, English Education
Susan Griffith, Ph.D., English Education, Children’s Literature
Desmond Harding, Ph.D., British Literature
Troy Hicks, Ph.D., English Education
Cathy Hicks-Kennard, Ph.D., Linguistics
Melinda Krath, Ph.D., Technical Writing
Daniel Lawson, Ph.D. Rhetoric, Writing Center Director
Kristen McDermott, Ph.D., British Literature
Gretchen Papazian, Ph.D., Children Literature, American Literature
Daniel Patterson, Ph.D., American Literature
Matthew Roberson, Ph.D., Creative Writing, Fiction
Susan Schiller, Ph.D., Composition, Rhetoric
Nate Smith, Ph.D., British Literature
Joseph Sommers, Ph.D. Children’s Literature
Nicole Sparling, Ph.D., Latin American, American, and World Literature
William Spruiell, Ph.D., Linguistics
Marcy Taylor, Ph.D., Composition, English Education
William Wandless, Ph.D., British Literature
Jeffrey Weinstock, Ph.D., American Literature

Course Designator:
ENG - English Language and Literature

The Department of English at Central Michigan University offers the following graduate degrees: a Master of Arts in English Language and Literature, a Master of Arts in Language and Literature with an concentration in Creative Writing, a Master of Arts in English Language and Literature with a concentration in Children’s/Young Adult Literature, a Master of Arts in English Composition and Communication, and a Master of Arts in TESOL (Teaching English to Speakers of Other Languages). A description of each degree program follows.

Graduate classes are small and provide the student with ample opportunity for interaction with professors and other graduate students. Graduate-level classes are offered in the late afternoons and evenings.
Master of Arts (M.A.) in English Language and Literature

Minimum Totals for Graduation: 30 hours

This program is designed to meet the needs of students who wish to teach English at a community college, for students seeking preparation for advanced study at the doctoral level at another university, or for students teaching English at the secondary level who wish to pursue more study in the discipline.

Students must complete at least 15 of their total semester hours at or above the 600 level. At the advisor’s discretion up to six hours from other departments may be included.

Admission Requirements, Retention & Termination Standards

To become a candidate for the degree of Master of Arts in English Language and Literature, a student normally will be expected to have had an undergraduate major or minor in English with a grade point average of at least 3.0 on a four point scale and a cumulative grade point average of at least 3.0. For applicants whose native language is not English, a TOEFL score of 550 (213 CBT) and a TWE of at least 5, or a MELAB of 85, are required for admission. All students applying for admission to the Language and Literature program must submit a 7-10 page sample of analytical writing that shows an aptitude to do graduate-level work in English.

Required Courses I (3 hours)

Literary Criticism

Select one of the following:
ENG 535 - History of Literary Criticism 3(3-0)
ENG 636 - Seminar in Critical Problems 3(3-0)

Required Courses II (3 hours)

Language or Linguistics

Select one of the following:
ENG 545 - Chaucer 3(3-0)
ENG 570 - Old English 3(3-0)
ENG 672 - Applied Linguistics for Written Communication 3(3-0)

Required Courses III (3 hours)

Professional Methodologies

ENG 602 - Research Materials and Methods 3(3-0)

Required Courses IV (6 hours)

Two 600-level seminars in literature

Capstone Project (15 hours)

Choose one of the following plans:

Plan A
9 additional hours of course work authorized by the advisor and planned with the student, plus thesis (6 hours) and oral examination over thesis.
ENG 799 - Thesis 1-6(Spec)

Plan B
15 additional hours of course work, authorized by the advisor and planned with the student, plus a scholarly paper.

Total: 30 semester hours

Master of Arts (M.A.) in English Language and Literature: Creative Writing Concentration

Minimum Totals for Graduation: 30 hours

This program is designed to meet the needs of students who wish to teach English at a community college, for students seeking preparation for advanced study at the doctoral level at another university, or for students teaching English at the secondary level who wish to pursue more study in the discipline.

Admission Requirements, Retention & Termination Standards

To become a candidate for the degree of Master of Arts in English Language and Literature, a student normally will be expected to have had an undergraduate major or minor in English with a grade point average of at least 3.0 on a four point scale and a cumulative grade point average of at least 3.0. For applicants whose native language is not English, a TOEFL score of 550 (213 CBT) and a TWE of at least 5, or a MELAB of 85, are required for admission.

The student must submit a portfolio of original poetry or fiction for approval before selecting this concentration.

Required Courses I (3 hours)

Literary Criticism

Select one of the following:
ENG 535 - History of Literary Criticism 3(3-0)
ENG 636 - Seminar in Critical Problems 3(3-0)

Required Courses II (3 hours)

Language or Linguistics

Select one of the following:
ENG 545 - Chaucer 3(3-0)
ENG 570 - Old English 3(3-0)
ENG 672 - Applied Linguistics for Written Communication 3(3-0)

Required Courses III (3 hours)

Professional Methodologies

Select one of the following:
ENG 601 - Graduate Composition 3(3-0)
ENG 602 - Research Materials and Methods 3(3-0)

Required Courses IV (6 hours)

Two 600-level seminars in literature.

Required Courses V (3 hours)

Craft Courses

Select one of the following:
ENG 694 - The Craft of Fiction 3(3-0)
ENG 695 - The Craft of Poetry 3(3-0)

Required Courses VI (6 hours)

Select one of the following:
ENG 691 - Seminar: Writing Fiction 3-6(3-0)
ENG 692 - Seminar in Writing Poetry 3-6(Spec)
ENG 693 - Seminar in Writing Creative Nonfiction 3-6(Spec)

Electives (6 hours)

Hours authorized by the advisor and planned with the student.

Capstone Portfolio Project

The MAELL in Creative Writing requires a Plan B portfolio. Students will need to submit a portfolio of written materials in the semester immediately prior to graduation.

Total: 30 semester hours
Master of Arts (M.A.) in English Language and Literature: Children's/Young Adult Literature

Minimum Totals for Graduation: 30 hours

**Admission Requirements, Retention & Termination Standards**

**Admission Requirement Snapshot**

**GPA:** 3.0 (and 3.0 in major)  
**Entrance Exam:** N/A  
**International Application Deadline:** July 1 (Fall), Oct. 1 (Spring)  

See Admission Requirement Details Below

To become a candidate for the degree of Master of Arts in English Language and Literature, a student normally will be expected to have had an undergraduate major or minor in English with a grade point average of at least 3.0 on a four point scale and a cumulative grade point average of at least 3.0. For applicants whose native language is not English, a TOEFL score of 550 (213 CBT) and a TWE of at least 5, or a MELAB of 85, are required for admission.

**Required Courses I (3 hours)**  
**Literary Criticism**  
Select one of the following:  
ENG 535 - History of Literary Criticism 3(3-0)  
ENG 636 - Seminar in Critical Problems 3(3-0)

**Required Courses II (3 hours)**  
**Language or Linguistics**  
Select one of the following:  
ENG 545 - Chaucer 3(3-0)  
ENG 570 - Old English 3(3-0)  
ENG 672 - Applied Linguistics in Written Communication 3(3-0)

**Required Courses III (3 hours)**  
**Professional Methodologies**  
ENG 602 - Research Materials and Methods 3(3-0)

**Required Courses IV (6 hours)**  
Two 600-level seminars in literature

**Required Courses V (3 hours)**
ENG 681 - Seminar in Children's Literature 3-9(Spec)

**Required Courses VI (6 hours)**
**Children's Literature**  
Select two of the following:  
ENG 580 - Literature for Young Adults 3(3-0)  
ENG 581 - The History of Children's Literature in English 3(3-0)  
ENG 582 - Cultural Pluralism in Young Adult and Children's Literature 3(3-0)  
ENG 583 - The Heroic Tradition in Children's Literature 3(3-0)  
ENG 681 - Seminar in Children's Literature 3-9(Spec)

**Note:** If the student selects ENG 681 for Required Courses VI, the topic of the seminar must differ from that taken to fulfill Required Courses V.

**Capstone Project (6 hours)**
Choose one of the following plans:

**Plan A (6 hours)**  
Thesis (6 hours) and oral examination over thesis.  
ENG 799 - Thesis 1-6(Spec)

**Plan B (6 hours)**  
6 additional hours of course work, authorized by the advisor and planned with the student, plus a scholarly paper.

**Total: 30 semester hours**

---

Master of Arts (M.A.) in English Composition and Communication

Minimum Totals for Graduation: 30 hours

See Admissions note below.

The Master of Arts degree in English Composition and Communication is a program of courses centering on theory and practice in non-fiction forms of writing. It prepares graduate students to be career writers composing in disciplines other than English, professional writers composing within their own disciplines, creative writers composing in non-fiction forms, or teachers specializing in non-fiction forms. It allows for breadth of background and experience in composition as well as concentration in a selected area of interest. Required courses ground students in writing, editing, and rhetorical analysis, while elective courses give the opportunity to focus on creative, professional and pedagogical development. Students in this program will have priority access to designated English Department computer facilities throughout their course of study.

**Admission Requirements, Retention & Termination Standards**

**Admission Requirement Snapshot**

**GPA:** 3.0 (and 3.0 in major)  
**Entrance Exam:** N/A  
**International Application Deadline:** July 1 (Fall), Oct. 1 (Spring)  

See Admission Requirement Details Below

To become a candidate for the degree of Master of Arts in English Composition and Communication, a student normally will be expected to have a grade point average of at least 3.0 on a four point scale and a cumulative grade point average of at least 3.0, or demonstrate equivalent academic or professional experience. All candidates for admission to this program must submit a portfolio of representative writing. Students should contact the Graduate Coordinator for a description of what this portfolio should contain and how it should be put together. For applicants whose native language is not English, a TOEFL score of 550 (213 CBT) and a TWE of at least 5, or a MELAB of 85, are required for admission.

Students must complete at least 15 of their total semester hours at or above the 600 level.

**Required Courses (9 hours)**
ENG 601 - Graduate Composition 3(3-0)  
ENG 637 - Seminar in Rhetoric and Composition 3-6(Spec)  
ENG 638 - Seminar in Textual Analysis and Editing 3(3-0)

**Other Requirement (6 hours)**
Select a thesis, internship, or Plan B as follows:  
ENG 718 - Internship: Teaching 6(Spec)  
ENG 719 - Internship: Professional Communication 6(Spec)  
ENG 799 - Thesis 1-6(Spec)

**Plan B:** Exit Portfolio plus 6 additional hours of restricted electives.

**Restricted Electives (9 hours)**
Advanced courses from among any of the following chosen in consultation with an advisor:  
ENG 503 - Document Design 3(3-0)  
ENG 504 - Technical Editing 3(3-0)  
ENG 510WI - Writing Center Practicum 1-3(Spec)  
ENG 514 - Language and Media Discourse 3(3-0)  
ENG 517 - Reading and the English Classroom 3(3-0)  
ENG 519 - Teaching of Composition 3(3-0)  
ENG 539 - Seminar in Major Nonfiction Writers 3-9(Spec)  
ENG 571 - Teaching of English to Speakers of Other Languages 3(3-0)
Master of Arts (M.A.) in TESOL  
**Teaching English to Speakers of Other Languages**

Minimum Totals for Graduation: 30 hours

---

### Admission Requirements, Retention & Termination Standards

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPA: 3.0 (and 3.0 in major)</td>
<td>Entrance Exam: N/A</td>
</tr>
<tr>
<td>Internation Application Deadline: July 1 (Fall), Oct. 1 (Spring)</td>
<td>See Admission Requirement Details Below</td>
</tr>
</tbody>
</table>

To be admitted into the M.A. TESOL program, a student normally should have an undergraduate major or minor in English, linguistics, language arts, reading or a foreign language. Applicants with majors in areas not related to language will be considered on an individual basis.

#### Regular Admission

For regular admission to the M.A. TESOL program, a student must have:

- An undergraduate degree with a GPA of at least 3.0 on a four-point scale and a cumulative grade point average of at least 3.0.
- TOEFL scores of IBT 79 (20 writing), PBT 550 or above, or an IELTS score of 6.5 (6.5 writing) or above.
- Two years of college foreign language study (or its equivalent) and a B or better in a 3 credit introductory linguistics course.

#### Conditional Admission

Conditional admission may be granted to applicants who meet the minimum GPA requirement, but do not meet the additional language and linguistic coursework requirements. Those applicants may be required to take additional coursework to meet these requirements before being granted regular admission status.

Applicants with TOEFL scores from 61-78 IBT, 500 to 549 PBT, or IELTS scores of 5.5 or 6, may be granted conditional admission. Upon arrival at the university, they will be required to take an English proficiency test administered by CMU’s English Language Institute (ELI). The results of the test will be used to determine the number of courses they will be required to take through the ELI. Such conditionally admitted students will be allowed to take a restricted number of courses in their academic disciplines concurrently with the ELI courses and must complete all required ELI courses by the end of their first year at CMU. ELI courses must be passed with a B or better to demonstrate proficiency for this program. Once satisfactory proficiency in English has been demonstrated, as determined by ELI policies, these restrictions will be removed. Please note that students are required to pay tuition for ELI courses just as they would for any other CMU course.

---

### Degree Requirements

#### Required Courses (24 hours)

- ENG 571 - Teaching of English to Speakers of Other Languages 3(3-0)
- ENG 574 - TESOL Materials, Assessment, Curriculum 3(3-0)
- ENG 577 - Introduction to Second Language Acquisition 3(3-0)
- ENG 672 - Applied Linguistics in Written Communication 3(3-0)
- ENG 673 - English Phonology for Language Teachers 3(3-0)
- ENG 674 - English Grammar for Language Teachers 3(3-0)
- ENG 675 - Seminar in English Linguistics 3-9(3-0)
- ENG 690 - Practicum in TESOL 1-3(Spec)

**Note:** 3 hours of ENG 675 is required. The remaining 3-6 credits for ENG 675 may be taken as elective course credits.

#### Electives (6 hours)

- ENG 510 - Writing Center Practicum 1-3(Spec)
- ENG 517 - Reading and the English Classroom 3(3-0)
- ENG 573 - Linguistics and Reading 3(3-0)
- ENG 578 - Applied Sociolinguistics 3(3-0)
- ENG 615 - Problems in Teaching English 3(3-0)
- ENG 618 - Seminar in Children’s and Young Adult Literature 3-9(3-0)
- ENG 675 - Seminar in English Linguistics 3-9(3-0)
- ENG 679 - Seminar Writing Fiction 3-6(Spec)

**Total:** 30 semester hours

**Note:** Students must pass a comprehensive examination. A Plan B paper is required.
Department of Finance and Law
College of Business Administration

Nancy White, Chairperson
332 Sloan, 989-774-3362

Abu S. Amin, Ph.D., Finance
Thomas Anthony, J.D., Law and Public Policy
Bruce Benet, Ph.D., Finance
Vigdis Boasson, Ph.D., Finance
Elizabeth Campbell, J.D., Law and Public Policy
Wan-Jiu Paul Chiou, Ph.D., Finance
Adam Epstein, J.D., Law and Public Policy
James Felton, Ph.D., Finance
Pawan Jain, Ph.D., Finance
John B. Mitchell, D.B.A., Finance
Daniel E. Vetter, Ph.D., Finance
Nancy White, J.D., Law and Public Policy

Course Designators:
BLR - Business Law and Regulation
FIN - Finance

Master of Business Administration (MBA)
See the College of Business Administration for information.

Department of Foreign Languages, Literatures, and Cultures
College of Humanities and Social & Behavioral Sciences

N. Christine Brookes, Ph.D., Chairperson
305 Pearce Hall, 989-774-3786

Maria Chouza-Caló, Ph.D., Spanish
Leila Ennaili, Ph.D., French
Carolina Gutierrez-Rivas, Ph.D., Spanish
Luz Marcela Hurtado, Ph.D., Spanish
Mary-Garland Jackson, Ph.D., Spanish
James Jones, Ph.D., German
Susan Knight, Ph.D., Spanish
Krzysztof Kulawik, Ph.D., Spanish
Roberto Mendoza, Ph.D., Spanish
Amy Ransom, Ph.D., French
Alejandra Rengifo, Ph.D., Spanish
Norma Richardson, Ph.D., Spanish
Daniela Richter, Ph.D., German

Course Designators:
FLN - Foreign Language
FRN - French
GER - German
SPN - Spanish

Students may earn a Master of Arts in Spanish or they may earn a concentration in French, German, or Spanish in the Master of Arts curricula in secondary education, offered through the Department of Teacher Education and Professional Development. To be admitted to this program, a student must have a background in the specific (relevant) foreign language that includes a minimum of 24 semester hours of coursework beyond the 100 level, with an acceptable grade point average in the foreign language of concentration.

Master of Arts (M.A.) in Spanish
Minimum Totals for Graduation: 30 hours

The M.A. in Spanish provides students with a unique program that is designed to enhance fluency in the language, foster interaction with Hispanic cultures, broaden knowledge, and promote professional development. Students in this program will achieve a high level of proficiency in the Spanish language and will become more deeply and personally acquainted with Hispanic cultures. The program has a variety of course options, from mid-week seminars and Saturday classes, to face-to-face and hybrid on-line interaction. Its interdisciplinary and multi-cultural bases will enhance the learning of a wide variety of students, including (but not limited to) teachers of Spanish. The faculty, comprised of experts in linguistics, literature, and cultural studies, strive to provide each student with individual attention. Students will also gain a sense of community and common purpose, especially through participation in the extracurricular activities that are sponsored by the program.

At the end of the program, the student will be able to:
1. work effortlessly in all four communication areas (speaking, listening, reading, and writing) of Hispanic societies;
2. synthesize current political and social happenings, and interpret these syntheses to speakers of the non-Hispanic world;
3. interact with ease at all social levels by identifying the historical differences that distinguish Hispanic societies from other societies;
4. explain to persons from the non-Hispanic world the similarities and distinctions within the different Hispanic societies;
5. understand differences between English and Spanish linguistic aspects such as the sound system, morphemics, and syntax; and
6. analyze literary texts within their cultural context.

Note: When the student begins the M.A., she or he will write an essay (500 words), on a topic chosen by the Spanish faculty, and will engage in a brief oral interview with two members of the Spanish faculty. The purposes of the essay and initial interview are to aid in advising and to establish the student's entering proficiency level.

Admission Requirements, Retention & Termination Standards

<table>
<thead>
<tr>
<th>Admission Requirement Snapshot</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPA: 2.7 (and 2.7 in undergraduate Spanish courses)</td>
</tr>
<tr>
<td>Entrance Exam: N/A</td>
</tr>
<tr>
<td>International Application Deadline: July 1 (Fall), Oct. 1 (Spring)</td>
</tr>
<tr>
<td>International Students from Non-TOEFL Exempt Countries: TOEFL 79; IELTS 6.5 (some exceptions may apply)</td>
</tr>
</tbody>
</table>

In addition to general university requirements for regular admission status, students seeking admission to the master's program in Spanish must:

1. have completed an undergraduate major in Spanish (or related field) with at least a grade point average of 3.0 in their undergraduate Spanish courses (beyond the 100-level);*  
2. have at least a grade point average of 2.7 in their undergraduate coursework;  
3. submit letters of reference from three persons who are well acquainted with them and can provide information about their Spanish language skills and prospects for success in this graduate program. The letters are to be sent directly to the Spanish Graduate Coordinator.

Note: Per university policy, conditional admission may be considered for applicants with background or grade point average deficiencies. Courses taken to make up admission deficiencies cannot be counted toward graduate degree requirements. Regular admission status should be requested upon completion of all deficiencies.

Degree Requirements

Required Courses I (27 hours)

Students must complete 27 credit hours from the following courses:

- SPN 585 - Introduction to Hispanic Linguistics 3(3-0)
- SPN 595 - Theory and Practice of Translation 3(3-0)
- SPN 610 - Studies in U.S. Latino Cultures 3-6(3-0)
- SPN 615 - Themes in Latin American Cultural Studies 3-9(Spec)
- SPN 620 - Special Topics in Spanish-American Literature 3-9(Spec)
- SPN 621 - Colonial to 19th-Century Spanish American Literature 3(3-0)
- SPN 622 - 20th and 21st-Century Spanish American Literature 3(3-0)
- SPN 623 - Critical Thinking through Hispanic Literature 3(3-0)
- SPN 624 - Themes in Spanish Peninsular Literature and Cultures 3-9(Spec)
- SPN 631 - Medieval and Golden Age Spanish Literature 3(3-0)
- SPN 632 - Eighteenth to Twenty-first Century Spanish Literature 3(3-0)
- SPN 640 - History of the Spanish Language 3(3-0)
- SPN 650 - Stylistics 3(3-0)
- SPN 655 - Spanish Pragmatics and Critical Discourse Analysis 3(3-0)
- SPN 660 - Spanish Phonology 3(3-0)
- SPN 665 - Second Language Acquisition: Theory and Practice 3(3-0)

Note: The following courses may be taken more than once if the same content is not repeated: SPN 610, 615, 620, and 630.

Required Course II (3 hours)

To assess the student's knowledge in the subject areas studied, the student must pass a written comprehensive examination that is based on a reading list provided by the faculty.

SPN 697 - Independent Study 1-3(Spec)

Other Requirement

Oral Interview

To assess the student's oral proficiency in Spanish upon completion of the program, the student must pass an oral interview with a committee of graduate faculty in Spanish at CMU. This oral interview will assess:

1. the student's ability to converse, describe, evaluate, synthesize, and state opinions;  
2. the student's accent and pronunciation;  
3. the scope of the student's active vocabulary;  
4. the student's mastery of grammar.

Total: 30 semester hours

Accelerated M.A. in Spanish

Eligibility Standards:

Students who meet the following criteria are eligible to apply to the accelerated program:

1. Signed major in Spanish.  
2. Enrolled in the semester in which the student expects to have completed at least 86 credits.  
3. Completed at least one SPN 400-level class and the undergraduate study abroad requirement.

Admission Requirements:

Students must apply for admission to Graduate Studies during the semester in which the student expects to have completed at least 86 credits. Students must meet the requirements for admission to the Master of Arts in Spanish degree program and to Graduate Studies. In addition, students should also have completed university competency requirements. If admitted, graduate status is conferred in the senior year after the student has completed at least 86 undergraduate credit hours with a cumulative undergraduate grade point average of at least 3.25 and a grade point average of 3.25 in Spanish course work.

Program Requirements:

Three to twelve (3-12) hours of graduate SPN credit (500 and 600 level courses) leading to an MA degree in SPN may be taken in the final year of undergraduate work. These courses will count toward both undergraduate and graduate degrees.
Department of Geography
College of Science and Engineering

David Patton, Chairperson
2968 Dow Science
989-774-2798
https://www.cmich.edu/academics/sci_tech/Geography

Brian Becker, Ph.D., Director, M.S.GISci Program, Remote Sensing, 989-774-1529
Benjamin Heumann, Ph.D., Director, Center for Geographic Information Science
Bin Li, Ph.D., Geographic Information Systems
David Patton, Ph.D., Cartography and GIS
Yong Tian, Ph.D., Geo-computation and Environmental Modeling
Xiaoguang Wang, Ph.D., Land-use and Transportational Planning
Tao Zheng, Ph.D., Remote Sensing

Course Designators:
GEO - Geography
ESC - Earth Science

Master of Science (M.S.) Degree in Geographic Information Sciences (GISci)

Minimum Totals for Graduation: 33 hours

The M.S. program in Geographic Information Sciences (GISci) provides advanced course work and applied research in cartography, geographic information systems (GIS) and remote sensing. Each student will complete a thesis or research project that applies GISci techniques to economic, environmental, or other issues that require spatial data processing and analysis. Graduates will develop skills that will qualify them for a variety of spatial data processing positions that make up a rapidly growing field in the information technology industry.

The M.S. in GISci is a 33 credit hour program available either through a Plan A option (thesis) or Plan B option (non-thesis). Under Plan A, six credits of thesis work (GEO 798) is required. Under Plan B, three credits of a directed research project (GEO 797) is required. The thesis or research project must apply GISci techniques to economic, environmental or other problems that require spatial data analysis. More detailed information is available in the department office.

Admission Requirements, Retention & Termination Standards

<table>
<thead>
<tr>
<th>ADMISSION REQUIREMENT SNAPSHOT</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPA: 3.0 (and 3.0 in major)</td>
</tr>
<tr>
<td>Entrance Exam: GRE</td>
</tr>
<tr>
<td>Intern/ Application Deadline: July 1 (Fall), Oct. 1 (Spring)</td>
</tr>
</tbody>
</table>

Admission Requirement Details Below

All applicants must submit scores for the general GRE. To receive full consideration for financial support beginning in a fall semester, all application materials must be received in the Department of Geography no later than March 1. Applicants should allow a month for materials submitted to the Office of Research and Graduate Studies to be processed and forwarded to the department. Students can get the application process and the program details at the link.

Students entering the M.S. GISci program are required to have a sound knowledge of the fundamental concepts of cartography, GIS, and remote sensing. It is also expected that M.S. GISci students have a basic knowledge of a computer language, calculus, and statistics as these are skills necessary to understand, manipulate, and develop the analytical methods and algorithms that are the foundations of advanced training in Geographic Information Science. A minimum 3.0 GPA in the student's undergraduate major is required.

Computer Programming

One course in a current programming language (CMU equivalent: CPS 110 or CPS 180) with minimum grade of B.

Mathematics and Statistics

One course in Calculus (CMU equivalent: MTH 132) and one course in Statistics (CMU equivalent: STA 282 or STA 382).

Fundamental Courses in Geographic Information Sciences

Option 1. At least, one course in Cartography (CMU equivalent: GEO 203), one course in Introductory Geographic Information Systems (CMU equivalent: GEO 303), and one course in Introductory Remote Sensing (CMU equivalent: GEO 305). Minimum grade of B in each.

Option 2. Students who have not completed all of the undergraduate GISci courses listed in Option 1 may fulfill this entrance requirement by completing GEO 501. Students who have completed all of the undergraduate GISci courses from Option 1 may not earn credit in GEO 501.

Degree Requirements

Required Courses I (15 hours)

- GEO 500 - Advanced Cartography 3(2-2)
- GEO 503 - Advanced Geographic Information Systems 3(2-2)
- GEO 508 - Digital Remote Sensing 3(2-2)
- GEO 512 - Quantitative Methods for Spatial Analysis 3(2-2)
- GEO 615 - Research Design in Geographic Information Sciences 3(3-0)

Note: A student satisfying any of the required courses or their equivalents prior to entering the program may be excused from these courses. Other courses will be substituted with the approval of the advisor. Credits from these courses will be applied to the 21 hours of required courses. A student must receive a minimum grade of C in each course to have their course work approved for the graduate program.

Required Courses II (6 hours)

Select two courses from the following:

- GEO 600 - Dynamic Mapping and Visualization 3(2-2)
- GEO 603 - GIS Design and Programming 3(2-2)
- GEO 608 - Advanced Digital Remote Sensing 3(2-2)
- GEO 701 - Contemporary Spatial Data Management 3(2-2)

Note: A student satisfying any of the required courses or their equivalents prior to entering the program may be excused from these courses. Other courses will be substituted with the approval of the advisor. Credits from these courses will be applied to the 21 hours of required courses. A student must receive a minimum grade of C in each course to have their course work approved for the graduate program.

Additional Requirement (3-6 hours)

Select either Plan A (Thesis) or Plan B (Directed Research)

Plan A Thesis (6 hours)

GEO 798 - Thesis 1-6(Spec)

Plan B Directed Research (3 hours)

GEO 797 - Directed Research in Geographic Information Sciences 1-6(Spec)

Electives (6-9 hours)

Two or three 500 to 700 level courses in a technical or cognate field(s) in consultation with advisor.

Technical courses might include relevant Computer Science, Mathematics, and/or Statistics courses or Special Topics courses in Cartography, Geographic Information Systems, Global Positioning System (GPS), or Remote Sensing. Cognate courses might include relevant Biology, Earth Science, Geography, Geology, Political Science, or other courses that would complement the student's area of specialization. A student must receive a minimum grade of C in each elective course.

Total: 33 semester hours

Accelerated Program

Undergraduate students in Geography with a Concentration in Geographic Information Science can pursue a Master of Science degree in Geographic Information Science while still fulfilling the requirements for their Bachelor's degree. The Accelerated Master's Degree Program (AMDP) allows students to reduce the total number of credits to complete their undergraduate and graduate level degrees by applying up to 12 credits (500 and 600 level courses) towards graduate requirements on both degree programs.
ADMISSION CRITERIA:
Students must have an overall undergraduate grade point average (GPA) of at least 3.25 and have completed a minimum of 86 credits towards a Bachelor's degree, including all University Program requirements (including transfer and/or AP credits) the semester that they apply for admission to the Accelerated MS program in Geographic Information Science. Students must also satisfy all other requirements for regular admission to the MS program in Geographic Information Science to be eligible for the accelerated program including the completion of GEO 203, 303 and 305, MTH 130, STA 382 and CPS 110 or 180.

During the fourth year, students will complete 12 credits of course work that will be counted towards both the undergraduate and graduate degrees. The student is responsible for fulfilling all of the requirements of the undergraduate degree and, therefore, additional credits may need to be taken to complete the Bachelor of Science degree requirements during the fourth year.

A sample curriculum for a student who has completed 94 credit hours of undergraduate course work is given below:

**Year Four:**
**Fall**
- GEO 500 (3)
- GEO 503 (3)
- Undergraduate courses (9)
  Total: 15 credits
**Spring**
- GEO 508 (3)
- GEO 512 (3)
- Undergraduate courses (9)
  Total: 15 credits

**Year Five:**
**Fall**
- GEO 600, 603, or 608 (3)
- GEO 701 (3)
- Graduate Electives (6)
  Total: 12 credits
**Spring**
- GEO 600, 603 or 608 (3)
- GEO 798 (Plan A) or 797 (Plan B) (6)
  Total: 9 credits

**Graduate Certificate in Data Mining**
This is an interdepartmental graduate certificate. Please check the index for the page number.

**Ph.D. in Earth and Ecosystem Science**
This degree is an interdisciplinary program. Please see the index for the page number.

**Master of Arts (M.A.) or Graduate Certificate in Cultural Resource Management**
These programs are interdisciplinary. Please see the index for the page number.

---

**School of Health Sciences**
The Herbert H. and Grace A. Dow College of Health Professions

**Jeffery Betts, Chair**
2219 Health Professions Building, 989-774-6529

**Steven Berkshire, Ed.D., Division Director, Health Administration, and Program Director, DHA Program**

**Jeffery Betts, Ph.D., Exercise & Health Sciences**

**Jodi Brookins-Fisher, Ph.D., Division Director, Community Health**

**Mark Cwiek, J.D., Health Administration**

**Nailya DeLellis, MPH, Ph.D., Health Administration**

**Jeffrey E. Edwards, Ph.D., Graduate Coordinator and Division Director of Exercise and Health Sciences**

**Salma Haidar, Ph.D., Community Health**

**Roger Hammer, Ph.D., Exercise & Health Sciences**

**Lana Ivanitskaya, Ph.D., Health Administration**

**Roop Jayaraman, Ph.D., Exercise & Health Sciences**

**James Johnson, Ph.D., Health Administration**

**Bernard Kerr, Ed.D., Health Administration**

**Karen Lomond, Ph.D., Exercise & Health Sciences**

**Mark Minelli, Ph.D., Community Health**

**Rachael Nelson, Ph.D., Exercise & Health Sciences**

**Paul O’Connor, Ph.D., Exercise & Health Sciences**

**William Saltarelli, Ph.D., Exercise & Health Sciences**

**Naveen Sharma, Ph.D., Exercise & Health Sciences**

**Dimitrios Zikos, Ph.D., Health Analytics/Health Administration**

**Micah Zuhl, Ph.D., Exercise & Health Sciences**

**Course Designators:**
- DHA - Degrees in Health Administration
- HSC - School of Health Sciences
- HSL - Health Systems Leadership
- MPH - Master of Public Health
- MHA - Master of Health Administration

**Mary Lou Bruce Scholarship**
Established in 1983 by Lieutenant Colonel Gene D. Bruce and friends in memory of Mary Lou, a dedicated military wife and a valued member of the military science and health education families and Mount Pleasant community, for a junior, senior or graduate student majoring in health education and health science who has earned a 3.0 or higher GPA.

**Master of Arts (M.A.) in Exercise Physiology**

**Minimum Totals for Graduation: 30 hours**
Students pursuing this degree must complete a minimum of 30 credit hours.

This option includes a required core of courses, specialization courses, and elective and cognate courses. The student must complete a required core. Credit hours in the core vary depending on whether a thesis (6 credits) or independent study (3 credits) is selected.

This degree is designed to prepare students to be exercise physiologists. The study of the physiology of work and exercise is the main emphasis of this program.

(Continued)
To be considered for admission to the Master of Arts in Exercise Physiology degree program, a student must meet the general requirements for admission to the CMU Graduate Studies.

Based upon the undergraduate GPA, resume, and professional experience, the candidate may be accepted as a regular or conditional student. For regular admission, the minimum undergraduate GPA must be 3.0 or higher on a 4.0 scale.

To be admitted to this program, the student must present 20 or more hours of exercise science, physical education, or health-related courses.

To be assured consideration for admittance, all application materials must be received by the following deadlines: April 1 for fall semester, August 1 for spring semester, and February 1 for summer sessions.

**Required Courses I (13 hours)**
- BIO 590 - Cardiovascular Physiology 3(3-0)
- HSC 631/PES 631 - Physiology of Exercise 4(3-2)
- HSC 670/PES 670 - Research Methods for Health, Physical Education and Sport, Health and 3(3-0)
- PES 606 - Motor Learning and Human Performance 3(3-0)

**Required Courses II (3 hours)**
- Select one of the following:
  - HSC 544 - Biostatistics 3(2-1)
  - PES 672 - Statistics for Physical Education and Sport, Health and Recreation 3(3-0)

**Required Courses III (3-6 hours)**
- PES 691 - Independent Study 3(Spec)
- PES 698 - Thesis 1-6(Spec)

**Electives (8-11 hours)**
- Select hours in consultation with an advisor.

**Total: 30 semester hours**

**Additional Requirements:**
1. An oral examination in the field of specialization may be given at the discretion of the department. The department reserves the right to administer a comprehensive examination after the completion of approximately 20 hours of course work as a tool to secure information to be used in counseling the student toward the completion of the selected program.
2. Students must consult with an advisor prior to taking a 500-level course.
3. Students must present 15 or more semester hours of classes at or above 600-level for this degree.
4. A maximum of six hours of credit in practicum, field study, and internship courses may be applied toward the completion of this degree program.

**Master of Public Health (M.P.H.)**

**Minimum Totals for Graduation: 47 hours**

Public Health is organized efforts in a community to improve the health of its population. It applies systematic and analytic reasoning to evaluate the etiologies of disease and illness causation within a population. The MPH is recognized as the flagship degree in public health. The program at CMU is designed for students with a Bachelor’s degree and for working professionals who already have a Bachelor’s degree and wish to have a graduate degree. The program explores challenges and problems affecting the population’s health, particularly the health of rural and underserved groups, by focusing on areas of study such as epidemiology, environmental health, rural health, public health leadership, program planning, evaluation and health policy and management. Students build competencies in understanding the major social, behavioral, cultural, political, environmental, and regulatory factors affecting the health of populations. This understanding enables students to apply specific new and innovative techniques to address the health challenges of rural and underserved populations across the state, country and globally.

**Admission Requirements, Retention & Termination Standards**

**Note: This new program will accept admissions for Fall, 2016.**

**Admission Requirement Snapshot**
- GPA: 3.0
- Entrance Exam: GRE, GMAT, or MCAT
- International Deadline: July 1 (Fall), Oct. 1 (Spring)

**Admission Requirement Details Below**

The MPH courses are sequenced to start in each fall semester of the academic calendar. Students must provide official documents including official transcripts of classes completed, and a GRE, GMAT, MCAT, or other standardized graduate-level test score as key requirements for admission to the graduate program. These documents are to be reviewed by faculty of the program and a professional admissions counselor and evaluated according to the standards of minimum acceptability to graduate schools in the country.

Students admitted in the spring program should take courses that might not have stringent prerequisites or with the permission of the instructor (such as MPH 640 - Biostatistics or MPH 650 - Biological Basis of Public Health), or other elective classes. In the initial stages, students admitted in the spring semester of the program may be delayed for at least one semester of the expected completion date; this will be offset when classes are taught in each semester. Students may take summer class electives which could count toward requirements for graduation.

Students desiring research will have the option to write a thesis and defend at a forum, at a time determined in consultation with the student’s committee; for all other students, a capstone course is required.

**Core Courses (26 hours)**
- MPH 640 - Biostatistics 4(3-1)
- MPH 642 - Health Education Theories 3(3-0)
- MPH 644 - Rural Health 3(3-0)
- MPH 646 - Epidemiology 4(3-1)
- MPH 648 - Health Policy and Management 3(3-0)
- MPH 650 - Biological Basis of Public Health 3(3-0)
- MPH 652 - Public Health Environmental Science 3(3-0)
- MPH 654 - Public Health Leadership 3(3-0)

**Required Courses (15 hours)**
- MPH 658 - Health Planning and Assessment 3(3-0)
- MPH 660 - Program Evaluation 3(3-0)
- MPH 664 - Public Health Communication and Informatics 3(3-0)
- MPH 796 - MPH Capstone Project 1-6(Spec)
- MPH 798 - Thesis 1-6(Spec)

**Note:** Choose only one of MPH 796 or 798, not both.

**Electives (6 hours)**
- Select two of the following:
  - MPH 666 - Substance Abuse Services 3(3-0)
  - MPH 668 - Ethics in Public Health 3(3-0)
  - MPH 670 - Methods in Public Health Research 3(3-0)

**Total: 47 semester hours**
Master of Health Administration (M.H.A.)

Minimum Totals for Graduation: 51 hours

The Master of Health Administration (MHA) is designed for students interested in a career as executives or senior staff in healthcare institutions and organizations. The program includes curriculum content that meets established competencies accepted in the field and includes healthcare administration and management, organizational behavior, managerial epidemiology, healthcare finance, reimbursement, statistics and quantitative methods, health policy, health economics, research, human resource management, health informatics, and comparative health systems. Applicants for the program may come from students who recently completed an undergraduate degree, persons who are interested in changing careers, and professionals in the field who desire the MHA degree. While the program is not yet CAHME accredited, the curriculum is designed to meet the standards of the accrediting body and when the program is eligible to apply, the intent is to do so and attain CAHME accreditation.

The MHA degree is part of the continuum of health administration and health policy education offered at Central Michigan University. These include an AUPHA certified undergraduate major in Health Administration, two graduate level certificates in International Health and in Health Systems Leadership, and the Doctor of Health Administration. In addition, the Health Administration Division is responsible for the Health Administration courses included in the Health Services Administration concentration in the MSA degree offered through CMU Global Campus.

The MHA degree is offered primarily in an online format, but is also available in the classroom at designated campuses of the University. This allows professionals in the field and working adults interested in the field to enroll from almost anywhere in the world. All students in the program must complete a capstone experience. There are three options for doing so, depending on previous experience of students in the field of Healthcare Administration. These are usually full time field experiences in healthcare administration areas.

Admission Requirements, Retention & Termination Standards

Admission Requirements:
The program reviews all applications and submitted documents in making a determination on admission and makes such recommendations to the College of Graduate Studies.

1. Graduation from a regionally accredited undergraduate degree program. Students who have graduated from an Association of University Programs in Health Administration (AUPHA) certified program will have priority consideration for admission.

2. At least a 3.00 GPA as an undergraduate. Applicants with an overall GPA of less than 3.00 may be considered for regular admission if they have a 3.00 GPA in the last 60 hours of course work. Applicants with an overall GPA of 2.50 to 3.00 and who do not have a GPA of 3.00 for the last 60 hours taken may be considered for conditional admission following the process for conditional admission below.

3. Resume that includes at least the following:
   a. Educational experience
   b. Professional goals and objectives
   c. Work history
   d. Professional experiences, memberships, and participation in professional activities

4. Personal statement (500 to 1000 words) that conveys the applicant's reasons for pursuing a graduate degree in health administration; and how admission to the CMU program relates to the applicant's professional aspirations.

5. Three letters of reference that can attest to the applicant's ability and likelihood of success in a graduate program.

6. There is no requirement for applicants to submit the GMAT, GRE or MAT examinations; however, if the applicant has taken one of these examinations and wishes to submit the results, he/she is welcome to do so.

7. Because of the nature of the program and academic content, it is recommended that the applicant have competency in the following areas: math and statistics, basic accounting, economics, and in written and verbal skills. Applicants who may not have had such courses or developed these competencies should ensure they develop them prior to starting the program.

8. TOEFL Internet Based Test (IBT) exam is required if a graduate is from a non-English speaking country. Applicants must achieve a minimum overall score of 94 with the following minimum scores:
   - Reading 22 minimum
   - Listening 22 minimum
   - Speaking 26 minimum
   - Writing 24 minimum

For students who may not meet one or more of the admission requirements, a conditional admission may be considered by the program. In such cases the student will need to earn at least a 3.00 GPA during the first nine credits taken in the program. Applicant’s wishing to be considered for conditional admission will need to submit a rationale for granting such conditional admission which will then be reviewed by the program which has the final authority in making a decision on conditional admission.

Retention Requirements:

1. Students must maintain a 3.00 GPA to graduate and may not have more than two C or C+ grades in required courses to graduate.

2. Students who may be admitted conditionally must demonstrate during the first semester that they can achieve a 3.00 GPA. Grades of C- or less do not count for graduation.

3. Students who do not maintain a 3.00 GPA or who have more than two C or C+ grades in required courses may be placed on academic probation. Continued academic probation in multiple terms may be considered in determining whether a student will be allowed to continue in the program.

4. Students will be allowed to repeat a course no more than two times in order to improve the grade.

Transfer Credits:

Students may transfer into the degree program up to nine credits of course work from another regionally accredited graduate degree program, provided that the student earned a grade of B or better in the course and the course is determined by the Program to be equivalent to courses taught in the degree program. The determination of the Program is final in determining what courses, if any, can transfer. (The University limits transfer credits from a previously earned graduate degree to six credits.)

A student must participate in at least 120 hours of synchronous learning. This can be met by enrolling in either face-to-face courses or through online synchronous opportunities built into such courses.

Required Courses (45 hours)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSL 611</td>
<td>Healthcare Administration and Ethical Compliance</td>
</tr>
<tr>
<td>HSL 621</td>
<td>Healthcare Operations and Structures</td>
</tr>
<tr>
<td>HSL 631</td>
<td>Healthcare Law, Compliance and Risk Management</td>
</tr>
<tr>
<td>HSL 641</td>
<td>Health Economics and Policy Implication</td>
</tr>
<tr>
<td>HSL 651</td>
<td>Fundamentals of Healthcare Finance</td>
</tr>
<tr>
<td>HSL 661</td>
<td>Healthcare Planning &amp; Marketing</td>
</tr>
<tr>
<td>MGT 643</td>
<td>Human Resource Management</td>
</tr>
<tr>
<td>MHA 601</td>
<td>Statistics for Health Professionals</td>
</tr>
<tr>
<td>MHA 602</td>
<td>Managerial Epidemiology</td>
</tr>
<tr>
<td>MHA 603</td>
<td>Health Informatics and Quality Improvement</td>
</tr>
<tr>
<td>MHA 604</td>
<td>Quantitative Decision-Making for Health Administra</td>
</tr>
<tr>
<td>MHA 605</td>
<td>International Health Systems, Policy and Administra</td>
</tr>
<tr>
<td>MSA 601</td>
<td>Organizational Dynamics and Human Behavior</td>
</tr>
<tr>
<td>MSA 602</td>
<td>Financial Analysis, Planning and Control</td>
</tr>
<tr>
<td>MSA 603</td>
<td>Strategic Planning for the Administrator</td>
</tr>
</tbody>
</table>

Other Requirements (6 hours)

Select one of the following in consultation with academic advisor:

- MHA 697 - Health Administration Field Experience 6(Spec)
- MHA 698 - Health Administration Graduate Thesis 1-6(Spec)
- MHA 699 - Health Administration Internship 6(Spec)

Total: 51 semester hours
Doctor of Health Administration (D.H.A.)

Minimum Totals for Graduation: 63 hours

Applications are accepted for admission to the Doctor of Health Administration (DHA) program for the fall cohort start. Applications must be received for the fall start by April 1. Inquire with the DHA secretary at 989-774-1351 or the DHA program director at 989-774-1640.

The program leading to the Doctor of Health Administration degree is designed to provide advanced academic, relevant, and professionally-oriented education. The DHA degree is not for individuals wishing to gain a degree to enter a field; rather, it is designed for professionals already in the field. The curriculum and learning outcome objectives of this applied doctorate program are directed toward preparing individuals with the theoretical foundations, applied skills and practical expertise required for leadership positions within the healthcare industry. Emphasis will be given to imparting and advancing skills that foster life-long learning, systematic investigation and testing of practices and operational models via data/evidence-based strategies, and the public dissemination, and reporting of new findings within the field. The intent of the program is to provide advanced knowledge, skills, and abilities to practicing health professionals in a convenient, yet rigorous academic environment.

The program course of study is delivered in a sequenced manner of fifteen internet-based courses, six intensive face-to-face two and a half-day seminars, a general comprehensive examination, and an applied research dissertation. Students matriculating into the DHA program may, with the approval of the program, transfer up to six (6) credits of course work taken in another nationally accredited doctoral program. The applicant must request the transfer and identify which courses he/she wishes to transfer. The DHA Program will review the request and make a determination as to the relevancy of the courses to the program, whether the courses are equivalent to any of the DHA courses, and whether the request will be granted. No transfer credits will be accepted to meet the dissertation requirement nor DHA 714 or DHA 726. The applicant must have earned at least a B grade on any course being requested to transfer. The applicant needs to submit a transcript showing the courses, a course description and the syllabus for the course. A new group of students will begin studies each year. Each student will be assigned an advisor for the didactic portion of the program. Using a modular format, fifteen courses and six intensive seminars during the first two years of the program comprise the didactic portion of the program. The successful completion of a comprehensive examination at the end of the didactic portion of the program will transition the student to doctoral candidate status where the doctoral candidate will begin their dissertation preparation, proposal, implementation, defense to their doctoral committee, and reporting. During the dissertation phase, each student will work closely with a dissertation advisor/major professor. The didactic portion of the program carries fifty-one (51) semester credit hours and the dissertation portion carries twelve (12) semester credit hours for a total of sixty-three (63) semester credit hours for the entire program. Students will choose between a three (3) year or five (5) year degree plan. Students choosing the three year option will enroll in two (2) courses per term and generally will complete the program in three years while those choosing the five year option will normally enroll in one (1) course per term.

Admission Requirements, Retention & Termination Standards

Admission Requirement Snapshot

Application Deadline: April 1 (Fall)

TOEFL or ECFMG accepted for English Proficiency

See Admission Requirement Details Below

The minimum requirements and standards for applicant admission to the program include the following criteria:

- An earned regionally accredited master’s degree in an appropriate area of study (e.g., health administration, business administration, nursing management, public health, public administration) or a professional degree (e.g., M.D., D.O., D.D.S.). Other areas of graduate study at the master’s degree level will be considered by petition to the faculty. GPA will be considered in the admissions process.
- Satisfactory completion of graduate coursework or equivalent must be provided as evidence by student applicants in the areas of health economics or economics, finance, statistics, administration/management, and organizational development/behavior.
- Demonstration of at least three (3) years of responsible experience at the mid to senior level in health administration, management, clinical leadership, and/or health or public health policy. While it is not necessary to be a manager, the applicant must demonstrate that he/she has significant influence in decision making, planning, clinical curriculum, policy or other aspects of health beyond being in a staff role or supervisory role. The determination of what is considered significant, mid to senior level experience is made by the Program director.
- Oral and written English language proficiency. Applicants whose native language is not English will be required to submit the results of the Test of English as a Foreign Language (TOEFL) scores or another test of English equivalency (such as the ECFMG for physicians who were foreign medical students). This requirement may be waived if prior academic experience and success in other United States colleges/universities or employment settings can be satisfactorily demonstrated:
  - Submission of a career goal statement and a current curriculum vitae or resume.
  - Submission of a research paper based on a premise that the DHA Program Office will provide to applicants. The instructions for how to prepare the paper will be provided at time of application inquiry.
  - At least three (3) letters of recommendation from professional colleagues that speak to the applicant’s potential to do doctoral work, transcripts and other documentation customarily required for admission to the Graduate Studies will be required.
  - Successful completion of an admission interview with the program faculty.
  - Students admitted to the Program must attend the on-campus new DHA student orientation. If an admitted applicant cannot attend the orientation, he/she will need to defer to the next year.

Required Courses I (24 hours)

DHA 700 - Leadership Strategies for Healthcare Policy and Organizations (3-3)
DHA 702 - Probability and Statistics for the Health Professions (3-3)
DHA 704 - Population Health (3-3)
DHA 705 - Seminar in Public Health (1-1)
DHA 706 - Quantitative Analysis in Health Organization (3-3)
DHA 707 - Organizational Theory and Behavior for the Health Professions (3-3)
DHA 709 - Seminar in Health Dynamics: Current Issues, Trends and Change (1-1)
DHA 710 - Qualitative Analysis in Healthcare (3-3)
DHA 712 - Research Methods and Practice for the Health Professions (3-3)
DHA 713 - Seminar in Health Services Research (1-1)

Required courses II (27 hours)

DHA 714 - Health Systems Thinking and Practice (3-3)
DHA 716 - Communication in Health Organizations (3-3)
DHA 717 - Seminar in Healthcare Dynamics: Stakeholder Relations (1-1)
DHA 718 - Healthcare Law, Regulations and Ethics (3-3)
DHA 720 - Health Economics (3-3)
DHA 721 - Seminar in Healthcare Policy and Politics (1-1)
DHA 722 - Health Informatics (3-3)
DHA 724 - Fiscal Responsibility and Accountability for Health Entities (3-3)
DHA 725 - Seminar in Strategic Planning for Health Organizations (1-1)
DHA 726 - Applied Leadership (3-3)
DHA 728 - Comparative Health Systems (3-3)

Required Courses III (12 hours)

DHA 898 - Dissertation (1-12)(Spec)

Total: 63 semester hours
Graduate Certificate in Health Systems Leadership

Minimum Totals for Graduation: 18 hours

The Graduate Certificate in Health Systems Leadership is designed for graduate level students who want to gain education in healthcare administration and management, but do not necessarily want or need a master’s degree because they already possess a graduate degree in another field or they are already practicing in a healthcare profession. The certificate is designed to provide academic knowledge and training in healthcare administration and operations with a compliance focus. The six courses in the certificate are similar to the core healthcare administration curriculum and content one would obtain in a master’s degree in the field. It is anticipated that a student can earn the certificate in conjunction with another degree program and in some cases include the six courses as a concentration in a distinct degree program. This option is dependent on the other degree program and its requirements. For example a student earning the MD degree might complete the certificate while completing the requirements for the medical degree. Interested students should discuss such options with an academic advisor or their academic program director. Course work includes content in healthcare law, compliance, operations, administration, health economics, policy, marketing, planning, and healthcare finance. Students can find employment in a variety of healthcare settings in administrative or management positions. Potential students interested in the graduate certificate should speak with a faculty member in the Health Administration Division of the School of Health Sciences or an admissions representative from CMU Global Campus. Students enrolling in the graduate certificate must be admitted to the University as a graduate student and be in good academic standing with the Office of Research and Graduate Studies. The certificate may be taken either online or in the classroom where offered by the University or in combination between classroom and online.

Admission Requirements, Retention & Termination Standards

To be admitted to the Graduate Certificate, a student must have an earned undergraduate degree from a regionally accredited university in the United States or an equivalent degree if from a non-U.S. college or university. The student must have an undergraduate cumulative GPA of at least a 2.7, with a 3.00 being optimal. Prerequisite course work in accounting, economics, statistics, and English composition must have at least a 2.00 Grade Point (C or above). Central Michigan University equivalent courses would be ACC 201, 202, or 250; ECO 201, 202, or 203; STA 282 or PSY 211; and ENG 101 and 201. International students must meet the language requirements of the Office of Research and Graduate Studies.

Students must complete an application for admission as a graduate student at the University and meet the admission requirements for graduate status. There is no requirement for a GMAT, GRE or similar entrance examination; however, if a student wishes to submit scores from these examinations they can be considered in the application process. Admission and enrollment in the program can occur at the beginning of any term. Students must also submit official transcripts from any degree program attempted or completed and three letters of reference from people who can comment on the applicant’s ability to do graduate level work.

Students must maintain a 3.00 cumulative GPA to graduate with the certificate. Courses where a grade of C- or lower is earned do not count for graduation and must be repeated for a satisfactory grade. Students who do not maintain a 3.00 cumulative GPA may be considered for academic probation or suspension from the certificate. A student cannot have more than two courses with a C or C+ grade for graduation.

Transfer credits: A maximum of 6 semester hours may be transferred into the certificate from another graduate degree program from a regionally accredited university or college, providing that the student earned a grade of B or better in the course and the course being requested for transfer is equivalent to one of the courses in the certificate. Courses used for a previously awarded graduate degree or graduate certificate may not be counted toward the graduate certificate.

Students who do not have any healthcare administration or management experience may wish to consider doing an internship type experience when they complete the requirements for the certificate since such experiences may enhance their opportunity for employment. Such internships may be done by enrolling in HSC 595 or could be an experience arranged by the student independent of the University.

Required Courses (18 hours)

- HSL 611 - Healthcare Administration and Ethical Compliance 3(3-0)
- HSL 621 - Healthcare Operations and Structures 3(3-0)
- HSL 631 - Healthcare Law, Compliance and Risk Management 3(3-0)
- HSL 641 - Health Economics and Policy Implication 3(3-0)
- HSL 651 - Fundamentals of Healthcare Finance 3(3-0)
- HSL 661 - Healthcare Planning & Marketing 3(3-0)

Total: 18 semester hours

Graduate Certificate in International Health

Minimum Totals for Graduation: 15 - 18 hours

The Graduate International Health Certificate is designed to provide a structured curriculum leading to knowledge, skills and abilities relevant to international health as well as provide a marketable credential for students achieving the certification. The certificate program will emphasize international travel as a key component of the curriculum, recognizing international travel as fundamental to learning about international health. The objectives of the program center on facilitating a better understanding of international health issues and opportunities, the role of cultural differences in health and wellness, comparative health systems, and cross-cultural communication. Students enrolling in the certificate program must be admitted to the university as graduate students and be in good academic standing with the Office of Research and Graduate Studies. Students interested in the program should speak with a faculty member in the Health Administration Division, School of Health Sciences for program details and advisement. The certificate curriculum is as follows:

Required Courses I (5-6 hours)

- HSC 516 - Travel Course in Health Education 1-15(Spec)
- HSC 552 - International Health Systems, Organizations and Policy 3(3-0)

   Note: HSC 516 for Required Courses I must be different from HSC 516 listed in Required Courses II and Electives.

Required Courses II (2-3 hours)

- HSC 516 - Travel Course in Health Education 1-15(Spec)

   Note: This course must be different from HSC 516 listed in both Required Courses I and Electives.

Required Courses III (3 hours)

Select one of the following:

- DHA 704 - Population Health 3(3-0)
- DHA 728 - Comparative Health Systems 3(3-0)

Electives (3-8 hours)

Select from the following:

- ANT 520 - Medical Anthropology 3(3-0)
- COM 667 - Seminar in Intercultural Communication 3(3-0)
- HSC 504 - International Health Education 3(3-0)
- HSC 516 - Travel Course in Health Education 1-15(Spec)
- IPS 597 - International Program Studies 1-36(Spec)
- PSC 551 - Seminar in International Relations 3(3-0)
- PSC 555 - International Law I 3(3-0)
- DHA 704/ANT 506 - Comparative Cultural Systems 3(3-0)
- SOC 514 - Sociology of Health and Illness 3(3-0)

   Note: If chosen, the elective HSC 516 course must be different from the two required HSC 516 courses above.

Total: 15-18 semester hours
Master of Science in Administration (M.S.A.)
CONCENTRATION IN HEALTH SERVICES ADMINISTRATION

The Master of Science in Administration Program requires 36 Credit Hours of graduate study. The MSA Program provides students with the fundamental principles required for successful administrative careers in the public, private, or nonprofit sectors.

The required core courses of the MSA program (18 Credit Hours) provide a comprehensive overview of organizational and human relationships and the administrative mechanisms through which to make sound analytical judgments and decisions.

The Health Services Administration Concentration (15-18 Credit Hours) provides the knowledge and skills required for directors, administrators, and supervisors in the health services field.

Please go to page 143 for the concentration or to https://www.cmich.edu/MSA.

Department of History
College of Humanities and Social & Behavioral Sciences

Mitchell Hall, Chairperson
Powers Hall 106, 989-774-3374

Thomas L. Benjamin, Ph.D., Latin America
Jennifer Liu Demas, Ph.D. East Asian history
Lane Demas, Ph.D., African American history
Kathleen Donohue, Ph.D., 20th century, U.S.
Carrie Euler, Ph.D., medieval and early modern England
Solomon Getahun, Ph.D., sub-Saharan Africa
Jennifer R. Green, Ph.D., Civil War and reconstruction
Mitchell Hall, Ph.D., recent U.S.
Doina Harsanyi, Ph.D., European history, France
Eric Johnson, Ph.D., modern Europe
Stephen Jones, Ph.D., African American history
Tara McCarthy, Ph.D., U.S. women and gender post 1870
William McDaid, Ph.D., Civil War
Timothy O’Neil, Ph.D., modern Europe
Benjamin Ramirez-Shkwengaabi, Ph.D., Native American history
John Robertson, Ph.D., Ancient Near East and Egypt, Islamic and Modern Middle East
David Rutherford, Ph.D., Renaissance
Stephen P. Scherer, Ph.D., Russia
Gregory Smith, Ph.D., history of ancient Mediterranean world
Catherine Tobin, Ph.D., United States social history, immigration
Jonathan Truitt, Ph.D., colonial Latin American history
Benjamin Weinstein, Ph.D., modern English history

Course Designator:
HST - History

The Department of History offers a Master of Arts degree, a Joint Master of Arts degree, and a Joint Ph.D. in History. The Joint Master of Arts degree and the Joint Ph.D. are offered in association with partner institutions at Erasmus University, Rotterdam, The Netherlands; Friedrich Schiller University, Jena, Germany; the University of Strathclyde, Glasgow, Scotland; and the University of Puebla, Puebla, Mexico.

Master of Arts (M.A.) in History

Minimum Totals for Graduation: 30 hours

The Department of History offers a Master of Arts degree.

An Accelerated program for this degree is available to highly motivated students to accelerate their academic careers by undertaking graduate work toward the traditional Master of Arts degree (not the Joint M.A. in History) concurrently with undergraduate work.

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

ADMISSION REQUIREMENT SNAPSHOT

GPA: 2.7 (and 2.7 in major)
Application Deadline: July 15 (Fall), Nov. 1 (Spring)
See Admission Requirement Details Below

To be admitted to the Master of Arts program, a student must present 20 or more hours of history or historically oriented courses in related fields with a grade point average in history of 2.7 or higher.

Admission Deadlines
For the traditional M.A., students wishing a fall semester admission must apply no later than July 15. For spring semester admission the deadline is November 1.
Required Courses
HST 600 - Historiography 3(3-0)
1. Thirty (30) hours of graduate coursework, including HST 600.
2. At least eighteen (18) hours of coursework must be completed at or above the 600 level. At least twenty (20) hours must be completed in history courses.
3. Ten (10) or fewer cognate hours may be selected with an advisor from one or more of the following fields: anthropology, economics, education, English, geography, philosophy, political science, religion, and sociology. Other fields may be approved by the advisor.
4. At least two history colloquia at the 600 level (HST 690 will not satisfy this requirement).
5. Additional Requirement for the Accelerated Master of Arts program: Three to twelve (3-12) hours of the above (except Thesis credit) must have been taken concurrently with the student’s B.A. degree work.

Additional Requirements
A minimum of six hours of history research and writing courses earned in one of the following ways:

Plan A - Thesis
A thesis, including an oral examination in the field of the thesis. Note for the accelerated Master of Arts program:
The accelerated plan is intended to encourage research and writing competency in a particular research field, and thus the candidate is encouraged to elect Plan A, the Thesis Option of the M.A. program.

Plan B - Seminars
Either (1) two seminars or (2) one seminar and three hours in HST 791. Students electing Plan B must submit two research papers as evidence of scholarship. These papers must be prepared in connection with a seminar, an independent research course, or a graduate-level course in the Department of History. Each paper must receive a minimum grade of B. In addition, normally after revision, each must be accepted by the professor responsible for the course as satisfactory for permanent filing. Papers must be well written and presented in a proper scholarly format. Their conclusions must rest on interpretation of a substantial body of primary sources. A minimum 6,000 words is suggested.

Total: 30 semester hours

ACCELERATED MASTER OF ARTS IN HISTORY
(Currently enrolled CMU Undergraduate students only)

Admission Standards:
1. Written recommendation of a CMU history professor.
2. Six (6) hours of history coursework completed with at least a 3.25 GPA in those courses and a 3.25 overall GPA.

Retention Standards:
1. Maintenance of a 3.5 GPA in history courses.
2. Failure to maintain satisfactory work (3.0 GPA) in two successive semesters will result in removal from the accelerated program.
3. Candidates for the accelerated program must seek graduate school approval of courses selected to double count on both the B.A. and M.A.

Students considering an accelerated M.A. program should be aware that their financial aid may be affected for courses double counting on the B.A. and M.A. Contact the Office of Scholarships & Financial Aid for information at 989-774-3674 or cmuosfa@cmich.edu.

Graduate Certificate in European History
Minimum Totals for Graduation: 18 hours
This 18 credit hour certificate is designed for regularly admitted graduate students who desire advanced training in European history, but who are not seeking a master’s degree at this time. Credits successfully earned with this certificate program can be transferred toward the M.A. degree. Students may substitute courses only upon approval of the History Graduate Studies Committee. Admission is through the Office of Research and Graduate Studies. Students pursuing this certification program should have some prior coursework in European history.

This certificate is granted upon completion of 18 hours within the selected area.

Required Courses (6-18 hours)
At least 6 hours must be taken at the 600-level or above, selected from the following courses:
HST 636 - Colloquium in Ancient History 3-6(3-0)
HST 650 - Colloquium in European History to 1450 3(3-0)
HST 651 - Colloquium in Early Modern European History 3-6(3-0)
HST 652 - Colloquium in Modern European History 3-6(3-0)
HST 738 - Seminar in Ancient History 3-6(3-0)
HST 740 - Seminar in Medieval West 3(3-0)
HST 741 - Seminar in Early Modern Europe 3(3-0)
HST 742 - Seminar in Eighteenth-Century European History 3(3-0)
HST 744 - Seminar in Nineteenth-Century European History 3-6(3-0)
HST 758 - Seminar in Twentieth-Century European History 3-6(3-0)

Electives (0-12 hours)
All courses must be selected from the department’s course offerings in European history.

Total: 18 semester hours

Graduate Certificate in Modern History
Minimum Totals for Graduation: 18 hours
This 18 credit hour certificate is designed for regularly admitted graduate students who desire advanced training in modern history, but who are not seeking a master’s degree at this time. Credits successfully earned with this certificate program can be transferred toward the M.A. degree. Students may substitute courses only upon approval of the History Graduate Studies Committee. Admission is through the Office of Research and Graduate Studies. Students pursuing this certification program should have some prior coursework in modern history.

This certificate is granted upon completion of 18 hours within the selected area.

Required Courses (6-18 hours)
At least 6 hours must be taken at the 600-level or above, selected from the following courses:
HST 603 - Colloquium in U.S. History Since 1865 3-6(3-0)
HST 652 - Colloquium in Modern European History 3-6(3-0)
HST 717 - Seminar in the History of Twentieth Century America 3-6(3-0)
HST 758 - Seminar in Twentieth-Century European History 3-6(3-0)

Electives (0-12 hours)
All courses must be selected from the department’s course offerings in modern history. No more than 3 hours may be taken below the 500-level, and then only if approved for graduate credit.

Total: 18 semester hours
Graduate Certificate in United States History

Minimum Totals for Graduation: 18 hours

This 18 credit hour certificate is designed for regularly admitted graduate students who desire advanced training in United States history, but who are not seeking a master’s degree at this time. Credits successfully earned with this certificate program can be transferred toward the M.A. degree. Students may substitute courses only upon approval of the History Graduate Studies Committee. Admission is through the Office of Research and Graduate Studies. Students pursuing this certification program should have some prior coursework in United States history.

This certificate is granted upon completion of 18 hours within the selected area.

Required Courses

At least 6 hours must be taken at the 600-level or above, selected from the following courses:

- HST 602 - Colloquium in U.S. History to 1865 (3-6)(3-0)
- HST 603 - Colloquium in U.S. History Since 1865 (3-6)(3-0)
- HST 711 - Seminar in Colonial and Revolutionary America (3-6)(3-0)
- HST 713 - Seminar in the History of Nineteenth Century America (3-6)(3-0)
- HST 715 - Seminar in the Civil War and Reconstruction (3-3)(3-0)
- HST 717 - Seminar in the History of Twentieth Century America (3-6)(3-0)
- HST 723 - Seminar in American Diplomatic History (3-0)

Electives (0-12 hours)

All courses must be selected from the department’s course offerings in United States history. No more than 3 hours may be taken below the 500-level, and then only if approved for graduate credit.

Total: 18 semester hours

Joint M.A. in History

Minimum Totals for Graduation: 36 hours

The Joint Master of Arts degree is offered in association with a partner institution abroad.

This degree requires two years of study. Students will complete a year’s study (at least 18 credits with a minimum 3.3 GPA) at Central Michigan University and a one-year diploma sequence of courses at a partner institution. Students entering the program at a partner institution will receive one year’s credit towards the Joint M.A. for completion of a final post-baccalaureate program entirely in history at a partner institution with the equivalent of a 3.3 GPA. They will then complete the requirements for the Joint M.A. with a prescribed year of study at Central Michigan University.

Certain rules govern the combined two-year program:

1. No more than 50 percent of a student’s coursework may be in a single national field.
2. All students must write at least two research papers suitable for filing as evidence of scholarly achievement, 7,000-10,000 words: one completed in a research seminar at CMU and one completed at a partner institution.

It is strongly recommended that students develop a reading knowledge of at least one language other than English or an appropriate research tool such as statistics.

Minimum Totals for Graduation: 36 hours

The Joint Master of Arts degree is offered in association with a partner institution abroad.

This degree requires two years of study. Students will complete a year’s study (at least 18 credits with a minimum 3.3 GPA) at Central Michigan University and a one-year diploma sequence of courses at a partner institution. Students entering the program at a partner institution will receive one year’s credit towards the Joint M.A. for completion of a final post-baccalaureate program entirely in history at a partner institution with the equivalent of a 3.3 GPA. They will then complete the requirements for the Joint M.A. with a prescribed year of study at Central Michigan University.

Certified rules govern the combined two-year program:

1. No more than 50 percent of a student’s coursework may be in a single national field.
2. All students must write at least two research papers suitable for filing as evidence of scholarly achievement, 7,000-10,000 words: one completed in a research seminar at CMU and one completed at a partner institution.

It is strongly recommended that students develop a reading knowledge of at least one language other than English or an appropriate research tool such as statistics.

Required Courses I (18 hours)

At Central Michigan University: 18 hours of which 12 hours must be at the 700 level, one colloquium in transnational and comparative history (3 hours) and a second colloquium (3 hours). A maximum of 6 hours in cognate disciplines will be accepted if approved by the student’s CMU and partner institution’s advisors.

Year at CMU

As evidence of scholarship, students must submit a research paper for a permanent file. This paper must be prepared in connection with a research seminar, an independent research course, or a graduate-level course in the Department of History. The paper must receive a minimum grade of B. In addition and normally after revision, the paper must be accepted by the professor responsible for the course as satisfactory for permanent filing. The paper must be well written and presented in a proper scholarly format. Its conclusions must rest on interpretation of a substantial body of primary sources. A minimum length of 7,500 words is suggested. Up to 3 hours of credit may be earned for a practicum course in teaching history at the college level.

Required Courses II (18 hours)

At a partner institution abroad: 18 hours (equivalent) including major research paper/dissertation of 7,500 words or more (equivalent to a 700-level seminar requirement at CMU).

Year abroad

The student must complete courses based on the partner institution’s post-baccalaureate course requirements. General expectations include one course of study in historical methodology if they have not taken such a course at CMU (3-6 hours equivalent), one research seminar paper/dissertation of 7,000-10,000 words (3 hour equivalent) and 9-12 hours (equivalent) of additional course work or directed study.

Joint Ph.D. in History

Minimum Totals for Graduation: 90 hours

Required Courses

At Central Michigan University: 18 hours of which 12 hours must be at the 700 level, one colloquium in transnational and comparative history (3 hours) and a second colloquium (3 hours). A maximum of 6 hours in cognate disciplines will be accepted if approved by the student’s CMU and partner institution’s advisors.

Year at CMU

As evidence of scholarship, students must submit a research paper for a permanent file. This paper must be prepared in connection with a research seminar, an independent research course, or a graduate-level course in the Department of History. The paper must receive a minimum grade of B. In addition and normally after revision, the paper must be accepted by the professor responsible for the course as satisfactory for permanent filing. The paper must be well written and presented in a proper scholarly format. Its conclusions must rest on interpretation of a substantial body of primary sources. A minimum length of 7,500 words is suggested. Up to 3 hours of credit may be earned for a practicum course in teaching history at the college level.

Required Courses II (18 hours)

At a partner institution abroad: 18 hours (equivalent) including major research paper/dissertation of 7,500 words or more (equivalent to a 700-level seminar requirement at CMU).

Year abroad

The student must complete courses based on the partner institution’s post-baccalaureate course requirements. General expectations include one course of study in historical methodology if they have not taken such a course at CMU (3-6 hours equivalent), one research seminar paper/dissertation of 7,000-10,000 words (3 hour equivalent) and 9-12 hours (equivalent) of additional course work or directed study.

Total: 36 semester hours

Admission to doctoral study requires the following:

1. Successful applicants will ordinarily have completed a bachelor’s degree or equivalent with at least 20 hours of history or related courses with a GPA of 3.3 or higher.
2. Students in the Ph.D. program must maintain at least a 3.3 GPA (or its equivalent at foreign institutions) after the first year of study at Central Michigan University.
3. All applications should include a personal statement of 2-3 pages (600-900 words) describing general fields of interest and proposed subjects of research; preparation for the subjects proposed, including specific coursework, languages, and other relevant training; professional goals.
4. Candidates must submit GRE scores by January 3. The subject area test in History is not required.
5. Students for whom English is a second or third language may submit TOEFL scores in place of the GRE.
6. Candidates are strongly urged to gain proficiency in at least one language other than English relevant to their intended field of study prior to admission to the Ph.D. program. Candidates able to demonstrate such proficiency will receive preference in the admissions process, all other qualifications being equal.
7. The application deadline is January 3.
Admission to candidacy for the Ph.D. requires:
1. Approval of dissertation prospectus.
2. Completion of all language requirements.
3. Demonstration of comprehensive knowledge fields in history, as defined below, by means of oral and written comprehensive examinations. With the exception of the Atlantic World, which is equivalent to two major fields, students must present either (a) two major fields or (b) one major field and two minor fields.

**Major Fields**
- United States
- British Isles
- Modern Continental Europe
- Early Modern Europe
- Latin America
- Ancient Mediterranean
- The Atlantic World: Comparative North American, European, African, and Latin American History. (Because of its scope, this meets all field requirements.)

**Minor Fields**
- United States*
- British Isles*
- Modern Continental Europe*
- Early Modern Europe*
- Latin America*
- Ancient Mediterranean*
- Ancient Near East
- Medieval Europe
- Middle East
- East Asia
- India
- Africa
- Topical Fields (must be transnational): e.g. Crime; Poverty and Social Welfare; Business; Women; Slavery; Ethnicity and Race; Minority Communities and Culture; Reform; Regionalism

* Not available for minor if chosen as major.

**Degree Requirements**

Students must complete the following sequence during their first two years in the Joint Program:

**Required Courses I (18 hours)**

At Central Michigan University: 18 hours of which 12 hours must be at the 600 level or above, including 3 hours in a research seminar at the 700 level, one colloquium in transnational and comparative history (3 hours) and a second colloquium (3 hours). A maximum of 6 hours in cognate disciplines will be accepted if approved by the student’s CMU and partner institution’s advisors.

**Year at CMU.** As evidence of scholarship, students must submit a research paper for a permanent file. This paper must be prepared in connection with a research seminar, an independent research course, or a graduate-level course in the Department of History. The paper must receive a minimum grade of B. In addition and normally after revision, the paper must be accepted by the professor responsible for the course as satisfactory for permanent filing. The paper must be well written and presented in a proper scholarly format. Its conclusions must rest on interpretation of a substantial body of primary sources. A minimum length of 7,500 words is suggested. Up to 3 hours of credit may be earned for a practicum course in teaching history at the college level.

**Required Courses II (18 hours)**

At a partner institution abroad: 18 hours (equivalent) including major research paper/dissertation of 7,500 words or more (equivalent to a 700-level seminar requirement at CMU).

Students entering the Joint MA at CMU may earn a second MA abroad from the partner institution program in which they are studying in addition to the Joint MA from CMU.

Students admitted to the Joint MA program with a previously earned MA in history or related field from an institution abroad may fulfill this study abroad requirement by transferring up to 18 credit hours from the program where they earned the degree. Students seeking transfer of such credit must submit evidence demonstrating that the work completed was substantially equivalent in type and degree of rigor to those offered at partner institutions.

Students admitted to the Joint PhD program who complete the requirements for the first two years of study will be eligible to receive the Joint MA degree enroute to completing the PhD.

**Required Courses III (18-34 hours)**

Students continuing in the program in the third year and beyond must also complete the following requirements:

- 18 hours post-M.A. elective course work in preparation for field examinations, of which 9 hours must be at the 700 level or above excluding practicums.

**Required Courses IV (20-36 hours)**

Additional Requirements for candidacy and completion of degree program:

1. Candidates for the Ph.D. in history must demonstrate reading knowledge of two languages other than English or reading knowledge of one language other than English plus an appropriate research tool such as statistics. Students whose only major field is United States history need to demonstrate reading knowledge of only one language other than English.
   a. Completion of the language requirement is defined as reading proficiency at least at a level sufficient to conduct graduate-level research.
   b. Completion of the language requirement may be fulfilled in one of the following ways:
      1) an examination in which the candidate with the aid of a dictionary will translate, idiomatically, at least two passages totaling no less than 500 words within two hours;
      2) completion of CMU’s 202 language course or its equivalent with a grade of at least a B;
      3) intensive language study abroad in a program approved by the department’s Graduate Studies Committee; or
      4) an alternative approved by the Graduate Studies Committee. Intensive language study abroad is especially recommended by the department.
   c. Graduate students whose native language is other than English, and who have met the CMU Graduate Studies admissions requirements for English language proficiency, will be required to demonstrate reading knowledge of one language other than English or an appropriate research tool such as statistics.
   d. Ph.D. students may complete up to 9 hours of language course work for a language which is demonstrable required for their dissertation research. Credit may be applied to the student’s record in lieu of up to 9 hours of elective dissertation credit.
   e. All language requirements must be completed prior to admission to Ph.D. candidacy.

2. The Ph.D. from Central Michigan University will require a minimum of 90 hours (including 36 hours of dissertation credit) of approved graduate-level study beyond the B.A. Students who complete the requirements for the Joint M.A. (36 hours) before admission to the Ph.D. program may include their hours earned at the M.A. level within the 90 hour total required for the Ph.D.

3. The Ph.D. from CMU requires completion of a doctoral dissertation that makes significant contribution to knowledge, contains a significant comparative element, and is successfully defended at a formal meeting of the student’s examining committee. Upon admission to candidacy, the student and the chair of the history department of the university where the student is currently in

(Continued)
residency will select a committee of three faculty members, at least one from each university, to advise the candidate and supervise the research and writing of the dissertation. Dissertations grounded in two or more national histories will be encouraged. The examining committee for the dissertation will consist of three faculty members from the university where the majority of research has been done, at least one faculty member from the other university, and at least one external examiner. The chair of the examining committee will serve as director of the candidate’s dissertation and will be responsible for making all arrangements for meetings of the committee.

Because it is impossible to share the legal authority to award the Ph.D., it will be awarded to some students by Central Michigan University and to others by the partner institution upon successful completion of the shared program. In all cases, the relevant documents will say clearly that the degree results from the shared program. Regulations governing residency requirements and time limitations for completion of degrees will be those of the university granting the degrees. Student work at either university will be treated as work in residence by both the partner institution and Central Michigan University.

**Total: 90 semester hours**

### Master of Arts (M.A.) or Graduate Certificate in Cultural Resource Management

These programs are interdisciplinary. Please see the index for the page number.

### Department of Human Environmental Studies

**College of Education and Human Services**

<table>
<thead>
<tr>
<th>Megan Goodwin, Chairperson</th>
</tr>
</thead>
<tbody>
<tr>
<td>EHS 228; 989-774-3218</td>
</tr>
</tbody>
</table>

Su An, Ph.D., Body Scan Technology, Functional Apparel Design and Evaluation

Jeff Angera, Ph.D., Human Development & Family Studies

Deborah Bailey, Ph.D., Human Development & Family Studies

Phame M. Camarena, Ph.D., Human Development & Family Studies

Tzu-Fen Chang, Ph.D., Child Development

Usa Chowdhary, Ph.D., Textile Analysis, Functional and Socio-Cultural Aspects of Clothing

Tanya Domina, M.S., M.B.A., Design and Retailing Technologies

Cheryl Geishardt, Ph.D. Human Development and Family Studies

Megan Goodwin, Ph.D., Child Development

Mikiyasu Hakoyama, Ph.D., Human Development & Family Studies

Roscelle Heuberger, Ph.D., R.D., Human Nutrition

Leslie Hildebrandt, Ph.D., R.D., Human Nutrition

Ann Jay, M.S., R.D., F.A.D.A., Human Nutrition and Dietetics

Yeonsoo Kim, Ph.D., RD, Nutrition

Han-Jung Ko, Ph.D., Human Development and Family Studies

Chris Latty, Ph.D., Human Development & Family Studies

Seung-Eun Lee, Ph.D., Technology Applications in Fashion Retailing and Merchandising; Fashion Marketing

Joellen Lewsader, Ph.D., Developmental Studies

Edgar Long, Ph.D., Empathy and Romantic Relationships, Marriage

Maureen MacGillivray, Ph.D., Functional Apparel Design & Socio-cultural Aspects of Dress

Eileen MaloneBeach, Ph.D., Human Development & Family Studies

Michael Mamp, Ph.D., Apparel Merchandising and Design

Thamizhisai Periyaswamy, Ph.D., Advanced Material Characterization Methods, Human-centered Clothing Design Analysis

Tierney Popp, Ph.D., Human Development & Family Studies

Cheryl Priest, Ed.D., Child Development

Katie Reck, Ph.D., Human Development

Pamela Sarigiani, Ph.D., Human Development & Family Studies

Kristy Shih, Ph.D., Human Development & Family Studies

Najat Yehia, Ph.D., Nutrition

**Course Designators:**

FMD - Fashion Merchandising & Design

FNS - Foods & Nutrition

GRN - Gerontology

HDF - Human Development & Family Studies

### Master of Science (M.S.) in Apparel Product Development and Merchandising Technology

This program is designed to prepare graduates for positions in apparel and textile product design and development, CAD technology, industry research and development, as well as for careers in higher education and government. Creative solutions, cutting edge technology and real world applications are emphasized at all instructional levels.

**Minimum Totals for Graduation: 33 hours**
Required Courses (12 hours)

- FMD 604 - Scholarship in Textiles and Clothing 3(3-0)
- One graduate course (3 credits) in Statistics
- One graduate course (3 credits) in Research Methods

Degree Requirements

Foundation Courses (9 hours)
FMD 604 - Scholarship in Textiles and Clothing 3(3-0)

Plan A - Thesis (6 hours)
- FMD 798 - Thesis in Apparel Merchandising & Design 1-6(Spec)

Plan B - Internship (6 hours)
- FMD 635 - Advanced Internship in Textiles & Apparel 1-6(Spec)

Total: 33 semester hours

Accelerated Master of Science in Apparel Product Development and Merchandising Technology

Advanced undergraduate students majoring in Fashion Merchandising and Design who would like to pursue advanced studies in design, merchandising, product development, and technology relating to the textiles and apparel industry complex may consider an option whereby they can complete their bachelor’s degree and a Master of Science in Apparel Product Development and Merchandising Technology in five years. The program requirements on the Accelerated Masters Degree Program are identical to those of the Master of Science in Apparel Product Development and Merchandising Technology, but allow the student to apply 9 credit hours of graduate coursework toward both their bachelor's degree and their Master of Science in Apparel Product Development and Merchandising Technology.

Admission Requirements:
- Be within 30 credit hours of graduation
- Have completed 15 credit hours in Fashion Merchandising and Design
- Have an overall GPA of 3.3, or a 3.3 GPA in the last 60 hours of coursework
- Complete all university requirements
- Have a signed Fashion Merchandising and Design major on a B.S., B.A. or B.A.A. degree

Submit both the application for admission to the Accelerated Master’s Degree Program and the application for admission to the College of Graduate Studies (found online at http://www.grad.cmich.edu/forms.htm) no later than one year prior to graduation from your undergraduate program.

Program of Study

Students must be fully admitted to the accelerated program prior to beginning classes that are expected to be counted towards both degrees. During their first semester of enrollment, students may take one 600-level course and one 500-level course to be counted towards both degrees. During the second semester of enrollment, students may take one 600-level course and one 500-level course OR two 600-level courses to be counted towards both degrees. Students may not take more than 6 hours per semester for dual credit.

Application Process:

Undergraduate students seeking admission to the Accelerated Masters Degree Program must submit the application for admission to the Office of Research and Graduate Studies no later than March 15 of the year prior to graduation from their undergraduate program. This application should be accompanied by the student’s transcripts and the applicant must also present a 2-4 page, typed, double-spaced essay that (Part I) describes how previous experiences and training have prepared and led the applicant to pursue a Master of Science degree in Apparel Product Development and Merchandising Technology (APDMT) and (Part II) identifies likely professional goals and how graduate training can help accomplish these goals. This essay replaces the written statement requested as part of the application to the Office of Research and Graduate Studies. Three (3) letters of recommendation are also required, including two letters from faculty members. The third letter may be from another faculty member or from a professional who can address the student’s capacity to succeed as a graduate student.

(Continued)
Retention Standards
Upon admittance into the Accelerated Masters Degree Program (AMDP), students have the responsibility of continuing the completion of all course requirements for the university program and for their majors and minors on their bachelor’s degree. Upon matriculation into the AMDP, an overall GPA of at least 3.0 is required throughout the graduate curriculum.

Sample Dual-Degree Curriculum
Year Four (Fall)
- FMD 604 (3)
- One 500-level required on the APDMT program* (3)
- 9 hours of undergraduate credits not counted on the APDMT (9)
Year Four (Spring)
- Two 500-level required courses required on the APDMT program (6)
  Or
- One 500-level required on the APDMT program and one 600-level required on the APDMT program* (3)
- 9 hours of undergraduate credits not counted on the APDMT (9)
Year Five (Fall)
- One Graduate Elective (3)
- One 600-level required on the APDMT program (3)
- Graduate course in Research Methods (3)
Year Five (Spring)
- Graduate Course in Research Statistics (3)
- One Graduate Elective (3)
Year Five (Summer)
- FMD 798 Thesis or FMD 635 Advanced Internship (6)
  *Courses that may be counted on the undergraduate and graduate degrees.

Master of Science (M.S.) in Nutrition and Dietetics
Minimum Totals for Graduation: 31 - 37 hours
The M.S. in Nutrition and Dietetics is designed to provide advanced training in nutritional sciences for new and experienced professionals. Its objectives are to enhance the graduate's knowledge base and expertise in the continually advancing field of nutrition and clinical dietetics and to provide graduates with the quantitative and methodological knowledge necessary to better interpret the scientific literature and nutritional research. The M.S. in Nutrition and Dietetics Program course work can be completed entirely through distance and distributed learning. The program utilizes web-based technology to provide course content.

This degree program has three options:
- Option I - Plan A Thesis Option;
- Option II - Plan B Internship Option;
- Option III - Plan C Course Work Option.

Requirements, Retention & Termination Standards

<table>
<thead>
<tr>
<th>Admission Requirement Details Below</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPA: 3.0 (in the last 60 hours undergraduate course work)</td>
</tr>
<tr>
<td>Entrance Exam: N/A</td>
</tr>
<tr>
<td>&lt;br&gt; Internat'l Application Deadline: July 1 (Fall), Oct. 1 (Spring)</td>
</tr>
</tbody>
</table>


- An undergraduate grade point average of at least 3.0 (on a 4-point scale) in the last 60 semester hours of course work.
- Successful completion of the requirements for dietetic registration by the Academy of Nutrition and Dietetics or fulfillment of the minimum academic requirements of the Didactic Program in Dietetics approved by the Academy of Nutrition and Dietetics's Commission on Accreditation/ Approval for Dietetics Education or successful completion of at least: two courses in nutrition, one being at the advanced level; and one course in each of the following: anatomy/physiology, biochemistry; microbiology; and organic chemistry.

Options
Select one of the following plans:

**Option I - Plan A: Thesis Option (31 hours)**
FNS 661 - Macronutrients 3(3-0)
FNS 662 - Micronutrients 3(3-0)
FNS 670 - Seminar: Nutrition 1-3(3Spec)
FNS 672 - Advanced Clinical Nutrition 3(3-0)
FNS 673 - Advanced Nutritional Assessment 3(3-0)
FNS 677 - Nutritional Epidemiology 3(3-0)
FNS 678 - Research Methods in Nutrition 3(3-0)
FNS 798 - Thesis in Dietetics 1-6(Spec)

Plus an oral exam on the thesis topic and 6 additional hours of electives selected with the approval of the student's academic advisor.

**Note:** FNS 670 and FNS 798 are variable credit courses. Students on this option are required to take 1 credit hour of 670 and 6 credit hours of 798.

**Option II - Plan B: Internship Option (37 hours)**
FNS 661 - Macronutrients 3(3-0)
FNS 662 - Micronutrients 3(3-0)
FNS 670 - Seminar: Nutrition 1-3(3Spec)
FNS 672 - Advanced Clinical Nutrition 3(3-0)
FNS 673 - Advanced Nutritional Assessment 3(3-0)
FNS 674 - Dietetic Internship: Clinical Experience 5(Spec)
FNS 675 - Dietetic Internship: Foodservice Administration Experience 5(Spec)
FNS 676 - Dietetic Internship: Summary Experience 2(Spec)
FNS 677 - Nutritional Epidemiology 3(3-0)
FNS 678 - Research Methods in Nutrition 3(3-0)
FNS 790 - Independent Study in Dietetics 2-6(Spec)
FNS 798 - Thesis in Dietetics 1-6(Spec)

Plus oral examination over course work and 3 additional hours of electives selected with the approval of the student's academic advisor.
Note: FNS 670 and FNS 790 are variable credit courses. Students on this option are required to take 1 credit hour of FNS 670 and 3 credit hours of FNS 790.

In some cases, twelve credits may be earned through examination to substitute for the dietetic internship experience. Students must be eligible and must pass the examination to earn the twelve credits. Contact the Department of Human Environmental Studies for the policy on Credit by Examination for Dietetic Internship Experience.

Option III - Plan C: Course Work Option (33 hours)
FNS 661 - Macronutrients 3(3-0)
FNS 662 - Micronutrients 3(3-0)
FNS 670 - Seminar: Nutrition 1-3(Spec)
FNS 672 - Advanced Clinical Nutrition 3(3-0)
FNS 673 - Advanced Nutritional Assessment 3(3-0)
FNS 677 - Nutritional Epidemiology 3(3-0)
FNS 678 - Research Methods in Nutrition 3(3-0)
FNS 790 - Independent Study in Dietetics 2-6(Spec)

Plus oral examination over course work and 9 additional hours of electives selected with the approval of the student's academic advisor.

Note: FNS 670 and FNS 790 are variable credit courses. Students in this program MUST enroll in FNS 670 three times (1 hour each) under different subject themes. For FNS 790, students are required to take 3 credit hours.

Total: 31-37 semester hours

Graduate Certificate in Nutrition and Dietetics
Minimum Totals for Graduation: 16 hours
Note: This certificate program is offered through CMU Online (CMU Global Campus) only.

The Graduate Certificate in Nutrition and Dietetics is designed to provide advanced training in clinical nutrition for new and experienced professionals. Its objectives are to enhance the graduate's knowledge base and expertise in the continually advancing field of nutrition and clinical dietetics, to provide graduates with the knowledge necessary to better interpret the scientific literature in nutrition, and incorporate nutritional constructs into their professional practice. The Certificate in Nutrition and Dietetics Program course work can be completed entirely through distance and distributed learning.

The program utilizes web-based technology to provide course content.

Admission Requirements, Retention & Termination Standards
Successful completion of a baccalaureate degree from an accredited institution, in which at least one course in each of the following was completed: basic nutrition, biochemistry; physiology and statistics.

A 3.0 minimum GPA is required in undergraduate and/or post baccalaureate course work for admission to the program.

Professional status in any health or scientific profession with advanced training. Must submit registration, certification, licensure, or other documentation of professional competency.

Core Courses (15 hours)
Select 5 courses from the following:
FNS 661 - Macronutrients 3(3-0)
FNS 662 - Micronutrients 3(3-0)
FNS 671 - Advanced Topics in Nutrition: Geriatrics 3(3-0)
FNS 672 - Advanced Clinical Nutrition 3(3-0)
FNS 673 - Advanced Nutritional Assessment 3(3-0)
FNS 677 - Nutritional Epidemiology 3(3-0)
FNS 678 - Research Methods in Nutrition 3(3-0)
FNS 679 - Advanced Topics in Nutrition: Obesity 3(3-0)

Required Course (1 hour)
FNS 670 - Seminar: Nutrition 1-3(Spec)

Total: 16 semester hours
Department of Management  
College of Business Administration

Luis Perez, Chairperson  
200 Smith Hall, 989-774-3500

Mahmood S. Bahaee, Ph.D., Management and Business Policy  
Lawrence O. Jenicke, Ph.D., Management Science, Production/Operations Management  
Hyungu Kang, Ph.D., Management Policy and Strategy  
Kevin G. Love, Ph.D., Human Resource Management  
Alexandra MacDougall, Ph.D., Human Resource Management  
Van Miller, Ph.D., International Business  
Michael J. Pisani, Ph.D., International Business  
Luis A. Perez-Batres, Ph.D., Strategic Management, International Business  
Syed Shahabuddin, Ph.D., Production/Operations Management, and Management Science  
Tomas Thundiyil, Ph.D., Human Resource Management  
Vincent Whitelock, Ph.D., Operations Management; Supply Chain Management

Course Designator:  
MGT - Management

Master of Business Administration (MBA)  
See the College of Business Administration for information.

Department of Marketing and Hospitality Services Administration  
College of Business Administration

Richard Divine, Chairperson  
200 Smith Hall 989-774-3701

Concha Allen, Ph.D., Marketing/Professional Sales  
Kenneth Cherry, Marketing/Professional Sales  
Steven H. Dahliquist, Ph.D., Marketing/Professional Sales  
Rebecca Dingus, Ph.D., Marketing/Entrepreneurship  
Richard L. Divine, Ph.D., Marketing  
Michael S. Garver, Ph.D., Marketing  
Sean Goffnett, Ph.D., Marketing/Logistics  
Deborah Gray, Ph.D., Marketing  
Obinna Obilo, Ph.D., Marketing  
Yae Sock Roh, Ph.D., Hospitality  
Samuel Spralls III, Ph.D., Marketing  
Crina Tarasi, Ph.D., Marketing  
Zachary Williams, Ph.D., Marketing/Logistics

Course Designators:  
MKT - Marketing  
HSA - Hospitality Services Administration

Master of Business Administration (MBA)  
See the College of Business Administration for information.

Department of Mathematics  
College of Science and Engineering

Thomas Gilsdorf, Chairperson  
214 Pearce Hall, 989-774-3596  
https://centrallink.cmich.edu/academics/sci_tech/math

Lisa DeMeyer, Graduate Coordinator  
210 Pearce Hall; 989-774-5595

Mohamed Amezziane, Ph.D., University of Central Florida, statistics  
James Angelos, Ph.D., Montana State University, approximation theory  
Ahmed Assaf, Ph.D., Technion University, combinatorics  
Debraj Chakrabarti, Ph.D., University of Madison-Wisconsin, Analysis  
C.-Y. Jean Chan, Ph.D., University of Utah, commutative algebra and algebraic geometry  
Chin-I Cheng, Ph.D., University of Missouri-Columbia, statistics  
Kahadawala Cooray, Ph.D., University of Nevada at Las Vegas, statistics  
John Daniels, Ph.D., Western Michigan University, statistics  
Lisa DeMeyer, Ph.D., University of north Carolina at Chapel Hill, differential geometry  
Ana Dias, Ph.D., Indiana State University, mathematics education  
Olivia M. Dumitrascu, Ph.D., Colorado State University, algebraic geometry  
Donna Ericksen, Ph.D., Michigan State University, mathematics education  
Felix Famoye, Ph.D., University of Calgary, statistics  
Martha Frank, Ph.D., Purdue University, mathematics education  
Sidney W. Graham, Ph.D., University of Michigan, number theory  
George Grossman, Ph.D., University of Windsor, applied mathematics  
Yeonhyang Kim, Ph.D., University of Wisconsin, analysis and approximation theory  
Douglas Lapp, Ph.D., The Ohio State University, mathematics education  
Carl Moun-Shen Lee, Ph.D., Iowa State University, statistics  
En-Bing Lin, Ph.D., Johns Hopkins University, applied and computational mathematics  
Meera Mainkar, Ph.D., Tata Institute of Fundamental Research, geometry, nilmanifolds  
Tibor Marcinek, Ph.D., Comenius University, mathematics education  
Sivaram K. Narayan, Ph.D., Purdue University, operator theory  
Sing-Cheong Ong, Ph.D., Dalhousie University, operator theory  
Christine M. Phelps, Ph.D., University of Delaware, mathematics education  
Katrina Piatek-Jimenez, Ph.D., University of Arizona, mathematics education  
Leela Rakesh, Ph.D., Kanpur University, applied mathematics  
Brad Safnuk, Ph.D., University of California, Davis, geometry and topology  
Benjamin Salisbury, Ph.D., University of Connecticut, algebraic combinatorics  
Ranadeera Samanthi, Ph.D., University of Wisconsin-Milwaukee, statistics  
Jungsywan Sepanski, Ph.D., Texas A&M University, statistics  
Dennis St. John, Ph.D., University of Iowa, mathematics education  
Daniel X. Wang, Ph.D., The University of Alabama, applied statistics  
Xiaoming Zheng, Ph.D., University of California at Irvine, applied mathematics

Course Designators:  
MTH - Mathematics  
STA - Statistics  
ACT - Actuarial Science

The Department of Mathematics offers the Master of Arts (M.A.) in Mathematics and the Master of Science (M.S.) in Applied Statistics and Analytics, both of which include Accelerated Programs; and the Ph.D. in Mathematical Sciences.
The department has an active faculty with particular research strengths in the areas of algebra, algebraic geometry, applied mathematics, approximation theory, combinatorics and graph theory, differential geometry, functional analysis and operator theory, mathematics education, number theory, and statistics.

Classes are small, allowing students to receive individual attention. An active colloquium program draws speakers with varied research interests from a wide range of locales. A graduate student seminar gives students the opportunity to explore topics that extend the required coursework. The applied mathematics group's specialty is computational and polymer fluid dynamics. Research groups have strong links with science and engineering departments within Central Michigan University, other universities and industry.

Computing facilities within Pearce Hall, where the department is located, include computer laboratories with Macintosh and PC computers and a research computer lab.

Two types of financial assistantships are available: graduate teaching assistantships and graduate research assistantships. Some of these are specified for doctoral students and carry a higher stipend. Additional support is available for members of under-represented minority groups.

Completed applications for assistantships must be submitted by February 15, although late applications may be considered if positions are available.

Master of Arts (M.A.) in Mathematics

Minimum Totals for Graduation: 30 hours

The M.A. degree has an emphasis in the more computational aspects of mathematics for students who are interested in jobs in business, industry and government. The degree program also retains the flexibility to prepare students for teaching mathematics at the undergraduate level or to undertake doctoral work in mathematics.

The requirements are those that a student with minimal undergraduate preparation would need to fulfill.

Any student having satisfied any of the course requirements prior to entering the program may be excused from that course requirement. However, the 30-hour requirement will not be affected.

If the student elects to write a thesis, it shall be in mathematics. If a student elects to follow non-thesis Plan B, two projects in two fields of mathematics must be completed under the direction of graduate faculty. More detailed information is available in the department office.

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

ADMISSION REQUIREMENT SNAPSHOT

GPA: 2.7 (and 2.7 in major)
GRE - Required
Application Deadline: July 1 (Fall), Oct. 1 (Spring)
See Admission Requirement Details Below

Admission is dependent upon a student having completed a minimum of 20 semester hours of mathematics including MTH 233 (Calculus III) or its equivalent, and one course in either linear or abstract algebra. A grade point average of 2.7 overall and a 2.7 in mathematics are required. Applicants must submit three letters of recommendation directly to the Mathematics Department and complete CMU Graduate Studies application. General GRE scores are required for students who are applying for a Graduate Assistantship.

Degree Requirements

Algebra Requirements (6 hours)
MTH 525 - Modern Algebra II 3(3-0)
MTH 623 - The Theory of Groups 3(3-0)

Analysis Requirements (9 hours)
MTH 533 - Advanced Calculus II 3(3-0)
MTH 632 - Introduction to Real Analysis and Its Applications 3(3-0)
MTH 636 - Introduction to Complex Variables 3(3-0)

Computational Mathematics Requirement (3 hours)
Select one of the following:
MTH 520 - Optimization Theory 3(3-0)
MTH 534 - Applied Mathematics and Differential Equations 3(3-0)
MTH 578 - Combinatorics I 3(3-0)
MTH 638 - Theoretical Numerical Analysis 3(3-0)

Statistics Requirement (3 hours)
Any Statistics course offered by the mathematics department numbered STA 500 or higher.

Research Requirements (6 hours)
Select either plan A or plan B.

Plan A (6 hours)
Completion of a thesis, including an oral examination over the thesis.
MTH 798 - Thesis 1-6(Spec)

Plan B (6 hours)

Required Courses (3 hours)
1 hour of MTH 693, plus 1 hour of MTH 698 for Plan B paper 1, and 1 hour of MTH 698 for Plan B paper 2:
MTH 693 - Graduate Seminar in Mathematics and Its Applications 1-4(Spec)
MTH 698 - Plan B Project 1-2(Spec)

Electives (3 hours)
Electives may be chosen from any graduate level course and may be selected from a department other than mathematics. Electives must be chosen with approval of the advisor.

Total: 30 semester hours

ACCELERATED MASTER OF ARTS IN MATHEMATICS

Advanced undergraduate students majoring in mathematics may want to consider an option by which they can obtain their Bachelor of Arts or Bachelor of Science in Mathematics and their Master of Arts in Mathematics in five years. The accelerated program requirements are identical to the Major in Mathematics and to the Master of Arts in Mathematics, but allow the student to apply 12 credit hours of undergraduate coursework toward both the Bachelor of Arts or the Bachelor of Science and the Master of Arts degrees.

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

To be eligible for the accelerated program, a student must have completed a minimum of 20 semester hours of mathematics including MTH 233 (Calculus III) or its equivalent, and one course in either linear or abstract algebra. A grade point average of 3.0 overall and a 3.0 in mathematics are required. In addition, students must have completed MTH 332 or its equivalent with a letter grade of at least B and must have completed at least 90 credit hours of undergraduate coursework, including all competency requirements and all but 12 credit hours of University Program requirements.

Degree Requirements

During the fourth year, students will complete MTH 632 or MTH 636, MTH 525, 533, 623 to be counted toward both the undergraduate and graduate degrees. Students will complete the Bachelor of Arts or Bachelor of Science degree requirements by the end of the summer term of the fourth year. Students will complete the coursework for the Master of Arts and complete either the Plan A or Plan B option by the end of the summer term of their fifth year.

(Continued)
Mathematics

A sample curriculum for a student who has completed 90 credit hours of undergraduate coursework is given below.

**Year 4 - Fall (15 hours)**

Undergraduate Courses (9 hours), plus 3 hours each of MTH 525 and MTH 623.

- MTH 525 - Modern Algebra II 3(3-0)
- MTH 623 - Introduction to Real Analysis and Its Applications 3(3-0)

**Note:** MTH 525 and MTH 623 apply to both the BA/BS and MA degrees. Students must register for graduate credit in these courses.

**Year 4 - Spring (15 hours)**

Undergraduate courses (9 hours), plus 3 hours each of MTH 533 and MTH 623.

- MTH 533 - Advanced Calculus II 3(3-0)
- MTH 623 - The Theory of Groups 3(3-0)

**Note:** MTH 533 and MTH 623 apply to both the BA/BS and MA degrees. Students must register for graduate credit for these courses.

**Year 4 - Summer (4 hours)**

Undergraduate courses up to 4 hours.

**(BA or BS degree conferred.)**

**Year 5 - Fall (7-9 hours)**

A statistics (STA) elective (3 hours), MTH 636 (3 hours), plus:

- For Plan B, 1 hour of MTH 698.
- For Plan A, 6 hours of MTH 798 over two semesters.

MTH 636 - Introduction to Complex Variables 3(3-0)

**Year 5 - Spring (6-8 hours)**

Computational/Perspective (3 hours), plus:

- For Plan B, a Plan B elective (3 hours), and 1 hour each of MTH 693 and 698.
- For Plan A, students must complete 6 hours of MTH 798 over the course of two semesters.

MTH 693 - Graduate Seminar in Mathematics and Its Applications 1-4(Spec)

**Year 5 - Summer (3 hours)**

- Computational Mathematics Requirement or Perspectives in Mathematics Requirement (3 hours)

**(M.A. degree conferred)**

---

**Transfer Credits:**

Students may transfer into the degree program up to nine credits of course work from another similar graduate degree program, provided that the student earned a grade of B or better in the course and the course content is equivalent to the course taught in the degree program and approved by the program advisor.

**Required Prerequisite Courses (0-6 hours)**

- STA 580 - Applied Statistical Methods I 3(3-0)
- STA 584 - Mathematical Statistics I 3(3-0)

**Note:** Students who have not taken courses similar to STA 580 and/or STA 584 with comparable contents and textbooks are required to take the pre-requisite courses.

---

**Required Courses I (18 hours)**

- STA 575 - Statistical Programming for Data Management and Analysis 3(3-0)
- STA 591 - Data Mining Techniques I 3(3-0)
- STA 675 - Advanced Statistical Data Management and Simulation 3(3-0)
- STA 684 - Theory of Statistical Inference 3(3-0)
- STA 686 - Multivariate Analysis 3(3-0)
- STA 695 - Practicum/Internship 3(Spec)

**Note:** With the approval of the program advisor, students who have taken courses similar to STA 575 and/or STA 591 with comparable contents and textbooks may be allowed to replace the course(s) with elective course(s).

**Required Courses II (9 hours)**

Select one of the following tracks:

**Track 1: Applied Statistics**

- STA 582 - Experimental Designs 3(3-0)
- STA 590 - Applied Statistical Methods II 3(3-0)
- STA 678 - Categorical Data and Survival Analysis 3(3-0)

**Track 2: Analytics**

- ITC 510 - Software and Data Modeling 3(3-0)
- ITC 586 - Big Data Analytics 3(3-0)
- ITC 686 - Big Data Analytics 3(3-0)

**Electives (3 hours)**

Select from the following:

- GEO 501 - Principles and Applications of Geographic Information System 3(2-2)
- MTH 586 - Operations Research I 3(3-0)
- STA 583 - Nonparametric Statistics 3(3-0)
- STA 587 - Statistical Theory and Methods for Quality Improvement 3(3-0)
- STA 588 - Sampling Techniques 3(3-0)
- STA 589 - Time Series Forecasting 3(3-0)
- STA 592 - Six Sigma: Foundations and Techniques for Green Belts 3(3-0)
- STA 595 - Introduction to Bayesian Statistics 3(3-0)
- STA 682 - Linear Models 3(3-0)
- STA 696 - Special Topics in Statistics 1-6(Spec)
- STA 697 - Independent Study 1-9(Spec)

**Note 1:** Graduate level courses in any discipline different from Mathematics or Statistics with approval of the program advisor may be used as elective courses.

**Note 2:** Students who are exempted from STA 575 and/or STA 591 under Required Courses I will take a total of 6 or 9 hours under electives.

**Total: 30-36 semester hours**

(Accelerated degree information, next page)
**Accelerated M.S. in Applied Statistics and Analytics**

Advanced undergraduate students majoring in Mathematics, Actuarial Science and Statistics may want to consider the option by which they can obtain Bachelor of Arts in Mathematics, Bachelor of Science in Actuarial Science or Bachelor of Science in Statistics and their Master of Science in Applied Statistics and Analytics in five years. The accelerated program requirements are stated in the Admission Requirements section below. It allows students to apply 12 credit hours of graduate coursework toward both Bachelor degree and the Master of Science degree.

**Admission Requirements, Retention & Termination Standards**

To be eligible for the accelerated program, a student must
- Have completed a minimum of 15 credit hours of mathematics, including Calculus III and Linear Algebra with at least a B in each of the mathematics courses taken.
- Have completed at least 9 credit hours of statistics including STA 580 (or equivalent) and STA 584 (or equivalent) with at least a B+ in each of the statistics courses taken.
- Have a grade point average of 3.0 overall, a 3.0 in mathematics and a 3.3 in statistics are required.
- Have completed at least 97 credit hours of undergraduate coursework, including all competency requirement and all but 9 credit hours of University Program requirements.

**Degree Requirements**

The Accelerated Master of Science in Applied Statistics and Analytics is a 30 hour program (27 hours of coursework and 3 hours of Practicum/Internship).

1. Prior to the fourth year, students will complete the prerequisite courses STA 580 and STA 584.
2. There are two tracks in the M.S. program, one in Applied Statistics and the other in Analytics. During the fourth year, students must select one track.
   - Students in the Applied Statistics track must complete STA 582, STA 591, STA 675, and STA 684, which will be counted toward both the undergraduate and graduate degrees.
   - Students in the Analytics track must complete ITC 510, STA 591, STA 675, and STA 684, which will be counted toward both the undergraduate and graduate degrees.
3. Students will complete the Bachelor of Arts or Bachelor of Science degree requirements by the end of the summer term of the fourth year.
4. Students will complete the coursework and the Practicum/Internship for the Masters of Science degree requirements by the end of the summer term of their fifth year.

A sample curriculum for a student who has completed 97 credit hours of undergraduate coursework is given below:

**Year 4 - Fall (15 hours)**
- Applied Statistics Track: Undergraduate courses (9 hours), in addition to STA 582 (3 hours) and STA 591 (3 hours).
- Analytics Track: Undergraduate courses (9 hours), in addition to ITC 510 (3 hours) and STA 591 (3 hours).
- ITC 510 - Software and Data Modeling 3(3-0)
- STA 582 - Experimental Design 3(3-0)
- STA 591 - Data Mining Techniques I 3(3-0)

**Year 4 - Spring (15 hours)**
- Both Applied Statistics and Analytics Tracks: Undergraduate courses (6 hours), in addition to STA 675 (3 hours) and STA 684 (3 hours), and an elective for graduate requirement (3 hours).
- STA 675 - Advanced Statistical Data Management and Simulation 3(3-0)
- STA 684 - Theory of Statistical Inference 3(3-0)

**Year 5 - Fall (6 hours)**
- Both Applied Statistics and Analytics Tracks: Courses must include STA 686 (3 hours) and an elective (3 hours).
- STA 686 - Multivariate Analysis 3(3-0)

**Minimum Totals for Graduation: 15 - 16 hours**

Graduate Certificate in Actuarial Science

The Graduate Certificate in Actuarial Science is designed for students interested in a career in risk management. Students take courses that prepare them to take several Society of Actuaries (SOA) professional exams (Exam P, Exam FM, Exam MLC, Exam MFE). The program also offers courses for Validation by Education Experience (VEE) credit. Students must consult with their Academic Advisor prior to registration.

**Admission Requirements, Retention & Termination Standards**

To be admitted to the program, candidates must hold at least a four year undergraduate degree or equivalent degree from a college or university of recognized standing and meet the requirements for regular admission to the College of Graduate Studies. In addition, the candidate must have completed a minimum of 13 semester hours of mathematics and/or statistics courses that include the following: Calculus III or the equivalent and one course in statistics or probability. A grade point average of 3.0 in mathematics and statistics course work is required. The documentation that a candidate must submit for consideration of admission is the same as the requirement for graduate admission provided by the College of Graduate Studies.

**Retention Requirement:** To be retained in the program, the requirement is the same as that provided by the College of Graduate Studies.

**Transfer Credits:** Not Applicable.

**Required Courses (6-7 hours)**
- Select at least two Exam prep courses:
  - ACT 539 - Probability Foundations of Actuarial Science 3(3-0)
  - ACT 540 - Mathematical Theory of Interest 4(4-0)
  - ACT 541 - Actuarial Mathematics for Life Contingencies I 3(3-0)
  - ACT 542 - Actuarial Mathematics for Life Contingencies II 3(3-0)
  - ACT 543 - Mathematics of Financial Models 3(3-0)

**Electives (9 hours)**
- Select nine hours from the following:
  - ECO 532 - Economic Forecasting 3(3-0)
  - ECO 616 - Advanced Microeconomic Theory 3(3-0)
  - ECO 620 - Advanced Macroeconomic Theory 3(3-0)
  - STA 575 - Statistical Programming for Data Management and Analysis 3(3-0)
  - STA 580 - Applied Statistical Methods I 3(3-0)
  - STA 584 - Mathematical Statistics I 3(3-0)
  - STA 589 - Time Series Forecasting 3(3-0)
  - STA 590 - Applied Statistical Methods II 3(3-0)
  - STA 591 - Data Mining Techniques I 3(3-0)

**Validation by Education Experience (VEE) Courses:** ECO 532, 616, 620; STA 580, 589.

**Total: 15-16 semester hours**
Graduate Certificate in Data Mining
This is an interdepartmental graduate certificate. Please check the index for the page number.

Doctor of Philosophy (Ph.D.) in Mathematical Sciences
Minimum Totals for Graduation: 75 hours
The Ph.D. degree is a content-based degree program that has three concentrations: Concentration in Mathematics, Concentration in Collegiate Mathematics Education and Concentration in Statistics. Coursework is broadly distributed across the various areas of mathematics, mathematics education and statistics. The Ph.D. degree is designed (a) to develop well-prepared teachers to teach college level mathematics, mathematics education and statistics. The Ph.D. degree is a content-based degree program that has three concentrations: Concentration in Mathematics, Concentration in Collegiate Mathematics Education and Concentration in Statistics. Coursework is broadly distributed across the various areas of mathematics, mathematics education and statistics. The Ph.D. degree is designed (a) to develop well-prepared teachers to teach college level mathematics, mathematics education and statistics. The Ph.D. degree is designed (a) to develop well-prepared teachers to teach college level mathematics, mathematics education and statistics. The Ph.D. degree is designed (a) to develop well-prepared teachers to teach college level mathematics, mathematics education and statistics. The Ph.D. degree is designed (a) to develop well-prepared teachers to teach college level mathematics, mathematics education and statistics. The Ph.D. degree is designed (a) to develop well-prepared teachers to teach college level mathematics, mathematics education and statistics. The Ph.D. degree is designed (a) to develop well-prepared teachers to teach college level mathematics, mathematics education and statistics. The Ph.D. degree is designed (a) to develop well-prepared teachers to teach college level mathematics, mathematics education and statistics. The Ph.D. degree is designed (a) to develop well-prepared teachers to teach college level mathematics, mathematics education and statistics. The Ph.D. degree is designed (a) to develop well-prepared teachers to teach college level mathematics, mathematics education and statistics. The Ph.D. degree is designed (a) to develop well-prepared teachers to teach college level mathematics, mathematics education and statistics. The Ph.D. degree is designed (a) to develop well-prepared teachers to teach college level mathematics, mathematics education and statistics. The Ph.D. degree is designed (a) to develop well-prepared teachers to teach college level mathematics, mathematics education and statistics. The Ph.D. degree is designed (a) to develop well-prepared teachers to teach college level mathematics, mathematics education and statistics. The Ph.D. degree is designed (a) to develop well-prepared teachers to teach college level mathematics, mathematics education and statistics. The Ph.D. degree is designed (a) to develop well-prepared teachers to teach college level mathematics, mathematics education and statistics. The Ph.D. degree is designed (a) to develop well-prepared teachers to teach college level mathematics, mathematics education and statistics. The Ph.D. degree is designed (a) to develop well-prepared teachers to teach college level mathematics, mathematics education and statistics. The Ph.D. degree is designed (a) to develop well-prepared teachers to teach college level mathematics, mathematics education and statistics. The Ph.D. degree is designed (a) to develop well-prepared teachers to teach college level mathematics, mathematics education and statistics. The Ph.D. degree is designed (a) to develop well-prepared teachers to teach college level mathematics, mathematics education and statistics. The Ph.D. degree is designed (a) to develop well-prepared teachers to teach college level mathematics, mathematics education and statistics. The Ph.D. degree is designed (a) to develop well-prepared teachers to teach college level mathematics, mathematics education and statistics. The Ph.D. degree is designed (a) to develop well-prepared teachers to teach college level mathematics, mathematics education and statistics. The Ph.D. degree is designed (a) to develop well-prepared teachers to teach college level mathematics, mathematics education and statistics. The Ph.D. degree is designed (a) to develop well-prepared teachers to teach college level mathematics, mathematics of recommendation.

Admission Requirements, Retention & Termination Standards
Admission Requirement Snapshot
GPA: 2.7 (see Item 2 below) Entrance Exam: GRE
Application Deadline: February 15 for full consideration
See Admission Requirement Details Below

Admission
1. Applicants must meet all CMU Graduate Studies admission requirements. International students should take note of any special admission considerations required by the College of Graduate Studies, including TOEFL requirements.
2. Applicants with a Bachelor’s degree must have successfully completed 20 semester hours of mathematics including Multivariate Calculus (equivalent to MTH 233), Abstract Algebra (equivalent to MTH 523), and Advanced Calculus (equivalent to MTH 532). A minimum GPA of 2.7 overall (or 3.0 in the final sixty semester hours of graded coursework toward the bachelor’s degree) and 3.0 in mathematics is required.
3. Applicants with a Master’s degree in mathematics equivalent to the M.A. degree at Central Michigan University must have a minimum GPA of 3.0 in their graduate work.
4. Applicants must submit general GRE examination scores (the GRE requirement may be waived by the Department in exceptional cases) and three letters of recommendation directly to the Department of Mathematics.
5. Full consideration is guaranteed for applicants who submit all materials before February 15. Both admission to the program and awards of Graduate Assistantships are competitive, with evaluation based on the nature of previous coursework, grades, general GRE scores, and letters of recommendation.

Program Requirements
Successful completion of the Ph.D., including coursework, internship, and dissertation, requires a minimum of 75 semester hours of graduate work beyond the bachelor’s degree. Up to 30 hours of relevant graduate work may be transferred for students entering with a master’s degree. In order to obtain the Ph.D. degree the student must have a GPA of 3.0 (B) or better.
A student with a bachelor’s degree must have earned at least 50 of the total 75 hours at the 600 level or above. Those entering with a master’s degree must have earned at least 35 hours at the 600 level or above taken at CMU. At least 15 hours of the coursework must be earned at the 700 level or above, excluding the dissertation and the internship credits.
Coursework
The program requires a minimum of 57 hours of coursework excluding internship and the dissertation credit beyond the bachelor’s degree or 27 hours of such coursework after the master’s degree. At least 15 hours of the coursework must be earned at the 700 level or above, excluding the dissertation and the internship credits. These hours are distributed among core courses and concentration-specific courses. The minimum hours that are required in each category is specified in parentheses. An advisor will assist a student in the selection of the courses. Courses in which a student earns or has earned a grade below C (2.0) do not count toward meeting any graduate degree requirements.
Any student having satisfied any of the course requirements prior to entering the program may be excused from that course requirement. For this to be approved, the student must complete the Course Requirement Waiver Form supplied by the department. However, the required total credit hours will not be affected.
The three concentrations require a list of Common Core Courses, Internship, Dissertation, and concentration-specific coursework and qualifying exams. The list of coursework below is for students who have an undergraduate degree satisfying the admission requirements. For those who enter the program with a master’s degree, up to 30 hours of relevant graduate work may be transferred depending on individual’s background and the chosen concentration in consultation with an academic advisor.

Common Core Courses (24 hours)
MTH 525 - Modern Algebra II 3(3-0)
MTH 623 - The Theory of Groups 3(3-0)
MTH 632 - Introduction to Real Analysis and Its Applications 3(3-0)
MTH 636 - Introduction to Complex Variables 3(3-0)
MTH 761 - Methods for Teaching College Mathematics 3(3-0)
MTH 762 - A Survey of Research in Collegiate Mathematics Education 3(3-0)
STA 584 - Mathematical Statistics I 3(3-0)
STA 684 - Theory of Statistical Inference 3(3-0)

Concentrations
Select one of the following concentrations:

Concentration in Mathematics (33 hours)
Mathematics Core Courses (9 hours)
Must select MTH 625, 645, and ONE of MTH 633 or 637:
MTH 625 - Theory of Associative Rings 3(3-0)
MTH 633 - Real Variables 3(3-0)
MTH 637 - Complex Variable Theory 3(3-0)
MTH 645 - Topology 3(3-0)
Core Electives (15-18 hours)
Select 15-18 hours from the following Core Electives below. At least three (3) of the courses must be at or above 600-level.
Core Electives I - Applied Mathematics (3-9 hours)
Must select MTH 534 as one of the courses:
MTH 620 - Optimization Theory 3(3-0)
MTH 534 - Applied Mathematics and Differential Equations 3(3-0)
MTH 634 - Fourier Analysis 3(3-0)
MTH 638 - Theoretical Numerical Analysis 3(3-0)
MTH 734 - Partial Differential Equations and Applications 3(3-0)
Core Electives II - Pure Mathematics (3-9 hours)
Select from the following:
- MTH 527 - Representation Theory of the Symmetric Group 3(3-0)
- MTH 578 - Combinatorics I 3(3-0)
- MTH 627 - Representation Theory of Lie Algebras 3(3-0)
- MTH 644 - Differential Geometry 3(3-0)
- MTH 678 - Combinatorics II 3(3-0)
- MTH 732 - Functional Analysis 3(3-0)

Core Electives III - Advanced Topics in Mathematics (3-9 hours)
Select from the following:
- MTH 641 - Topics in Geometry 3(3-0)
- MTH 725 - Topics in Algebra 3(3-0)
- MTH 730 - Topics in Applied Mathematics 3-9(Spec)
- MTH 737 - Topics in Analysis 3-9(Spec)
- MTH 778 - Topics in Combinatorics 3-9(Spec)

Area of Specialization Courses (6 hours)
- MTH 796 - Special Topics in Mathematics 1-6(Spec)
- MTH 797 - Independent Study 1-9(Spec)

Other Electives (0-3 hours)
All other courses with designation of MTH, STA, or ACT at 500 level or higher, and approved by the advisor.

Concentration in Collegiate Mathematics Education (33 hours)

Mathematics Education Core Courses (18 hours)
- EDU 614 - Advanced Educational Psychology 3(3-0)
- MTH 763 - Advanced Perspectives in Collegiate Mathematics Education 3(3-0)
- MTH 764 - Qualitative Research Methods in Mathematics Education 3(3-0)
- MTH 767 - Seminar I in Collegiate Mathematics Education 3(3-0)
- MTH 768 - Seminar in Collegiate Mathematics Education II 3(3-0)
- PSY 611 - Research Design 3(3-0)

Core Electives I (6 hours)
Select 6 hours from the following:
- MTH 520 - Optimization Theory 3(3-0)
- MTH 578 - Combinatorics I 3(3-0)
- MTH 586 - Operations Research I 3(3-0)
- MTH 625 - Theory of Associative Rings 3(3-0)
- MTH 638 - Theoretical Numerical Analysis 3(3-0)
- MTH 644 - Differential Geometry 3(3-0)
- MTH 645 - Topology 3(3-0)
- MTH 673 - History of Advanced Mathematics 3(3-0)
- MTH 678 - Combinatorics II 3(3-0)
- STA 590 - Applied Statistical Methods II 3(3-0)
- STA 678 - Categorical Data and Survival Analysis 3(3-0)
- STA 682 - Linear Models 3(3-0)
- STA 686 - Multivariate Analysis 3(3-0)
- STA 796 - Special Topics in Statistics 1-6(Spec)
- STA 797 - Independent Study 1-9(Spec)

Core Electives II (9 hours)
Select courses from either inside or outside of the department, in consultation with the student’s advisor.

Concentration in Statistics (33 hours)

Statistics Core Courses (21 hours)
- STA 575 - Statistical Programming for Data Management and Analysis 3(3-0)
- STA 582 - Experimental Designs 3(3-0)
- STA 590 - Applied Statistical Methods II 3(3-0)
- STA 675 - Advanced Statistical Data Management and Simulation 3(3-0)
- STA 678 - Categorical Data and Survival Analysis 3(3-0)
- STA 682 - Linear Models 3(3-0)
- STA 686 - Multivariate Analysis 3(3-0)

Core Electives (12 hours)
Select 12 hours from the following:
- STA 591 - Data Mining Techniques I 3(3-0)
- STA 691 - Advanced Data Mining Techniques 3(3-0)
- STA 694 - Theory and Applications of Bayesian Statistics 3(3-0)
- STA 696 - Special Topics in Statistics 1-6(Spec)
- STA 697 - Independent Study 1-9(Spec)
- STA 782 - Generalized Linear Models 3(3-0)
- STA 784 - Theory of Estimation 3(3-0)
- STA 797 - Independent Study 1-9(Spec)

Qualifying Examination
In the Ph.D. qualifying examinations, students are expected to demonstrate a broad knowledge of the topics and be able to integrate concepts and explain them at an appropriate level. Qualifying Examinations will be offered in the following subjects, based on the material in the courses listed in the current Graduate Student Handbook of the Department of Mathematics.

1. **Algebra**
2. **Analysis**
3. **Applied Mathematics**
4. **Applied Statistics**
5. **Combinatorics**
6. **Mathematics Education**
7. **Theoretical Statistics**
8. **Topology**

Each doctoral student must pass three examinations in three different subjects from those listed above.

- Students choosing the Concentration in Mathematics must pass examinations in algebra, analysis, and one other subject listed above.
- Students choosing the Concentration in Collegiate Mathematics Education must pass examinations in mathematics education and two other subjects listed above, at least one of which must be algebra or analysis.
- Students choosing the Concentration in Statistics must pass examinations in theoretical statistics, applied statistics, and analysis.
- If a student decides to switch to a different concentration after completing three qualifying exams, whether s/he will take additional qualifying exam(s) is determined by the faculty in the area of the new concentration.

Full-time students must pass at least one examination before the end of their fifth semester (fourth semester for students who entered the Ph.D. program with a master’s degree in mathematics or statistics), and have exams in three subjects passed before the end of their eighth semester (sixth semester for students who entered the Ph.D. program with a master’s degree in mathematics or statistics). Part-time students may request additional time from the department.

A maximum of three attempts in each subject are allowed. A third failure in one subject eliminates the student from the Ph.D. Program.

**Internship (6 hours)**

Students are required to take six (6) hours of internship of which at least three hours must be a teaching internship.

The teaching internship courses are at the 200 level or above offered in the Department of Mathematics. Students may teach a course lower than 200 level with the approval of the Graduate Committee. Prior to seeking a faculty teaching internship supervisor, the student is required to consult with his/her academic advisor.

For students who plan to complete two teaching internship courses, the internships must be in two different courses under the supervision of two different graduate faculty members in two different semesters in the Department of Mathematics. Courses with substantial overlap of contents cannot be used as two different internship courses.

Students who plan to take a non-teaching professional internship must consult with the internship faculty coordinator to arrange their internship with an external company (agency) and must complete a written contract with the company (agency) prior to registering for the non-teaching professional internship.

The student must earn credits for internships by registering for MTH 766 for teaching internship and MTH 795 for non-teaching professional internship.

(Continued)
Dissertation (12 hours)
Upon successful completion of the qualifying examinations, the student will select a dissertation supervisor. A dissertation supervisor must be a graduate faculty member in the Mathematics Department. The student will form a dissertation committee of at least three graduate faculty members in consultation with the dissertation supervisor. This dissertation committee will be chaired by the supervisor(s) and must include at least two (2) other graduate faculty members. Two members of the dissertation committee must be from the Mathematics Department. A completed doctoral dissertation must be approved by the dissertation committee, and by the College of Graduate Studies.

Students are required to register for 12 hours of MTH 898 (Dissertation). The dissertation must consist of original work and can combine scholarly, analytical, creative and expository skills. It could consist of research on a topic in mathematics/statistics, or research on a topic related to the teaching of collegiate mathematics/statistics. Before starting the dissertation work, the project to be undertaken must be approved by the dissertation committee, and by the College of Graduate Studies.

Upon completion of coursework, qualifying examination, internship, and dissertation, the candidate for the Ph.D. degree must pass a final oral examination which is a dissertation defense in a colloquium format. The student’s dissertation committee determines whether the student passes the oral examination.

The dissertation must be prepared according to the regulations prescribed in the College of Graduate Studies most recent edition of the Preparation Guide to Doctoral Dissertations, Theses, Field Studies, and Plan B Papers and must be submitted to Dissertations Abstracts International.

MTH 898 - Dissertation 1-30(Spec)

Total: 75 semester hours
Applicant should have a demonstrated commitment to advancing the Central Michigan University College of Medicine's mission and values. Demonstrating this quality includes, but is not limited to: developing programs, supporting volunteerism, involvement in research, and starting and advancing a Student Interest Group. Applicant should explain in a required essay how they have advanced the College of Medicine's mission and values, and illustrate their passion for pursuing a career in primary care as well as a desire to return and practice in the following counties: Midland, Isabella, Gratiot, Clare, Gladwin, Montcalm, Roscommon or Ogemaw.

**Gudipati Medical Scholarship**
Established in 2015 by Drs. Rao and Suhasini Gudipati to support a renewable award for a full-time medical student with proven financial need enrolled in the College of Medicine. Preference will be given to a student that comes from the Tri-City area of Michigan, consisting of Saginaw, Bay, Midland and Isabella Counties. Applicant should have a stated purpose, written in an essay, as to why they are pursuing medicine and discuss their path to medical school.

**Dr. W.E. and Idonea Hersee Memorial Medical Scholarship**
Established in 2013 by Sandra and Dennis Olson in honor of Sandra's parents, Dr. W.E. Hersee '31 and Idonea Lewis Hersee '31. Scholarship will support a renewable award for a full-time first year student enrolled in the College of Medicine who has a minimum GPA of 3.4.

**August and Jamie Hurt Family Endowed Medical Scholarship**
Established in 2013 by August '83 and Jamie Hurt. Income from the endowment will support a renewable award for a student enrolled in the College of Medicine and awarded to a first year student who has shown community service and has a minimum GPA of 3.0. Applicant shall compose an essay explaining why they are pursuing a career as a primary care physician, including how morals, values and upbringing have shaped his/her career. Preference will be given to students from the “Tri-City” area, with Bay County being first priority.

**Isabella Bank Endowed Medical Scholarship**
Established in 2013 by Isabella Bank to support of a renewable award for a full-time first year student enrolled in the College of Medicine who has a minimum GPA of 3.0. Recipient should have a stated interest in considering a residency in the central region of Michigan and/or returning to practice in the central region of Michigan as defined by the following counties: Clare, Gratiot, Isabella, Mecosta, Midland, Montcalm or Saginaw.

**David C. and Linda M. Johnson Medical Scholarship**
Established in 2015 by the David C. and Linda M. Johnson '75, '99 Family Foundation. The endowment will support a renewable award for a full-time student enrolled in the College of Medicine who is a resident of Michigan demonstrating financial need.

**R. Kesseler Family Medical Student Endowed Scholarship**
Established in 2015 by Roger '58, '89 and Phyllis Kesseler. Income from the endowment will support an award for a first year medical student enrolled in the CMU College of Medicine with interest in Family Practice Medicine who has a GPA of 3.5 or higher. Preference will be given to a Grayling High School graduate. Recipient will need to provide a one page essay along with the application. If a recipient is not available from Grayling High School, a student may come from Traverse City St. Francis High or a northern Michigan high school north of Mt. Pleasant, in that order.

**MidMichigan Health Endowed Scholarship**
Established in 2012 by MidMichigan Health, its employees and friends. Income from the endowment will support a renewable award for a full-time third or fourth year student enrolled in the College of Medicine in good academic standing. Recipient should have: 1) completed a clinical rotation at a MidMichigan Health facility, 2) a stated purpose, explained in a required essay, in pursuing a primary care residency, 3) strongly considering residency training at a MidMichigan Health residency and/or returning to practice in the MidMichigan Health services areas as defined by the following counties: Midland, Isabella, Gratiot, Clare, Gladwin, Montcalm, Roscommon or Ogemaw.

**Morey Medical Scholarship**
Established in 2013 by The Morey Foundation for support of a renewable award for a full-time student enrolled in the College of Medicine who is a Michigan resident, has proven his/her commitment to community involvement from an early age, and has participated in some business and/or communication classes as an undergraduate student. Applicant should submit a short essay correlating how his or her personality and skills are a good match for a rural healthcare environment. Financial need not a requirement, but may be considered if recipient selection is competitive.

**Myler Family Scholarship**
Established in 2013 by the Myler Family and Muskegon Development Company for support of a renewable award for a full-time first year student enrolled in the College of Medicine who has a minimum GPA of 3.4. Recipient should be a resident of Lower Michigan who was born and raised in a community located between M-46 and the Mackinaw Bridge. Financial need is not a requirement but may be taken into consideration if the recipient selection is competitive.

**President's Medical School Scholarship**
Two scholarships for students enrolled in the CMU School of Medicine. Student Selection will be need based and recipients must be committed to practice Pediatrics or Family Medicine and be in good academic standing.

**Dr. George E. & Elizabeth G. Ross Future Physician Award**
Established in 2014 by CMU's Fourteenth President and his spouse, Dr. George E. and Elizabeth G. Ross. The endowment will support an award for a full-time first year student enrolled in the College of Medicine who has a minimum GPA of 3.5. Preference will be given to a student that is a resident of mid-or northern Michigan, especially the Flint and Saginaw areas. Applicant will also write an essay expressing his/her desire to attend CMU's medical school.

**W. Sidney Smith and Judith French Smith Medical Scholarship**
Established in 2015 by W. Sidney '65 and Judith French Smith '65. The endowment will support a renewable award for a full-time student enrolled in the College of Medicine who is a resident of a central or northern county in Michigan, and has graduated from a high school or community college in the same region. Applicants will be required to complete an essay titled "Why I want to be a Primary Care Physician". Recipient will be chosen based on criteria and essay content.

**William and Janet Maar Strickler Scholarship**
Established in 2015 by William '62, '08 and Janet Maar Strickler. Income from the endowment will support an award for a first year medical student enrolled in the CMU College of Medicine who has a GPA of 3.4 or higher and is a Michigan resident from Shiawassee County or any Michigan county north of M-46. Preference will be for a student who shows evidence of nurturing qualities and/or a connection to nature and fitness as evidenced by a written essay.

**Charles J. Strosacker Endowed Medical Scholarship**
Established in 2013 by the Charles J. Strosacker Foundation for support of a renewable award for a full-time first year student enrolled in the College of Medicine who has a minimum GPA of 3.5. Recipient should have a stated purpose, explained in a required essay, in Family Practice and also have an interest in considering a MidMichigan Health residency and/or returning to practice in the MidMichigan Health services area as defined by the following counties: Midland, Isabella, Gratiot, Clare, Gladwin, Montcalm, Roscommon or Ogemaw.

**Summit Petroleum Corporation Medical Scholarship**
Established in 2012 by Summit Petroleum Corporation and Robert and Jeanne Long. Income from the endowment will support a renewable award for a full-time student enrolled in the College of Medicine who has a minimum GPA of 3.2 and is a Michigan resident. Recipient must have expressed financial need which is evident through required essay.

(Continued)
Doctor of Medicine (M.D.)

Minimum Totals for Graduation: 243 hours

The Central Michigan University College of Medicine (CMED) curriculum is an innovative, inquiry-based educational program which is integrated, individualized, sustains life-long engagement and embodies the values of the profession. This competency-based curriculum balances formal instruction with clinical training across the continuum of the fully integrated curriculum. Upon successful completion of the four-year professional program, the student will receive the Doctor of Medicine degree (MD). CMED will take a holistic approach to admissions. We seek to admit students who have personal characteristics and interests that align with CMED’s mission to prepare physicians focused on improving access to high quality health care in rural and medically underserved areas in Michigan. The holistic process includes measuring a student’s cognitive capabilities, past experiences and personal attributes.

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

Students should access the most current information directly from the CMU College of Medicine website (www.cmich.edu/med).

Required Courses - Year I (81 hours)
MED 600 - Society & Community Medicine 9(Spec)
MED 610 - Essentials of Clinical Skills 17(Spec)
MED 620 - The Art of Medicine 9(Spec)
MED 630 - Foundational Sciences of Medicine: Wellness and Disease 18(Spec)
MED 640 - Reproductive/Human Development: Wellness and Disease 8(Spec)
MED 650 - Cardiopulmonary: Wellness and Disease 10(Spec)
MED 660 - Renal/Endocrine: Wellness and Disease 10(Spec)

Required Courses - Year II (38 hours)
MED 660 - Renal/Endocrine: Wellness and Disease 10(Spec)
MED 650 - Cardiopulmonary: Wellness and Disease 10(Spec)
MED 640 - Reproductive/Human Development: Wellness and Disease 8(Spec)
MED 650 - Cardiopulmonary: Wellness and Disease 10(Spec)
MED 660 - Renal/Endocrine: Wellness and Disease 10(Spec)

Required Courses - Year III and IV (124 hours)
May be taken in either Year III or IV:
MED 810 - Clerkship: Surgery 6(Spec)
MED 820 - Clerkship: Hospitalist – Internal Medicine 6(Spec)
MED 830 - Clerkship: Psychiatry 6(Spec)
MED 840 - Clerkship: Obstetrics and Gynecology 6(Spec)
MED 800 - Comprehensive Community Clerkship 36(Spec)
MED 797 - Special Topics: Medical Clerkship Elective 1-30(Spec)
MED 930 - Clerkship: Emergency Medicine 6(Spec)
MED 920 - Internal Medicine Sub-Internship 8(Spec)
MED 910 - Surgery Sub-Internship 8(Spec)
MED 999 - Capstone 6(Spec)
MED 840 - Clerkship: Obstetrics and Gynecology 6(Spec)
MED 999 - Special Topics: Medical Clerkship Elective 1-42(Spec)
MED 897 - Special Topics: Medical Clerkship Elective 1-30(Spec)
MUS - Music

Total: 243 semester hours

Note: MED 600, 610, and 620 are to be delivered longitudinally across the first two years of the CMED curriculum. Total credit hours per year reflect half of the total of each of these courses. Example: MED 600 (9 hours) - 4.5 included in Year I total of 63 and 4.5 included in Year II total of 56.

CMED students are required to take a minimum of 24 weeks of electives. These courses will be taken as MED 797 or MED 997 Special Topics courses and must be approved by the CMED Office of Curriculum.

School of Music

College of Communication and Fine Arts

Randi L’Hommedieu, Director
162 Music, 989-774-3281

James Batcheller, D.A., Band
Jay C. Batzner, D.M.A., Electro-Acoustic Music
Bruce Bonnell, D.M.A., Horn
Jennifer Campbell, Ph.D., Music Theory
Keith Clifton, Ph.D., Musicology
Mark Cox, D.M.A., Tuba and Euphonium
Steven L. Egler, D.M.A., Organ
Edward Fedewa, M.M., Double bass
James Fiste, D.M.A., Violoncello
Sue G. Gamble, D.Ed., Music Education
David Gillingham, Ph.D., Theory/Composition
Alan Gumm, Ph.D., Music Education
Scott Harding, Ph.D., Theory
Randi L’Hommedieu, Ph.D., Music Education
Robert Lindahl, D.M.A., Trombone
Alexandra Mascolo-David, D.M.A., Piano
José Maúrtua, D.M.A., Theory
Mary Beth Minnis, M.M., Bassoon, Assistant Director
Nina Nash-Robertson, D.M.A., Director of Choral Activities
John Nichol, M.M., Saxophone
Rob Smith, M.M., Jazz Studies
Andrew Spencer, D.M.A., Percussion
Daniel L. Steele, D.M.E., Music Education, Graduate Coordinator
Eric Hoy Tucker, D.M.A., Voice
Joanna Cowan White, D.M.A., Flute
Kennen White, D.M.A., Clarinet
Adrienne Wiley, D.M.A., Piano Pedagogy
John Williamson, M.M.E., Director of Bands

The School of Music is accredited by the National Association of Schools of Music. Thirty-six full-time and nine part-time faculty teach all specializations in the field of music. The faculty’s reputation as outstanding performers, conductors, composers, and—most importantly—educators, is known throughout the nation. Students in the school immediately sense an unyielding commitment on the part of each faculty member to outstanding musical education.

Course Designator:
MUS - Music

Master of Music (M.M.)

Minimum Totals for Graduation: 30 hours

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

GPA: 3.0

ADMISSION REQUIREMENT SNAPSHOT

Entrance Exam: N/A

INTERNATIONAL APPLICATION DEADLINE: July 1 (Fall), Oct. 1 (Spring)

See Admission Requirement Details Below

Admission

In addition to university requirements for graduate admission, applicants for the Master of Music degree must meet the following requirements in the School of Music:

1. Possess a completed undergraduate music degree or other degree with at least 40 semester hours with a grade point average of 3.0 or better in music studies.
2. Submit three letters of recommendation and a writing example (e.g., term paper from undergraduate studies) to the School of Music.
3. Complete audition requirements according to degree concentration, as follows, arranged through the School of Music:
   - Composition applicants must submit a portfolio of their compositions accompanied by a CD or online recording of submitted compositions.
   - Conducting applicants must submit a DVD or online recording of their conducting.
   - Music Education applicants must complete an interview with the School of Music Graduate Coordinator.
   - Performance applicants must audition with the appropriate faculty member or performance area.
4. Any exceptions to the above requirements must be approved by the School of Music Graduate Committee.

**Program Requirements**
1. Each candidate will develop a program of studies in consultation with the School of Music Graduate Coordinator.
2. Candidates for the Master of Music degree must take diagnostic tests and pass an end-of-program comprehensive examination. Diagnostic tests must be taken the week before or first week of the semester of entry into the program as scheduled by the School of Music Graduate Coordinator.
3. Credit earned in courses taken to remove deficiencies will not apply toward the graduate degree.
4. Candidates for the Master of Music degree must complete the Music Core and the requirements of one of the concentrations.
5. Candidates for the Master of Music: Music Education concentration must have completed teaching certification requirements before graduation; international students returning to their country of origin are omitted from this requirement.

**Degree Requirements**

**Core Courses (12 hours)**
MUS 791 - Introduction to Music Research 3(3-0)

Plus:
- 3-6 hours in Music Theory
- 3-6 hours in Music History/Literature

These courses selected in consultation with an advisor.

**Concentrations**
Select one of the following options:

**Music: Composition**

**Required Courses (12 hours)**
MUS 701 - Advanced Composition 2-8(Spec)
MUS 798 - Thesis 1-6(Spec)

*Note:* 8 hours of MUS 701; 4 hours of MUS 798.

**Electives (6 hours)**
- Participation in conducted or coached ensembles is recommended (6 hours)

Total: 30 semester hours

**Music: Conducting**

**Required Courses I (6 hours)**
Select one of the following:
MUS 781 - Advanced Choral Conducting 3-6(Spec)
MUS 782 - Advanced Instrumental Conducting 3-6(Spec)

**Required Courses II (2-3 hours)**
Select one of the following:
MUS 512 - Choral Literature II (Since 1750) 2(2-0)
MUS 784 - Instrumental Rehearsal Techniques 3(3-0)

**Required Course III (4 hours)**
MUS 799 - Recital 4(Spec)

**Electives (5-6 hours)**
- Participation in conducted or coached ensembles is recommended.

Total: 30 semester hours

**Music: Music Education**

**Required Courses (6 hours)**
MUS 731 - Curriculum Design in Music Education 3(3-0)
MUS 732 - History and Philosophy of Music Education 3(3-0)

**Electives (12 hours)**
12 hours selected in consultation with an advisor:
- 6 hours of Pedagogy Electives
- 6 hours of Music Electives (Participation in conducted or coached ensembles is recommended.)

Total: 30 semester hours

**Music: Performance**

**Required Courses (13 hours)**
An Applied Major Area (8 hours) plus:
MUS 780 - Performance Ensembles 1-8(Spec)
MUS 799 - Recital 4(Spec)

*Note:* 1 hour of MUS 780.

**Electives (5 hours)**
- Music electives selected in consultation with an advisor.

Total: 30 semester hours

**Applied Music (Private Instruction)**
Students may earn credit for private instruction in the various areas of applied music as follows:

<table>
<thead>
<tr>
<th>Curriculum In Each Area</th>
<th>Hours Credit</th>
<th>Applicable Toward Maximum Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master of Music</td>
<td>1-8</td>
<td>8</td>
</tr>
<tr>
<td>Master of Arts</td>
<td>1-2</td>
<td>4</td>
</tr>
</tbody>
</table>

(Music concentration)

There is a special fee of $40.00 for one-credit-hour lessons and $75.00 for two- and four-credit-hour lessons. This fee is in addition to the regular tuition fees.

**Applied Music (Private Instruction)**
Master of Arts (M.A.) in Sport Administration

Minimum Totals for Graduation: 36 hours

This is a 36-hour graduate program designed specifically to meet the National Association for Sport and Physical Education-North American Society for Sport Management standards for accreditation.

The master’s degree in sport administration is designed to prepare the student for a career in administration in a sport-related field. The program is flexible and designed to provide both theoretical and practical experience that will meet the needs and interests of the individual.

This degree is accredited by the Commission on Sport Management Accreditation (COSMA).

**Course Designators:**

<table>
<thead>
<tr>
<th>Course Designators</th>
<th>Department of Philosophy and Religion</th>
<th>Department of Physical Education and Sport</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHL - Philosophy</td>
<td></td>
<td>The Herbert H. and Grace A. Dow College of Health Professions</td>
</tr>
<tr>
<td>REL - Religion</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Graduate-level courses offered by the Department of Philosophy & Religion may be appropriate as electives on various graduate degree curricula.

**Course Designator:**

<table>
<thead>
<tr>
<th>Course Designator</th>
<th>Department of Philosophy and Religion</th>
<th>Department of Physical Education and Sport</th>
</tr>
</thead>
<tbody>
<tr>
<td>PES - Physical Education and Professional Courses</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Department of Physical Education and Sport**

The Herbert H. and Grace A. Dow College of Health Professions

**H. Ray Allen, Chairperson**

Health Professions Building 2234; 989-774-6679
E-mail: allen1hr@cmich.edu

**H. Ray Allen, Ph.D., Pedagogy**

Judy P. Chandler, Ph.D., Special Physical Education
Scott Hirko, Ph.D., Sport Management
Margaret Keiper, Ph.D., Sport Management
Marcia J. Mackey, Ph.D., Sport Management
Vincent E. Mumford, Ed.D., Sport Management
Tracy W. Olrich, Ph.D., Motor Learning, Psychology of Sport

The Department of Physical Education and Sport offers a Master of Arts in Sport Administration.

**Electives (0-6 hours)**

These courses will be selected from Educational Leadership, Communication, Management, Marketing, Physical Education and Sport, etc.

**Total: 36 semester hours**
Department of Physics
College of Science and Engineering

Christopher Tycner, Chairperson
Dow 203, 989-774-3321
https://centrallink.cmich.edu/academics/sci_tech/physics

Veronica Barone, Ph.D., Computational Physics, Molecular Modeling
Joseph Finck, Ph.D., Experimental Nuclear Physics, Science Policy
Marco Fornari, Ph.D., Computational Condensed Matter Physics
Mihai Horoi, Ph.D., Theoretical Nuclear Physics, Computational Physics
Koblar A. Jackson, Ph.D., Computational Condensed Matter Physics
Axel Mellingier, Ph.D., Experimental Materials Physics
Juan Peralta, Ph.D., Computational Condensed Matter Physics
Georgios Perdikakis, Ph.D., Experimental Nuclear Physics and Nuclear Astrophysics
Valeri Petkov, Ph.D., Experimental Materials Physics
Matthew Redshaw, Ph.D., Experimental Atomic and Nuclear Physics
Christopher Tycner, Ph.D., Observational Astrophysics
Glen Williams, Ph.D., Theoretical Astrophysics

Course Designators:
PHY - Physics
PHS - Physical Science
AST - Astronomy

The Central Michigan University Department of Physics offers the Master of Science in physics for students who are interested in careers in business, industry, and government as well as for those preparing to teach at the undergraduate level, or for those considering doctoral work in physics or a related area such as materials science or astronomy. Classes are small, and students have the opportunity for close supervision and individual attention. Graduate research assistantships are available in several research areas, in addition to graduate teaching assistantships and fellowships. In past years, most graduate students in the Department of Physics have received financial support.

Department faculty members are active in the following areas of research: astrophysics, atomic physics, computational physics, condensed matter physics, materials physics, nuclear physics, observational astronomy, and science education. Collaborative research efforts exist with other CMU departments, and researchers at other universities and at national laboratories. A biweekly seminar series brings experts with varied research interests to campus.

The department is housed in the Leon A. and Frances M. McDermott number. The department at the Dow Science Center. The laser laboratory is presently equipped to perform fluorescence lifetime studies and Doppler-limited spectroscopy, as well as atom cooling experiments. The polymer physics laboratory has equipment to measure rheological properties of polymer fluids and melts. The condensed matter laboratory is designed to study the electrical properties of electret polymer films. The X-ray diffraction laboratory is equipped to study the structure of both crystalline and amorphous materials. The Brooks Astronomical Observatory is equipped for CCD photometric observations, optical spectroscopy, and general visual observing. Support facilities include electronics and machine shops, both staffed by full-time technicians.

Further information about research opportunities can be found on the department website, at www.cmich.edu/colleges/cst/physics/.

Master of Science (M.S.) in Physics

Minimum Totals for Graduation: 30 hours

The requirements for the M.S. in physics are based on a core of 15 semester hours in advanced mechanics, electricity and magnetism, and quantum mechanics. Three hours of seminar are required. In consultation with an advisor, the student selects either Plan A or Plan B for an additional 15 hours. The program is normally completed in two years. There is no qualifying examination, and no foreign language is required.

Admission Requirements, Retention & Termination Standards

For admission to the physics graduate program, a bachelor's degree in physics is required with a minimum grade point average in physics of 2.7. An applicant with minor deficiencies may be admitted with the understanding that course work in addition to the usual 30 hours may be required. Students from non-English speaking countries are required to demonstrate proficiency in English via the TOEFL exam. Applicants for graduate assistantships are strongly urged to submit GRE General and Physics scores. A maximum of 24 credits earned during non-degree status may be applied toward a graduate degree in Physics.

Degree Requirements

Required Core Courses (15 hours)

PHY 624 - Advanced Mechanics 3(3-0)
PHY 634 - Advanced Electricity and Magnetism 3(3-0)
PHY 643 - Quantum Mechanics I 3(3-0)
PHY 644 - Quantum Mechanics II 3(3-0)
PHY 685 - Seminar: Contemporary Physics 1-4(Spec)

Plan Option (15 hours)

Select one of the following plans:

Plan A (Thesis Option)
Select PHY 798 for a total of six hours; plus 3-9 hours of electives from AST 562, AST 563, or any PHY courses at the 500 level of above; and 0-6 hours of cognate courses (which may be chosen to meet the individual needs of the student, but must be in a discipline closely related to the area of specialization).
PHY 798 - Thesis 1-6(Spec)

Plan B (Non-Thesis Option)
Select 9-15 hours of electives from AST 562, AST 563, or any PHY courses at the 500 level or above; plus 0-6 hours of cognate courses (which may be chosen to meet the individual needs of the student, but must be in a discipline closely related to the area of specialization). In addition, students must submit a Plan B paper, approved by the Physics graduate committee, which discusses their research, independent study, or internship.

Total: 30 semester hours

Ph.D. in the Science of Advanced Materials

This is an interdisciplinary degree. Please see the index for the page number.
Department of Political Science and Public Administration
College of Humanities and Social & Behavioral Sciences

Lawrence Sych, Chairperson
247 Anspach Hall, 989-774-3442
Prakash Adhikari, Ph.D., Comparative Politics
Joyce A. Baugh, Ph.D., Constitutional Law
Edward Clayton, MA Director, Ph.D., Normative Political Theory
C.W. (Bill) Cowles, Ph.D., Public Policy and Administration
Thomas Greitens, MPA Director, Ph.D., Public Administration
James P. Hill, Ph.D., Public Policy
So Hee Jeon, Ph.D., Public Administration
David K. Jesuit, Ph.D., Comparative Politics, Western Europe
Sterling Johnson, Ph.D., American Foreign Policy
Sharon Kukla-Acevedo, Internship Director, Ph.D., Public Administration
Won K. Paik, Ph.D., International Relations
Emma Powell, A.B.D., Public Administration
Nancy Quarles, Ph.D., Public Administration
J. Cherie Strachan, Ph.D., Political Participation, Interest Groups, Political Behavior
Lawrence Sych, Ph.D., State and Local Government and Public Administration

Course Designators:
PSC - Political Science
PAD - Public and Nonprofit Administration

The Department of Political Science and Public Administration offers a Master of Arts degree in Political Science, a Master of Public Administration degree, and courses contributing to several other graduate programs at the university, including a concentration in Public Administration in the Master of Science in Administration. The department also offers courses which fulfill the requirements for the Political Science Concentration in Option 1, Teaching in the Senior High School in the Master of Arts in Secondary Education Unit in this Bulletin.

The department’s graduate level internship program provides working knowledge of and experience in public and non-profit agencies. The specific requirements for the Master of Arts in Political Science and the Master of Public Administration are stated in separate sections below.

Master of Arts (M.A.) in Political Science
Minimum Totals for Graduation: 33 hours
Program Director: Edward W. Clayton, Ph.D., 989-774-3442; edward.clayton@cmich.edu

Mission Statement
The Master of Arts (MA) program in Political Science at Central Michigan University is designed for students who are planning to pursue further graduate education and for students who, for reasons of career enhancement or of specialized training for employment, are seeking a Master’s degree as their ultimate goal. The Department provides students with rigorous academic training in the discipline.

This preparation enables CMU graduates to be competitive when applying to Ph.D. programs, law schools or other graduate programs. In addition, CMU MA graduates will be well-prepared for a wide range of other careers, including federal, state and local government, the Foreign Service, teaching at the community college or high school level, and careers in the private sector.

Accordingly, the Master of Arts (MA) program in Political Science at Central Michigan University has the following goals:

- educating students about the diversity of models, approaches, and intellectual traditions within Political Science;
- training students in the appropriate research skills necessary to complete their research objectives;
- preparing students for entrance into Ph.D. programs in Political Science, entrance into law schools, entrance into public service, or for upgrading their credentials for careers in teaching, including primary and secondary education;
- developing students’ ability to critically analyze and evaluate scholarly work;
- fostering students’ ability to think critically and effectively express their thoughts in written and oral communication;
- encouraging and mentoring students’ professional growth through research and presentations at professional conferences;
- providing opportunities to network within the field of study through internships, honorary organizations and on-campus events.

Admission Requirements, Retention & Termination Standards

<table>
<thead>
<tr>
<th>Admission Requirement Snapshot</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPA: 2.8</td>
</tr>
<tr>
<td>Entrance Exam: N/A</td>
</tr>
<tr>
<td>Interna’l Application Deadline: July 1 (Fall), Oct. 1 (Spring)</td>
</tr>
<tr>
<td>See Admission Requirement Details Below</td>
</tr>
</tbody>
</table>

Admission
1. An undergraduate grade point average of at least 2.8 (on a 4.0 point scale).
2. A minimum of 18 undergraduate hours in the social sciences of which at least 6 hours are in political science.
3. An essay (two or three pages, double-spaced) including a discussion of the applicant’s professional and/or educational goals and how completion of the program will facilitate his or her achievement of those goals. This essay replaces the written statement requested as part of the Office of Research and Graduate Studies application.
4. Two letters of recommendation from college faculty or other professionals who are familiar with the applicant’s abilities and can attest to the applicant’s potential to succeed in the program.
5. Evidence of successful completion of an undergraduate statistics or social science research methods course.
6. If the applicant is an international student for whom English is not the first language please see the English Proficiency Standards in the current Graduate Bulletin to learn how to demonstrate competency in English.
7. Per university policy, conditional admission may be considered for applicants with backgrounds or grade point averages that do not meet these requirements. Courses taken to meet these requirements may not be counted toward graduate degree requirements. Regular admission status should be requested upon completion of all conditional requirements.
8. Up to 9 semester hours of graduate credit may be transferred from another institution with approval of the advisor and the Vice President/Dean of the Office of Research and Graduate Studies.

Program Requirements
The student must complete a minimum of 33 hours according to the plan of study below. At least 15 of the hours presented for the degree must be in courses at or above the 600 level.

The student must complete the required core courses (24 hours); one elective course at the 600 or 700 level (3 hours); and either the Plan A Thesis (6 hours) or the Plan B non-thesis option (6 additional hours of course work selected in consultation with an advisor).
Required Courses (24 hours)
PSC 514 - American Public Policy Making 3(3-0)
PSC 520 - American National Government and Politics 3(3-0)
PSC 522 - Regulatory Processes and Administrative Law 3(3-0)
PSC 551 - Seminar in International Relations 3(3-0)
PSC 670 - Justice, Freedom, Equality: Essential Political Ideas 3(3-0)
PSC 680 - Methodology of Political Research 3(3-0)
PSC 682 - Techniques of Political Research 3(3-0)
PSC 740 - Seminar in Comparative Politics 3(3-0)

Electives (3 hours)
Select one of the following courses:
PAD 585 - Public Sector Information Technology Management 3(3-0)
PAD 610 - Foundations of Public Administration 3(3-0)
PAD 622 - Strategic Planning for Public/Non-Profit Organizations 3(3-0)
PAD 661 - Administration and Policy in American State Government 3(3-0)

Plan Option (6 hours)
Select either Plan A or Plan B:

Plan A - Thesis (6 hours)
Thesis and Oral Defense
Students selecting Plan A are required to complete a Thesis. By their final semester of graduate coursework, students must enroll in Thesis (PSC 798). Prior to the final semester, the student shall form a Master’s Thesis Committee, including a Chair and two additional members, complete and submit a prospectus, and schedule a defense date. The Thesis must be a complete significant original scholarly work. This Committee shall determine whether the completed thesis is satisfactory for permanent filing. In addition, students will be required to complete an oral defense of their thesis before the Committee.

PSC 798 - Thesis 1-6(Spec)

Plan B - Non-Thesis Option (6 hours)
Two papers and oral defense
Students completing the Plan B are required to take 6 additional hours of coursework and present revisions of two seminar papers as evidence of scholarly achievement. Although students planning to continue their studies in pursuit of a Ph.D. in Political Science are strongly advised to pursue the Plan A option, the Department also offers a Plan B option for those students who expect the M.A. to be their terminal degree. The Plan B option requires students to:
1. complete 6 additional hours of graduate coursework (in lieu of 6 hours of Thesis Writing); and
2. submit two research papers as evidence of scholarship. These papers must be prepared in connection with a seminar, an independent research course, or a graduate-level course in the Department of Political Science and Public Administration. Before a student’s final semester, the student shall form a Plan B Paper Committee, including a Chair and two additional members. This committee shall determine whether the submitted papers are satisfactory for permanent filing. Satisfactory papers must demonstrate substantial revisions from the final version submitted at the close of the seminar, independent research course, or graduate-level course in the Department of Political Science. Students will provide a cover letter for each research paper that describes the type and extent of revisions undertaken. This cover letter should provide a point-by-point response to any concerns raised by the instructor, as well as a clear description and explanation of additions made to the paper. In addition, students will be required to complete an oral defense of each of these papers before the Committee. A minimum of 20-25 pages for each paper is suggested.

Total: 33 semester hours

ACCELERATED MASTER OF ARTS IN POLITICAL SCIENCE

Eligibility Standards
Students who meet the following criteria are eligible to apply to the accelerated program:
1. Signed major in political science.
2. Enrolled in last semester of junior status.
3. Completion of at least 15 political science credits, not including internship and CR/NC courses.
4. Completion of PSC 280 Introduction to Empirical Methods of Political Science with a grade of B+ or higher.
5. Per university policy, conditional admission may be considered for applicants with backgrounds or grade point averages that do not meet these requirements. Courses taken to meet these requirements may not be counted toward graduate degree requirements. Regular admission status should be requested upon completion of all conditional requirements.

Admission Requirements
Students must apply for admission to Graduate Studies at CMU during the last semester of their junior undergraduate year. Students must meet the requirements for admission to the Master of Arts in Political Science degree and to Graduate Studies. In addition, students should also have completed university competency requirements. If admitted, graduate status is conferred in the senior year after the student has completed at least 86 undergraduate credit hours with a cumulative undergraduate grade point average of at least 3.25 or a grade point average of 3.25 in political science course work.

Program Requirements
Three to twelve (3-12) hours of graduate PSC credit (500 and 600 level courses) leading to the Master of Arts degree in Political Science may be taken in the final year of undergraduate work.

Master of Public Administration (M.P.A.)

Minimum Totals for Graduation: 37 hours
Program Director: Dr. Thomas Greitens, 989-774-3862; greit1t@cmich.edu

Vision Statement
The Master of Public Administration (MPA) program at Central Michigan University offers a nationally accredited applied professional degree that seeks to be an internationally recognized program for enriching public service and educating practitioners and pre-service students to lead and manage in a variety of public sector settings.

Mission Statement
The mission of the Master of Public Administration program at Central Michigan University is to provide practitioners and pre-service students enriching learning experiences that prepare and advance their intellectual growth, ensure effective and accountable decision-making as they lead, manage, and serve in the public sector, and increase the likelihood of successful public governance via respect for citizens and clients in a variety of public service settings, from government organizations to non-profit agencies and international bodies.

Public Service Values
To achieve our mission and realize our vision, the MPA program at Central Michigan University emphasizes the following NASPAA public service values.

(Continued)
MPA Admission Requirements include the following:

1. An undergraduate grade point average of at least 2.8 (on a 4.0 point scale).
2. Evidence of successful completion of an undergraduate statistics or research methods course is required.
3. An essay (two or three pages, double-spaced) including a discussion of the applicant's professional goals and how completion of the program will facilitate his or her achievement of those goals. This essay replaces the written statement requested as part of the application to the Graduate Studies at CMU.
4. Three letters of recommendation from former professors, professionals in the field of public service, or alumni of the MPA program, that attest to the applicant's potential to succeed in the program.
5. A current resume.
6. If the applicant is an international student for whom English is not the first language, a score of 550 on the written-based (or 213 on the computer-based) Test of English as a Foreign Language (TOEFL).
7. Per university policy, conditional admission may be considered for applicants with backgrounds or grade point averages that do not meet these requirements. Courses taken to meet these requirements may not be counted toward graduate degree requirements. Regular admission status should be requested upon completion of all conditional requirements.

8. Up to 9 semester hours of graduate credit may be transferred from another institution with approval of the advisor and the Vice President/Dean of the Office of Research and Graduate Studies.

Required Courses I (24 hours)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAD 610</td>
<td>Foundations of Public Administration</td>
<td>3(3-0)</td>
</tr>
<tr>
<td>PAD 623</td>
<td>Public Policy Processes and Evaluation</td>
<td>3(3-0)</td>
</tr>
<tr>
<td>PAD 711</td>
<td>Personnel Administration Practice</td>
<td>3(3-0)</td>
</tr>
<tr>
<td>PAD 713</td>
<td>Public Budgeting and Finance</td>
<td>3(3-0)</td>
</tr>
<tr>
<td>PAD 714</td>
<td>Program Analysis and Evaluation</td>
<td>3(3-0)</td>
</tr>
<tr>
<td>PAD 773</td>
<td>Administration and Ethics in Public Service</td>
<td>3(3-0)</td>
</tr>
<tr>
<td>PAD 775</td>
<td>Organization Theory and Behavior</td>
<td>3(3-0)</td>
</tr>
<tr>
<td>PAD 780</td>
<td>Public Sector Research Methods</td>
<td>3(3-0)</td>
</tr>
</tbody>
</table>

Required Courses II (0-3 hours)

- PAD 795 - Internship in Public Administration 1-6(Spec)

Note: In-service students with experience are not required to take an internship (PAD 795). Students without experience will take 3 hours of internship, reducing their number of elective courses by 1 course, or 3 credit hours.

Required Courses III (1 hour)

- PAD 730 - Public Service Competencies 1(Spec)

Note: After the successful completion of the core curriculum (excluding any internship requirement for pre-service students), students are required to register for PAD 730. Students must inform their advisor before the start of the semester of their intentions to take the Public Service Competencies Assessment.

Concentrations

Select one of the following concentrations:

General Concentration

Required Courses IV (3 hours)

- PAD 785 - Strategic Leadership 3(3-0)

Electives (6-9 hours)

Courses from among any of the following chosen in consultation with an advisor:

- PAD 523 - Fundamentals of Grant Writing and Management 3(3-0)
- PAD 585 - Public Sector Information Technology Management 3(3-0)
- PAD 620 - Nonprofit Management 3(3-0)
- PAD 621 - Board Governance and Executive Leadership 3(3-0)
- PAD 622 - Strategic Planning for Public/Non-Profit Organizations 3(3-0)
- PAD 655 - Managing Modern Local Government 3(3-0)
- PAD 661 - Administration and Policy in American State Government 3(3-0)
- PAD 712 - Implementation and Reform of Public Programs 3(3-0)
- PAD 796 - Applied Research in Public Administration 3(3-0)
- PSC 513 - Citizen Engagement in Public Life 3(3-0)
- PSC 563 - Politics and Policy in Urban Communities 3(3-0)
- PSC 566 - Intergovernmental Relations in the United States 3(3-0)
- PSC 790 - Advanced Readings I 1-6(Spec)

Total: 37 semester hours

Nonprofit Management Concentration

Required Courses IV (9 hours)

- PAD 620 - Nonprofit Management 3(3-0)
- PAD 621 - Board Governance and Executive Leadership 3(3-0)
- PAD 622 - Strategic Planning for Public/Non-Profit Organizations 3(3-0)

Restricted Electives (0-3 hours)

- PAD 523 - Fundamentals of Grant Writing and Management 3(3-0)
- PAD 585 - Public Sector Information Technology Management 3(3-0)
The 18 credit-hour graduate certificate in Citizen Engagement is designed to provide awareness of trends in engagement in public life, as well as training in how to enhance citizens’ participation in democratic processes, civil society and political institutions. The program includes two required courses in addition to a required applied practicum in citizen engagement. The remaining credits are elected from three groupings of courses: Public Opinion Polling, Elected Institutions and Processes, or Appointed Institutions and Processes. Requiring both electives to be taken from the same category is intended to help students develop citizen engagement skills tailored to their specific political interests and to a traditional point of access to engage their community, political groups, and governmental institutions.

The certificate addresses a democratic society’s need for elected officials, public servants, and civil society leaders who not only value authentic citizen engagement in public life, but are trained in various techniques for promoting their participation.

Students seeking the certificate must hold a completed baccalaureate degree or have acceptance into a graduate degree program at CMU. Students seeking the certificate must hold a completed baccalaureate degree. For pre-service students, the required internship substitutes for the elective course.

**Total:** 37 semester hours

### State and Local Government Concentration

<table>
<thead>
<tr>
<th>Required Courses IV (6 hours)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PAD 655 - Managing Modern Local Government 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>PAD 661 - Administration and Policy in American State Government 3(3-0)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Restricted Electives (3-6 hours)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Select courses from among any of the following, chosen in consultation with an advisor:</td>
<td></td>
</tr>
<tr>
<td>PAD 585 - Public Sector Information Technology Management 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>PAD 712 - Implementation and Reform of Public Programs 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>PAD 785 - Strategic Leadership 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>PAD 796 - Applied Research in Public Administration 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>PSC 513 - Citizen Engagement in Public Life 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>PSC 563 - Politics and Policy in Urban Communities 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>PSC 566 - Intergovernmental Relations in the United States 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>PSC 790 - Advanced Readings I 1-6(Spec)</td>
<td></td>
</tr>
</tbody>
</table>

**Total:** 37 semester hours

### Graduate Certificate in Citizen Engagement

**Minimum Totals for Graduation: 18 hours**

The 18 credit-hour graduate certificate in Citizen Engagement is designed to provide awareness of trends in engagement in public life, as well as training in how to enhance citizens’ participation in democratic processes, civil society and political institutions. The program includes two required courses in addition to a required applied practicum in citizen engagement. The remaining credits are elected from three groupings of courses: Public Opinion Polling, Elected Institutions and Processes, or Appointed Institutions and Processes. Requiring both electives to be taken from the same category is intended to help students develop citizen engagement skills tailored to their specific political interests and to a traditional point of access to engage their community, political groups, and governmental institutions.

The certificate addresses a democratic society’s need for elected officials, public servants, and civil society leaders who not only value authentic citizen engagement in public life, but are trained in various techniques for promoting their participation.

Students seeking the certificate must hold a completed baccalaureate degree or have acceptance into a graduate degree program at CMU. Students seeking the certificate must hold a completed baccalaureate degree. For pre-service students, the required internship substitutes for the elective course.

**Total:** 18 semester hours

### Graduate Certificate in Professional Development in Public Administration

**Minimum Totals for Graduation: 15 hours**

The 15 credit hour certificate is designed for regularly admitted graduate students who desire advanced training in the field of public administration, but who are not seeking a master’s degree at this time. Credits successfully earned with the certificate program can be transferred toward the MPA degree. Students may substitute courses only upon approval of the Public Administration Council. Admission is through the Office of Research and Graduate Studies. Students pursuing this certification program should have a background in political science, public administration, economics, social work, criminal justice or any other administration related field.

**Required Courses (12 hours)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAD 712</td>
<td>Implementation and Reform of Public Programs</td>
<td>3(3-0)</td>
</tr>
<tr>
<td>PAD 795</td>
<td>Internship in Public Administration</td>
<td>1-6(Spec)</td>
</tr>
<tr>
<td>PSC 513</td>
<td>Citizen Engagement in Public Life</td>
<td>3(3-0)</td>
</tr>
<tr>
<td>PSC 681</td>
<td>Qualitative Research in Political Science and Public Administration</td>
<td>3(3-0)</td>
</tr>
</tbody>
</table>

**Note:** Six hours are required for PAD 795.

**Electives (6 hours)**

Select two courses from one of the following categories:

**Electives I - Public Opinion Polling (0-6 hours)**

Select PSC 794 for three (3) hours and one other course:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSC 583</td>
<td>Survey Research</td>
<td>3(3-0)</td>
</tr>
<tr>
<td>PSC 680</td>
<td>Methodology of Political Research</td>
<td>3(3-0)</td>
</tr>
<tr>
<td>PSC 682</td>
<td>Techniques of Political Research</td>
<td>3(3-0)</td>
</tr>
<tr>
<td>PSC 794</td>
<td>Practicum in Public Polling</td>
<td>1-12(Spec)</td>
</tr>
</tbody>
</table>

**Electives II - Elected Institutions and Processes (0-6 hours)**

Select two courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAD 661</td>
<td>Administration and Policy in American State Government</td>
<td>3(3-0)</td>
</tr>
<tr>
<td>PSC 514</td>
<td>American Public Policy Making</td>
<td>3(3-0)</td>
</tr>
<tr>
<td>PSC 520</td>
<td>American National Government and Politics</td>
<td>3(3-0)</td>
</tr>
<tr>
<td>PSC 761</td>
<td>Seminar in American State Government</td>
<td>3(3-0)</td>
</tr>
</tbody>
</table>

**Note:** Select 3 credits of PAD 661 OR PSC 761, not both.

**Electives III - Appointed Institutions and Processes (0-6 hours)**

Select two courses:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PAD 585</td>
<td>Public Sector Information Technology Management</td>
<td>3(3-0)</td>
</tr>
<tr>
<td>PAD 610</td>
<td>Foundations of Public Administration</td>
<td>3(3-0)</td>
</tr>
<tr>
<td>PAD 713</td>
<td>Public Budgeting and Finance</td>
<td>3(3-0)</td>
</tr>
<tr>
<td>PAD 773</td>
<td>Administration and Ethics in Public Service</td>
<td>3(3-0)</td>
</tr>
</tbody>
</table>

**Total:** 18 semester hours

### Master of Arts (M.A.) or Graduate Certificate in Cultural Resource Management

These programs are interdisciplinary. Please see the index for the page number.
Department of Psychology
College of Humanities and Social & Behavioral Sciences

Katrina Rhymer, Chairperson
101 Sloan Hall 989-774-3001

Jane Ashby, Ph.D., University of Massachusetts. Cognitive psychology

Renee Babcock, Ph.D., Georgia Institute of Technology. Adult development and aging, age differences in memory.

Richard Backs, Ph.D., University of Southern California. Human factors, psychophysiology, aging, attention, emotion.

Terry Beehr, Ph.D., University of Michigan. Job stress, retirement, leadership, careers.

Emily Bloesch, Ph.D., Washington University. Cognitive aging, peripersonal space representations, body-modeulated visual attention and perception, human factors in healthy aging.

Neil Christiansen, Director, Industrial/Organizational Psychology, Ph.D., Northern Illinois University. Personality and work, racism and social judgments, attitudes toward affirmative action.

Stephen Colarelli, Ph.D., New York University. Industrial/Organizational psychology, evolutionary psychology.

Christopher Davoli, Ph.D., Washington University. Perception, history and systems. Visual perception and attention, embodied cognition, peripersonal space, action, tool-use, visual learning and memory, visual search, eye-tracking, emotional processing, cognitive aging and individual differences.

Daniel Dreven, Ph.D., Central Michigan University. Academic and behavioral interventions based on applied behavior analysis, single-case design, psychosocial assessment.

Gary Dunbar, Director, Neuroscience Program, Ph.D., Clark University. Behavioral neuroscience, stem cell and pharmaceutical treatment of brain damage and neurodegenerative diseases.

Bryan Gibson, Ph.D., University of Utah. Self presentation, smoker-nonsmoker interaction, psychology of gambling.

Kyunghae Han, Ph.D., University of Minnesota. Scientific study of culture, quantitative methods, psychological test/scale development and evaluation.

Timothy Hartshorne, Ph.D., University of Texas at Austin. Low-incidence disabilities, CHARGE syndrome, deafblindness, disability and the family, parent-professional relationships, therapeutic interventions, issues around loss.

Michael Hixson, Director, School Psychology, Ph.D., Western Michigan University. Behavior analysis, direct instruction, precision teaching, behavior development, curriculum based measurement.

Melvyn Jaffa, Ph.D., Columbia University. Social cognition, emotionality, interpersonal behavior, eating.

Kenneth Jenrow, Ph.D., Oakland University. Electrophysiology, mitigating neuroinflammation and its deleterious effects on synaptic plasticity and cognitive function.

Carl Johnson, Ph.D., Michigan State University. Sleep disorders, applied behavior analysis, organizational behavior management.

Sandra Kanouse, Ph.D., Central Michigan University. Academic and behavioral assessment and intervention, pediatric consultation.

Yannick Marchalant, Ph.D., université de Caen, France. Influence of brain aging and neuroinflammatory processes on the development of neurodegenerative diseases.

Elizabeth Meadows, Ph.D., State University of New York at Albany. Anxiety disorders, trauma, prevention of psycho-pathology, psychological and medical problem interactions.

Larissa Niec, Ph.D., Case Western Reserve University. Children’s interpersonal function, impact of out-of-home care on children, child maltreatment, attachment.

Christie Nutkins, Ph.D., Central Michigan University. Implementation of ABA principles within school-based settings.

Kimberly O’Brien, Ph.D., University of South Florida. Occupational Health, job stress, psychometrics and research methods.

Hajime Otani, Ph.D., University of Georgia. Human memory and cognition.

Kevin Park, Ph.D., University of Illinois at Urbana-Champaign. Molecular genetics and neurobiology of neurodegenerative diseases, preclinical therapeutic development.

Debra Poole, Ph.D., University of Iowa. Basic language/cognitive/social development in children related to social issues, forensic psychology.

Matthew Prewett, Ph.D., University of South Florida. Team performance management, personality traits, technology in the work place.

Stuart Quirk, Ph.D., Case Western Reserve University. Emotional response (with a general focus upon psychopathology), emotional regulation through substance use.

Mark Reilly, Undergraduate Director, Ph.D., West Virginia University. Experimental analysis of behavior, operant/respondent conditioning, animal learning, quantitative models, behavioral pharmacology, substance abuse.

Katrina Rhymer, Ph.D., Mississippi State University. Academic, behavioral, and social/emotional interventions, curriculum-based measurement and single-subject design research.

George Ronan, Ph.D., Fairleigh Dickinson University. Personal problem solving, anger/aggression, psychological assessment.

Michael Sandstrom, Ph.D., Ohio State University. Assessing brain plasticity, compensatory neuronal activity, or neurochemical control during active behavior at various stages of deteriorative brain diseases such as Parkinson’s and Huntington’s using animal models.

Kyle Scherr, Director, Experimental Psychology, Ph.D., Iowa State University. Psychology and Law.

Reid Skeel, Director, Clinical Psychology, Ph.D., University of Florida. Neuropsychology.

K. Roger Van Horn, Ph.D., Iowa State University. Human development and developmental changes in cognitive and psychosocial processes.

Nathan Weed, Ph.D., University of Minnesota. Assessment of personality and psychopathology, psychometric methods in personality assessment.

Course Designator:
PSY - Psychology

The Programs
The first graduate degree awarded in psychology at CMU was the Master of Arts in General Psychology in 1967. Since then the department has expanded its programs to include the Master of Science in Experimental Psychology, a Master of Arts in Industrial/Organizational Psychology, a Specialist in Psychological Services in School Psychology, and Doctor of Philosophy degrees in Industrial and Organizational Psychology, Clinical Psychology, School Psychology and Applied Experimental Psychology. These programs have been, and continue to be, successful, with some of its graduates attaining national and international recognition in psychology.

The Department of Psychology maintains a variety of facilities that are used in the education of graduate students. Following is a brief description of those most frequently used within the department and university.

Computer Facilities. A computer lab for graduate students is located in Sloan Hall. There are a total of 18 networked computers (located on the second floor and in the basement) available for testing research participants. Computers are also available at the Health Professions Building for students who are working at the Psychological Training and Consultation Center (PTCC) as well as at the neuroscience and psychophysiology laboratories. Further, each faculty member maintains a lab with a computer, which is used for research purposes.

Human Subjects Laboratories. Space is reserved in Sloan Hall for research with human participants. Special apparatus permits studies in neuropsychology, social psychology, biofeedback, discrimination learning, and perception. A computer with appropriate interfacing helps provide flexibility in instruction and research.

Brain Research and Integrative Neuroscience (BRAIN) Center. The BRAIN Center is a compilation of four state-of-the-art neuroscience
laboratories (each with space for two Principal Investigators) located in the Health Professions Building, adjoined by fully-equipped shared core facilities for cellular/molecular neurobiology, behavioral assessments, image analysis and microscopy lab, and computer lab. A fully-equipped animal care facility with surgical suites and necropsy room is adjoined to the BRAIN Center. In addition, a radioisotope room, cold room, and darkroom are available for specialized procedures.

Behavior Analysis Laboratory. The Behavior Analysis Laboratory is located in rooms 201-204 of Rowe Hall. The facilities include both rodent and aviary colonies and state-of-the-art environmental control equipment and behavioral testing apparatuses. Operant conditioning chambers are computer controlled and fully equipped with multiple response manipulanda and reinforcer delivery systems, including syringe pumps for drug delivery. The lab is adjacent to a conference area with computer workstations for data analysis. There is also a fully modernized undergraduate student laboratory equipped with operant conditioning stations for use in PSY 384.

Psychological Training and Consultation Center (PTCC). The PTCC Clinic is part of the Psychology Department at Central Michigan University, and serves residents of the mid Michigan area as well as members of the CMU community. Therapists are CMU graduate students in Psychology who provide services under the supervision of Psychology Department faculty. The clinic is in the Health Professions Building on the CMU campus, located on West Campus Drive between Bellows and Preston in Mt. Pleasant. Psychotherapy for a wide range of adult and child psychological disorders is offered at the Clinic. Psychological testing for problems such as learning disorders and deficits in attention and concentration is also available. In addition, the Clinic offers a number of specialized therapy programs. For further information about any PTCC program, or to request services, the Psychological Training and Consultation Center’s main telephone number is 989-774-3904.

Engineering Psychophysiology Laboratory. Conducts research on the psychophysiology of attention in human performance. The current focus of the laboratory is on attention, distraction, and the use of advanced telematic devices during driving across different populations of drivers (e.g., young vs. old adults, patients with neurological or developmental disorders). A variety of central and autonomic nervous system measures can be collected during driving simulation in this laboratory, including electroencephalographic (dense-array EEG and event-related brain potentials), cardiovascular (electro- and impedance cardiography, blood pressure), and pulmonary responses.

DeafBlind Central: Michigan’s Training and Resource Project is a comprehensive statewide technical assistance program funded through the United States Department of Education. The project provides information, training, consultation, and referrals for families and/or professionals who are impacted by, or associated with, a child who has combined vision and hearing loss, often with additional disabilities. Project staff members are also involved with various systems change initiatives. DeafBlind Central is housed in Sloan 105.

CMU Center for Driving Evaluation, Education, & Research (D.E.E.R.). The mission of the CMU D.E.E.R. Center is to provide clinical services to evaluate cognitive fitness to drive, to provide education to improve driver safety, and to conduct research on driver safety. The center has the AAA Michigan Driving Simulator for use in research and in evaluation and education. The D.E.E.R. Center is a place where multidisciplinary research on novice drivers, older drivers, and drivers with attention disorders is conducted. For more information, see http://deercenter.org.

Graduate Student Offices. Graduate teaching assistants have office space available to them in Powers and Sloan Halls.
Accelerated Master of Science in Experimental Psychology

(Currently enrolled CMU Undergraduate students only)

Advanced undergraduate students majoring in psychology who want to obtain additional training in experimental psychology may want to consider an option by which they can obtain their Bachelor of Science with the General Major in Psychology and their Master of Science in Experimental Psychology in five years. The accelerated program course requirements are identical to the General Major in Psychology and to the Master of Science in Experimental Psychology and allows the student to apply 12 credit hours of graduate coursework toward both their Bachelor of Science and Master of Science degrees.

To be eligible for the accelerated program, students must meet all of the admissions requirements for regular admission to the Master of Science in Experimental Psychology program and have completed at least 84 credit hours of undergraduate coursework, including all General Education, University Program, and competency requirements. It is expected that students will already be engaged in research with a faculty member prior to admission to the accelerated program.

The accelerated Master of Science in Experimental Psychology program is a 12-month program. Students will complete the Bachelor of Science degree requirements and the first year of coursework for the Master of Science by the end of the summer term of their fourth year. Students will complete the coursework for the Master of Science and conduct and defend their thesis by the end of the summer term of their fifth year. A sample curriculum for a student who has completed 84 credit hours of undergraduate coursework is given below. Undergraduate coursework completed beyond 84 credit hours would lead to conferral of the Bachelor of Science degree prior to the end of the summer term in Year Four.

Sample Curriculum

Year Four

Fall
PSY 511 - 3 hours (see Note 1)
Graduate Requirement - 3 hours (See Note 1)
PSY 690 - 1 hour (See Note 2)
Undergraduate Courses - 9 hours
Total: 16 hours

Spring
Graduate Requirement - 3 hours (See Note 1)
Graduate Requirement - 3 hours (See Note 1)
PSY 690 - 1 hour (See Note 2)
Undergraduate Courses - 9 hours
Total: 16 hours

Summer
Undergraduate Courses - 10 hours
Total: 10 hours
Bachelor of Science degree conferred

Year Five

Fall
Graduate Requirement - 6 hours
Graduate Elective - 3 hours
Total: 9 hours

Spring
PSY 798 - 3 hours
Graduate Elective - 3 hours
Total: 6 hours

Summer
PSY 798 - 3 hours
Graduate Elective - 4 hours
Total: 7 hours
Master of Science degree conferred

Note 1: Courses that apply to both the BS and MS degrees. Required courses are (PSY 511; PSY 609; PSY 611 or 612 or 613; PSY 587 or 687; PSY 589 or 680 or 681; and PSY 624 or 630). Students must register for graduate credit for these courses.

Note 2: Apply to MS degree only.
Required Courses II (6 hours)
Select one of the following:
PSY 990 - Internship A: Professional Services 1-6(Spec)
PSY 991 - Internship B: Professional Services 1-6(Spec)

Note: A minimum of 6 credit hours is required.

Electives (18 hours)
Select 18 hours of PSY courses in consultation with advisor.

Total: 54 semester hours (minimum hours for third and fourth years)

Note: The requirements for the first two years in the Ph.D. program in Applied Experimental Psychology are identical to those required for the M.S. degree in Experimental Psychology.

Clinical Psychology

Master of Arts (M.A.) in Clinical Psychology

A Master of Arts degree in Clinical Psychology can only be awarded to students who have been accepted and matriculated in the Ph.D. program in Clinical Psychology. Students must complete the first two years of the Clinical Psychology program and defend a master's thesis prior to petitioning for the M.A. degree.

Doctor of Philosophy (Ph.D.) in Clinical Psychology

Minimum Totals for Graduation: 104 hours

Model
The Ph.D. program in clinical psychology follows a scientist-practitioner model in training graduates to function as ethical clinical psychologists who have breadth and depth in assessment and intervention, as well as the ability to conduct clinical research. Graduates function successfully in modern professional contexts and demonstrate an investment in lifelong learning. The clinical faculty represent various clinical and research interests.

The program endorses the criteria for training set forth by the Committee on Accreditation of the American Psychological Association (APA)* and is listed as an accredited program. The curriculum reflects recent developments in scientific psychology, while imparting to students the skills needed to respond to contemporary clinical concerns. Our training model endorses practice based on sound theoretical and empirical foundation in the science of psychology. The doctoral program includes four years of intensive didactic preparation and applied experience plus a yearlong, full-time internship.

*Commission on Accreditation
American Psychological Association
750 First Street, NE
Washington, DC 20002-4242
800-374-2721
202-336-5979
202-336-6123 TDD/TTY

Curriculum
Students are accepted into the program on a full-time basis. Before arriving on campus each student is assigned a clinical faculty mentor. This faculty mentor aids the student in his or her passage through the program. Students entering with a BA/BS degree are required to complete approximately 104 graduate credit hours. Although some courses may be waived based on prior graduate work, no more than 30 credit hours can be transferred. The current curricular requirements are listed below by year of completion.

Degree Requirements

Year 1 (24 hours)
PSY 510 - Principles of Psychological Measurement 3(3-0)
PSY 609 - History and Systems of Psychology 3(3-0)
PSY 642 - Clinical Research Methods 3(3-0)
PSY 653 - Intervention I: Adult 3(3-0)
PSY 657 - Assessment I: Adult 3(3-1)
PSY 658 - Assessment II: Child and Adolescent 3(3-1)
PSY 660 - Intervention II: Child and Adolescent 3(3-0)
PSY 751 - Psychopathology 3(3-0)

Year 2 (30 hours)
PSY 612 - Applied Multiple Regression and Correlation 3(3-0)
PSY 613 - Multivariate and Correlational Methods 3(3-0)
PSY 624 - Advanced Developmental Psychology 3(3-0)
PSY 641 - Objective Personality Assessment 3(2-2)
PSY 765 - Seminar: Ethics and Professional Issues 3(3-0)
PSY 785 - Seminar: Cognitive-Behavior Therapy 3(3-0)
PSY 790 - Practicum I: A: Professional Services 3(Spec)
PSY 791 - Practicum I: B: Professional Services 3(Spec)
PSY 798 - Thesis 1-12(Spec)

Year 3 (24 hours)
PSY 589 - Cognitive Psychology 3(3-0)
PSY 630 - Advanced Social Psychology 3(3-0)
PSY 661 - Neuropsychological Assessment 3(3-0)
PSY 687 - Physiological Foundations 3(3-0)
PSY 850 - Ethnic and Minority Issues in Therapy 3(3-0)
PSY 890 - Practicum II: A: Professional Services 3(Spec)
PSY 891 - Practicum II: B: Professional Services 3(Spec)
Plus one elective (3 hours)

Year 4 (24 hours)
PSY 892 - Practicum III: A: Professional Services 3(Spec)
PSY 893 - Practicum III: B: Professional Services 3(Spec)
PSY 898 - Doctoral Dissertation: Design 1-12(Spec)
PSY 899 - Doctoral Dissertation: Implementation 1-12(Spec)
Plus two electives (6 hours)

Year 5 (2 hours)
PSY 990 - Internship A: Professional Services 1-6(Spec)
PSY 991 - Internship B: Professional Services 1-6(Spec)

Total: 104 Semester Hours
Industrial and Organizational (I/O) Psychology

The Department of Psychology offers a terminal Master's degree (M.A.) and a Doctor of Philosophy degree (Ph.D.) in Industrial and Organizational (I/O) Psychology. Both degrees are oriented toward training students for careers in research, university, or business settings. Graduates of the programs are typically involved in research, and in planning, design, delivery, or evaluation of psychological programs in organizations. Examples of such programs include employee testing and selection, performance appraisal, training, stress management, job and organizational design, and organizational change and development.

Master of Arts (M.A.) in Industrial/Organizational Psychology

Minimum Totals for Graduation: 39 hours

This program is designed for full-time students. It is helpful if students have taken introductory courses in general psychology, I/O psychology, social psychology, psychological testing or measurement, research methodology, and statistics.

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

ADMISSION REQUIREMENT SNAPSHOT

Entrance Exam: GRE
Application Deadline: January 1 (Fall)
See Admission Requirement Details Below

When applying for the terminal M.A. degree in Industrial/Organizational Psychology, applicants must submit three letters of reference, official GRE scores directly to the Psychology Department, and send the graduate college application materials to the Office of Research and Graduate Studies. The M.A. degree in Industrial/Organizational Psychology is based on the satisfactory completion of a minimum of 39 semester hours of graduate coursework, including a master's thesis. The M.A. is oriented toward training students for careers in business, government, consulting, or going on to Ph.D. programs.

Degree Requirements

Required Application Course (3 hours)
Select one of the following:
PSY 790 - Practicum I A: Professional Services 3(Spec)
PSY 791 - Practicum I B: Professional Services 3(Spec)

Required Courses (18 hours)
PSY 535 - Organizational Psychology 3(3-0)
PSY 536 - Personnel Psychology 3(3-0)
PSY 537 - Organizational Behavior Management 3(3-0)
PSY 636 - Organizational Applications of Personnel Psychology 3(3-0)
PSY 736 - Strategies for Interventions in Social Systems 3(Spec)
PSY 798 - Thesis 1-12(Spec)

Note: Student must choose between PSY 537 and PSY 736.

Required Quantitative Courses (9 hours)
Select three from the following:
PSY 510 - Principles of Psychological Measurement 3(3-0)
PSY 611 - Research Design 3(3-0)
PSY 612 - Applied Multiple Regression and Correlation 3(3-0)
PSY 613 - Multivariate and Correlational Methods 3(3-0)

Electives (9 hours)
Psychology electives to be selected in consultation with the advisor.

Total: 39 semester hours

Doctor of Philosophy (Ph.D.) in Industrial/Organizational Psychology

Minimum Totals for Graduation: 96 hours

This program is designed for full-time students. It is helpful if students have taken introductory courses in general psychology, I/O psychology, social psychology, psychological testing or measurement, research methodology, and statistics.

The Ph.D. curriculum in I/O Psychology involves approximately four years of intensive academic preparation. The curriculum has been designed to reflect classic and current developments in applied psychology and to provide skills needed in the resolution of organizational problems. Students take courses in foundation areas of psychology. Training in I/O Psychology emphasizes theory, research, and practice in personnel psychology and organizational psychology.

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

ADMISSION REQUIREMENT SNAPSHOT

Entrance Exam: GRE
Application Deadline: January 1 (Fall)
See Admission Requirement Details Below

Admission
When applying for the Ph.D. in I/O Psychology, applicants must submit three letters of reference and official GRE scores.

Program Requirements

Progress through the program is based upon satisfactory grades (a B average overall and a B or better in each class) plus the passage of a comprehensive exam, and successful completion of coursework, a master's thesis, and a doctoral dissertation. Students must take a minimum of 12 hours of dissertation credits, and may take up to 24 hours.

Students entering the Ph.D. program are expected to complete the program within seven (7) years. The time limit for students entering with a graduate degree or graduate work will be prorated. Extension of the time limit to complete degree requirements will be granted rarely and only if steady progress toward the degree is evident.

An internship is optional. Before accepting an internship, I/O students must pass their comprehensive exams and have a doctoral dissertation proposal accepted by their dissertation committees.

Students entering with a bachelor's degree will be required to complete approximately 96 credit hours; those entering with a master's degree will be required to complete approximately 70 graduate credit hours.

Some courses are offered in accordance with a planned sequence. Students enrolled in the Ph.D. program in I/O Psychology will be eligible for the Master of Arts degree after successful completion of appropriate coursework and a master's thesis.

Degree Requirements

Required Courses I (6 hours)
Foundations of Psychology Courses
Select two of the following with these exceptions: If you select PSY 587, do not select PSY 687. If you select one of PSY 589, PSY 680 or PSY 681 do not select the other two.
PSY 531 - Group Dynamics 3(3-0)
PSY 544 - Theories of Personality 3(3-0)
PSY 583 - Motivation and Emotion 3(3-0)
PSY 587 - Physiological Psychology 3(3-0)
PSY 589 - Cognitive Psychology 3(3-0)
PSY 609 - History and Systems of Psychology 3(3-0)
PSY 614 - Seminar in Research Methods and Statistics for Psychology 3-12(3-0)
PSY 624 - Advanced Developmental Psychology 3(3-0)
PSY 630 - Advanced Social Psychology 3(3-0)
PSY 680 - Learning 3(3-0)
PSY 681 - Sensation and Perception 3(3-0)
PSY 687 - Physiological Foundations 3(3-0)
Required Courses II (24 hours)
*Industrial/Organizational Psychology Content Courses*
- PSY 535 - Organizational Psychology 3(3-0)
- PSY 536 - Personnel Psychology 3(3-0)
- PSY 538 - Occupational Health Psychology 3(3-0)
- PSY 636 - Organizational Applications of Personnel Psychology 3(3-0)
- PSY 736 - Strategies for Interventions in Social Systems 3(Spec)
- PSY 737 - Seminar in I/O Psychology 3-12(Spec)

*Required Courses III (12 hours)*
- Research Courses
  - PSY 510 - Principles of Psychological Measurement 3(3-0)
  - PSY 611 - Research Design 3(3-0)
- PSY 612 - Applied Multiple Regression and Correlation 3(3-0)
- PSY 613 - Multivariate and Correlational Methods 3(3-0)

*Required Courses IV (3 hours)*
- Experience-based Courses
  - Select one of the following:
    - PSY 790 - Practicum I A: Professional Services 3(Spec)
    - PSY 791 - Practicum I B: Professional Services 3(Spec)
- Master's Thesis (6 hours)
  - PSY 798 - Thesis 1-12(Spec)
- Doctoral Dissertation (12 hours)
  - 12 hours are required, 6 in PSY 898 and 6 in PSY 899. Students may take an additional 12 dissertation credits as electives.
  - PSY 898 - Doctoral Dissertation: Design 1-12(Spec)
  - PSY 899 - Doctoral Dissertation: Implementation 1-12(Spec)

*Electives (33 hours)*

**A.** 33 hours of electives, of which 9 hours may be from outside Psychology. OR

**B.** Occupational Health Psychology (OHP) Concentration Requirements within the I/O Ph.D. Program
- Students in the Industrial/Organizational Psychology Ph.D. Program can earn a concentration in OHP by using 9 hours of their I/O Psychology Program electives in OHP courses and completing a thesis or doctoral dissertation on an OHP topic. The 9 hours of OHP electives must come from the following list unless substitutions are approved by the student's advisor or the I/O Psychology Program Director. The thesis or dissertation topic also must be approved as an OHP topic by the student’s advisor or the I/O Psychology Program Director.

*Electives (24 hours)*
- Select 24 hours.

**Occupational Health Psychology Concentration (9 hours)**
- Select from the following:
  - HSC 505 - Work Injury Prevention 3(3-0)
  - HSC 537 - Stress Reduction Workshop 1(Spec)
  - HSC 544 - Biostatistics 3(2-1)
  - HSC 604 - Epidemiology 3(3-0)
  - PSY 559 - Rehabilitation Psychology 3(3-0)
  - PSY 579 - Behavioral Medicine 3(3-0)
  - PSY 696 - Directed Research 1-12(Spec)
  - PSY 697 - Independent Study 1-8(Spec)
  - PSY 737 - Seminar in I/O Psychology 3-12(Spec)
  - PSY 751 - Psychopathology 3(3-0)
  - SOC 514 - Sociology of Health and Illness 3(3-0)

Total: 96 semester hours

### School Psychology

#### Training Model: Scientist-Practitioner Model

The training model is based on the scientist-practitioner tradition emphasizing the application of behavioral science in educational systems and the larger community. Training emphasizes practice guided by scientific knowledge. Students are taught to use scientific principles to inform their practice (including consultation, intervention, and diagnostic services) and to evaluate their practice in order to improve services as well as contribute to the field of school psychology. The program is committed to fostering in its students sensitivity to, appreciation for, and understanding of ethnic diversity. Similarly, the program strives to promote understanding of, and responsiveness to, the special needs of individuals with disabilities.

#### Specialist in Psychological Services (S.Psy.S.)

**Minimum Totals for Graduation: 70 hours**

This is a three-year, full-time, 70-hour graduate program, designed specifically to meet NASP accreditation standards, leading to the Master of Arts degree in Psychology and the Specialist in Psychological Services. Students complete coursework that prepares them to be knowledgeable in the following core content areas: Psychological and Educational Foundations, Research Methods, Psychological and Educational Assessment, Intervention Strategies, and Professional School Psychology. A full-time internship is completed during the third year of the program. The program is designed to be completed in three years. Students are expected to take no more than five years to finish.

Although this is a three-year graduate degree, applications will be accepted from students who already have taken graduate work, including the master’s degree, at Central Michigan University or at other approved institutions. Credit will be given for such work in accordance with university regulations, provided it is consistent with the School Psychology curriculum.

This program meets the Michigan requirements for certification as a School Psychologist as defined by the State Board of Education and for national certification (NASP). In addition, this program will permit certification as a School Psychologist in the majority of states.

**Admission Requirements, Retention & Termination Standards**

<table>
<thead>
<tr>
<th>GPA: 3.0</th>
<th>Entrance Exam: GRE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Deadline: November 15 (Fall)</td>
<td></td>
</tr>
</tbody>
</table>

**Admission**

Admission is competitive with approximately 8 to 10 students accepted each year.

An acceptable master’s degree or 15 semester hours of undergraduate psychology or the equivalent as determined by the department, a 3.0 overall grade point average, and scores from the Graduate Record Examination taken within the last five years are required for admission. Students who are deficient in certain subject areas will be expected to make up these deficiencies in addition to the normally prescribed graduate coursework for the degree.

**Program Requirements**

Progress through the program is based on satisfactory grades (a grade point average of “B” or better overall) and satisfactory evaluations of pre-professional functioning (e.g., appropriate interpersonal skills, ethical and professional conduct). Serious and persistent difficulties in preprofessional functioning may result in dismissal from the program (see Student Handbook, School Psychology Program). For admission to 790, a student must have earned a “B” or better grade in all assessment, intervention, and consultation courses. In addition, a student must earn a “B” or better grade in PSY 791 and have an approved thesis proposal prior to admission to PSY 795.

(Continued)
At the master's degree level, a thesis and oral exam over the thesis are required. At the specialist degree level, the student must demonstrate professional competencies in working with students, parents, and school personnel. This requirement will be met by the student's satisfactory completion of a supervised internship (PSY 795, Internship A; PSY 796, Internship B).

Degree Requirements

Required Courses for Master's Degree (34 hours)

34 hours chosen from Required Courses I-VI below:

**Required Courses I (19 hours)**
- PSY 605 - Assessment of Affective and Behavioral Disorders of Children and Youth 3(3-0)
- PSY 655 - Introduction to Intelligence Testing 2(2-2)
- PSY 656 - Advanced Intellectual Assessment 2(2-2)
- PSY 667 - Assessment and Development of Academic Skills I 3(3-1)
- PSY 767 - Assessment and Intervention for Developmental Disabilities 3(3-1)
- PSY 798 - Thesis 1-12(Spec)

**Required Courses II (3 hours)**
- PSY 511 - Statistics in Psychology 3(3-1)

**Required Courses III (3 hours)**
- Social Basis of Behavior
  - SPE 550 - Teaching Culturally Diverse Students 3(3-0)

**Required Courses IV (3 hours)**
- Human Development
  - PSY 682/EDU 682 - Psychology of Child Development 3(3-0)

**Required Courses V (3 hours)**
- Cognitive Basis of Behavior
  - PSY 680 - Learning 3(3-0)

**Required Courses VI (3 hours)**
- Biological Basis of Behavior
  - PSY 587 - Physiological Psychology 3(3-0)
  - PSY 587 - Physiological Psychology 3(3-0)

**Additional Required Courses for the Specialist Degree (36 hours)**

36 additional hours are required for the Specialist Degree selected from Additional Required Courses I and II as follows:

**Additional Required Courses I (3 hours)**
Select one of the following:
- PSY 586 - Applied Behavioral Analysis in Education 3(3-0)
- PSY 780 - Behavior Therapy 3(2-2)

**Additional Required Courses II (27 hours)**
- PSY 562 - Therapeutic Intervention: Foundations 3(3-0)
- PSY 662 - Advanced Therapeutic Interventions 3(3-1)
- PSY 677 - Assessment and Development of Academic Skills II 3(3-0)
- PSY 760 - Seminar: School Services 3(3-0)
- PSY 766 - Seminar: Consultation Skills 3(Spec)
- PSY 790 - Practicum I A: Professional Services 3(Spec)
- PSY 791 - Practicum I B: Professional Services 3(Spec)
- PSY 795 - Internship in School Psychology A 3(Spec)
- PSY 796 - Internship in School Psychology B 3(Spec)

Electives (6 hours)
- Hours of coursework are chosen with the approval of the student's advisor.

Total: 70 semester hours

Doctor of Philosophy (Ph.D.) in School Psychology

Minimum Totals for Graduation: 106 hours

CMU’s School Psychology Doctoral program is fully accredited by the American Psychological Association (APA*) and is approved by the National Association of School Psychologists (NASP).

The Doctor of Philosophy curriculum in School Psychology is designed to extend the training of the specialist level school psychologist so that he or she is prepared to serve educational systems and the larger community. The program prepares school psychologists who are flexible enough to assume a variety of roles in the delivery of mental health services; who can assume a leadership role in the development of comprehensive and effective educational and psychological services to children, families, and schools; and who are able to supervise, coordinate, and direct the activities of others in the delivery of school psychological services.

The program of study typically includes four years of intensive academic preparation and field experience plus a one-year, full-time internship. Students must successfully complete three (3) years of graduate study. At least 600 hours of supervised experience shall be in a school setting. The curriculum is designed to reflect recent developments in school psychology.

Students are accepted into the program on a full-time basis, and normal progress through the program requires a course load of about 12 credit hours per semester. Students are expected to take at least 6 credit hours per semester. For at least one year of the program, students must be in full-time residence at Central Michigan University.

*Questions related to the program’s accredited status should be directed to the Commission on Accreditation: Office of Program Consultation and Accreditation, American Psychological Association, 750 1st Street NE, Washington, DC 20002. Phone: 202-336-5979; e-mail: appaaccred@apa.org; Web: www.apa.org/ed/accreditation.

**Admission Requirements, Retention & Termination Standards**

**Admission Requirement Snapshot**

- GPA: 3.0
- Entrance Exam: GRE
- Application Deadline: November 15 (Fall)
- See Admission Requirement Details Below

**Admission**

Admission is competitive with approximately 8 to 10 students accepted each year (Specialist and Doctoral).

Minimum admission requirements include an undergraduate major in psychology or at least 15 semester hours of psychology and a 3.0 overall grade point average. A background in scientific psychology and basic research methodology including statistics and experimental psychology is strongly weighted to assure that students will be conversant with research. Students who do not meet the required 15 semester hours of basic psychology courses, but appear qualified for doctoral study, are required to remedy deficiencies as part of their initial coursework. The doctoral admissions committee will identify what coursework is necessary and inform the student about remediation.

In addition to grades and GRE scores (taken within five years of application), the doctoral admissions committee is very attentive to letters of recommendation, personal statements, and relevant professional experiences. Work history, professional goals, capacity for relating to and working with other people, emotional maturity and stability, and motivation also are considered. GRE scores are viewed as one predictor of the likelihood of success in graduate study. Consequently, for applicants who already hold a graduate degree in school psychology or a related field, greater weight is given to prior graduate school performance than GRE scores.

**Program Requirements**

Progress through the program is based upon satisfactory grades (a B average overall; a B or better in all assessment, intervention, consultation, practica, and internship courses; and a B- or better in all other
classes) and satisfactory evaluations of pre-professional functioning (e.g., appropriate interpersonal skills, ethical and professional conduct). Serious and persistent difficulties in pre-professional functioning may result in dismissal from the program (See Student Handbook, School Psychology Program).

Successful completion of the thesis and comprehensive exam and approval of the dissertation proposal are required before taking the internship. The Ph.D. degree will be awarded upon successful completion of coursework, a thesis, a doctoral dissertation, and an internship.

Students entering with a BA/BS degree will be required to complete 106 credit hours. Those entering with an MA/MS degree in School Psychology will be required to complete approximately 70 graduate hours. Students are required to complete at least two (2) of academic training at Central Michigan University. Courses are offered in accordance with a planned sequence designed to meet individual needs in terms of professional goals, academic background, and attained skills of each candidate.

Degree Requirements

Required Courses I (9 hours)
PSY 609 - History and Systems of Psychology 3(3-0)
PSY 630 - Advanced Social Psychology 3(3-0)
PSY 687 - Physiological Foundations 3(3-0)

Required Courses II (3 hours)
Human Development
PSY 624 - Advanced Developmental Psychology 3(3-0)

Required Courses III (3 hours)
Cognitive and Affective Aspects of Behavior
Select one of the following:
PSY 589 - Cognitive Psychology 3(3-0)
PSY 680 - Learning 3(3-0)

Required Courses IV (3 hours)
Multicultural Issues
Select one of the following:
HDF 603/SOC 611 - Human Diversity Within and Between Families 3(3-0)
PSY 533 - Psychology of Racism 3(3-0)
PSY 850 - Ethnic and Minority Issues in Therapy 3(3-0)

Required Courses V (6 hours)
Educational Foundations
PSY 677 - Assessment and Development of Academic Skills II 3(3-0)
PSY 760 - Seminar: School Services 3(3-0)

Required Courses VI (28 hours)
Assessment and Intervention
PSY 562 - Therapeutic Intervention: Foundations 3(3-0)
PSY 605 - Assessment of Affective and Behavioral Disorders of Children and Youth 3(3-0)
PSY 655 - Introduction to Intelligence Testing 2(2-2)
PSY 656 - Advanced Intellectual Assessment 2(2-2)
PSY 662 - Advanced Therapeutic Interventions 3(3-1)
PSY 667 - Assessment and Development of Academic Skills I 3(3-1)
PSY 751 - Psychopathology 3(3-0)
PSY 766 - Seminar: Consultation Skills 3(Spec)
PSY 767 - Assessment and Intervention for Developmental Disabilities 3(3-1)
PSY 780 - Behavior Therapy 3(2-2)

Required Courses VII (9 hours)
Methods Statistics and Program Evaluation Courses
PSY 611 - Research Design 3(3-0)
PSY 612 - Applied Multiple Regression and Correlation 3(3-0)
PSY 818 - Program Evaluation 3(Spec)

Required Courses VIII (3 hours)
Ethics
PSY 765 - Seminar: Ethics and Professional Issues 3(3-0)

Thesis (6 hours)
PSY 798 - Thesis 1-12(Spec)

Required Experience-Based Courses (18 hours)
PSY 790 - Practicum I A: Professional Services 3(Spec)
PSY 791 - Practicum I B: Professional Services 3(Spec)
PSY 890 - Practicum II A: Professional Services 3(Spec)
PSY 891 - Practicum II B: Professional Services 3(Spec)
PSY 990 - Internship A: Professional Services 1-6(Spec)
PSY 991 - Internship B: Professional Services 1-6(Spec)

Doctoral Dissertation (12 hours)
PSY 898 - Doctoral Dissertation: Design 1-12(Spec)
PSY 899 - Doctoral Dissertation: Implementation 1-12(Spec)

Electives (6 hours)
Chosen in consultation with advisor

Total: 106 semester hours

M.S. and Ph.D. in Neuroscience
These degrees are interdisciplinary programs. Please see the index for the page number.
Department of Recreation, Parks, and Leisure Services Administration

College of Education and Human Services

Robert Frost, Interim Chairperson, 214 Finch, 989-774-3858

Lynn Dominguez, Ph.D., Outdoor Recreation
Robert Dvorak, Ph.D., Outdoor Recreation
Al Ellard, Re.D., Recreation Administration
Robert Frost, M.A., Therapeutic Recreation
Timothy Otteman, Ph.D., Programming & Event Management
Mary Lou Schilling, Ph.D., Therapeutic Recreation

The Department offers a concentration on the Master Science in Administration program, an interdisciplinary degree.

Course Designator:
RPL - Recreation, Parks, and Leisure Services Administration

Master of Arts (M.A.) or Graduate Certificate in Cultural Resource Management

These programs are interdisciplinary. Please see the index for the page number.

School of Rehabilitation and Medical Sciences

The Herbert H. and Grace A. Dow College of Health Professions

René R. Shingles, Chairperson
HPB 1232, 989-774-2347

John M. Andraka, P.T., DPT, OCS, CSCS
Elaine Betts, P.T., Ph.D.
Raju Chowdhary, P.T., MHS, NCS, GCS
Jessica Gordon Rose, PA, M. Ed.
Karen Grossnickle, P.T., M.S.
Ahmad Hakemi, M.D.
Linda Hall, P.T., M.S., DPT
Lixin Li, Ph.D., MD
John E. Lopes, Jr., DHSc, PA-C
Peter Loubert, P.T., Ph.D.
Elizabeth Mostrom, P.T., Ph.D.
Jan Perkins, P.T., Ph.D.
Jennifer Sansom, P.T., MPT, M.S., Ph.D.
René R. Shingles, P.T., M.D., AT, ATC
Deb Silkwood-Sherer, P.T., M.S., DHS, HPCS
Matthew Stack, PA-C, M.S.
Ksenia Ustinova, P.T., Ph.D.
Robert Wintermyer, Ph.D., MSPA, LLP, M.A., PA-C
J. Tim Zipple, P.T., M.S., OCS, DScPT, FAAOMPT

Course Designators:
ATR - Athletic Training
PHA - Physician Assistant
PTH - Physical Therapy

Master of Science (M.S.) in Physician Assistant Program

Minimum Totals for Graduation: 130 hours
http://chp.cmich.edu/pa

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

ADMISSION REQUIREMENT SNAPSHOT

GPA: 3.25
Entrance Exam: GRE
Application Deadline: September 1, 2016 (for the 2017 entering class, which is a firm deadline)
See Admission Requirement Details Below

Admission Requirements for 2017 Entering Class

Please reference the PA Admission website to determine application requirements. The application deadline for the 2017 entering class is September 1, 2016, which is a firm deadline. Official GRE and TOEFL (if applicable) scores must be submitted electronically from ETS to CASPA and received by September 1, 2016. The GRE code for electronic mailing from ETS to CASPA is: 0518 Central MI U CASPA. Admission to the program is competitive. For further information, contact The Herbert H. and Grace A Dow College of Health Professions Admissions office at 989-774-1730 or by e-mail: chpadmit@cmich.edu.

To be eligible for admission, a prospective student must:
• complete a minimum of 500 direct patient care hours by September 1, 2016;
• complete or be in the final stages of completing an undergraduate degree;
• complete all prerequisites within six (6) years at the time of application;
• No more than two prerequisite courses outstanding at the time of application and all prerequisite coursework is to be completed by December 31 of the application year.
• obtain a minimum of 3.0 GPA (a grade of B) in each prerequisite course;
• obtain an overall, undergraduate cumulative GPA of at least 3.25;

For more information, visit http://chp.cmich.edu/pa-admissions.

**Prerequisite Courses for Physician Assistant Program**

Listed below are the prerequisite courses that must be completed prior to the beginning of the Physician Assistant program. Students completing the prerequisites at other universities are encouraged to contact The Herbert H. and Grace A. Dow College of Health Professions Admissions Office. The final decision regarding whether a course satisfies a prerequisite will be determined by the program director of the Physician Assistant Program.

At CMU, these prerequisites are met by:
- Anatomy: BIO 337 OR HSC 214
- Physiology: BIO 392 OR HSC 215
- Pathophysiology: HSC 411
- Microbiology: BIO 208 OR BIO 320
- Biochemistry - CHM 421 OR CHM 425
- Developmental Psychology - PSY 220

Like all programs that have competitive admissions, students meeting the admission criteria are not guaranteed admission to the program.

**Accreditation**

The Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) has granted Accreditation-Continued status to the Central Michigan University Physician Assistant Program sponsored by Central Michigan University. Accreditation-Continued is an accreditation status granted when a currently accredited program is in compliance with the ARC-PA Standards.

Accreditation remains in effect until the program closes or withdraws from the accreditation process or until accreditation is withdrawn for failure to comply with the Standards. The approximate date for the next validation review of the program by the ARC-PA will be March 2024. The review date is contingent upon continued compliance with the Accreditation Standards and ARC-PA policy.

**Degree Requirements**

**First Year - Summer (15 hours)**
- HSC 630 - Regional Human Anatomy 5(3-4)
- PHA 624 - Issues in Practice 2(2-0)
- PHA 633 - Scientific Basis of Medicine I 2(2-0)
- PHA 660 - History and Physical Examination I 3(2-2)
- PHA 671 - Preventive Medicine 1(1-0)
- PHA 672 - Applied Ethics for Physician Assistants 2(2-0)

**First Year - Fall (22 hours)**
- PHA 608 - Clinical Medicine I 4(4-0)
- PHA 620 - Infectious Diseases 3(3-0)
- PHA 625 - Clinical Pharmacology I 3(3-0)
- PHA 634 - Scientific Basis of Medicine II 2(2-0)
- PHA 640 - Clinical Problem Solving I 3(1-2)
- PHA 645 - Critical Appraisal of Medical Literature and Evidence-Based Medicine 2(2-0)
- PHA 650 - Diagnostic Tests I 2(1-2)
- PHA 661 - History and Physical Examination II 3(2-2)

**First Year - Spring (25 hours)**
- PHA 609 - Clinical Medicine II 4(4-0)
- PHA 612 - Obstetrics/Gynecology 3(3-0)
- PHA 626 - Clinical Pharmacology II 3(3-0)
- PHA 630 - Clinical Procedures II 3(2-2)
- PHA 641 - Clinical Problem Solving II 3(0-11)
- PHA 651 - Diagnostic Tests II 2(2-0)
- PHA 662 - History and Physical Examination III 4(2-4)
- PHA 673 - Psychiatry 3(3-0)

Second Year - Summer (20 hours)
- PHA 610 - Clinical Medicine III 3(3-0)
- PHA 614 - Pediatrics 3(3-0)
- PHA 616 - Surgery 2(2-0)
- PHA 618 - Emergency Medicine 2(2-0)
- PHA 631 - Clinical Procedures II 3(0-6)
- PHA 635 - Scientific Basis of Medicine II 2(2-0)
- PHA 642 - Clinical Problem Solving III 3(0-11)
- PHA 652 - Diagnostic Tests III 2(1-2)

Second Year - Fall (16 hours)
- PHA 690 - Clinical Education I 16(0-40)

Second Year - Spring (16 hours)
- PHA 691 - Clinical Education II 16(0-40)

Third Year - Summer (16 hours)
- PHA 692 - Clinical Education III 16(0-40)

**Total: 130 semester hours**

**Doctor of Physical Therapy (DPT)**

Debbie Silkwood-Sherer, Interim Director
HPB 1232, 774-1337

**Minimum Totals for Graduation: 118 - 131 hours**

The professional curriculum in physical therapy is three years in length. Students are eligible to apply for admission to the Doctoral Program in Physical Therapy following the completion of undergraduate coursework. Students must complete both the requirements for their undergraduate major and the physical therapy prerequisite courses before entering the program. At the completion of the professional program, the student will receive a Doctor of Physical Therapy (DPT). In the undergraduate preparation phase, the student can enroll in one of a number of appropriate undergraduate majors. Some suggested undergraduate majors include exercise science, athletic training, health administration, biomedical science, biology, neuroscience, psychology, child development, and therapeutic recreation. Students must contact an advisor from their chosen undergraduate major during their first semester to identify the coursework that is needed for their undergraduate degree. Students also need to incorporate into their undergraduate program a series of prerequisite courses that are required to prepare them for the coursework in the graduate program in physical therapy.

**Admission Requirements, Retention & Termination Standards**

**Admission Requirement Snapshot**

GPA: 3.0
Application Deadline: See the complete Application Process Instructions referenced below

**Admission to the Professional Curriculum**

The Doctor of Physical Therapy Program uses the PTCAS (Physical Therapy Centralized Application Service), an online application service. For complete instructions on the application process go to the Physical Therapy Application Requirements web-page: https://centrallink.cmich.edu/academics/health_professions/hp_academics/physical_therapy/Pages/Admissions.aspx.

To be eligible for admission students must complete the following requirements:

1. Submit application as described in The Physical Therapy Application Requirement web-page: https://centrallink.cmich.edu/academics/health_professions/hp_academics/physical_therapy/Pages/Admissions-Requirements.aspx
2. Complete a minimum of 50 hours of volunteer/career exploration or paid work in physical therapy clinic. Experience in at least 2 different settings is required.
3. Complete all prerequisite courses before entry into the program.
4. Maintain a minimum GPA of 3.0 in all prerequisite courses with no grade below a 2.0 in any prerequisite course.

(Continued)
Degree Requirements

First Year I - Summer (8 hours)
HSC 630 - Regional Human Anatomy 5(3-4)
PTh 615 - Principles of Pharmacology 1(1-0)
PTh 618 - Human Physical Development 2(2-0)

First Year II - Fall (16 hours)
HSC 631/PES 631 - Physiology of Exercise 4(3-2)
PTh 617 - Clinical Pathophysiology I 1(1-0)
PTh 626 - Neuroanatomy in Physical Therapy 3(3-0)
PTh 635 - Examination and Diagnosis I 2(1-2)
PTh 645 - Patient Care I 3(3-4)
PTh 665 - Physical Therapy Seminar I 1(1-0)

First Year III - Spring (16 hours)
PTh 622 - Clinical Pathophysiology II 1(1-0)
PTh 633 - Clinical Education I 3(1-4)
PTh 636 - Examination and Diagnosis II 2(1-2)
PTh 646 - Patient Care II 3(3-4)
PTh 666 - Physical Therapy Seminar II 1(1-0)
PTh 672 - Clinical Anatomy and Kinesiology of Human Joints 4(3-3)

Second Year I - Summer (12 hours)
HSC 670/PES 670 - Research Methods for Health, Physical Education and Sport, Health and Recreation 3(3-0)
PTh 634 - Clinical Education II 6(Spec)
PTh 655 - Teaching and Learning in Physical Therapy 2(2-0)
PTh 661 - Manual Therapy I 1(0-2)

Second Year II - Fall (14 hours)
PTh 623 - Clinical Pathophysiology III 1(1-0)
PTh 690 - Motor Learning in Neurorehabilitation 2(2-0)
PTh 732 - Clinical Education III 3(1-4)
PTh 735 - Examination and Diagnosis III 2(1-2)
PTh 745 - Patient Care III 3(3-4)
PTh 765 - Physical Therapy Seminars III 1(1-0)

Second Year III - Spring (17 hours)
PTh 620 - Clinical Management of Geriatric Patients 2(2-0)
PTh 621 - Clinical Pediatrics 2(2-0)
PTh 624 - Clinical Pathophysiology IV 1(1-0)
PTh 662 - Manual Therapy II 2(0-4)
PTh 695 - Ethics in Physical Therapy 3(3-0)
PTh 736 - Examination and Diagnosis IV 2(1-2)
PTh 746 - Patient Care IV 4(3-2)
PTh 766 - Physical Therapy Seminars IV 1(1-0)

Third Year I - Summer (12 hours)
PTh 710 - Principles of Clinical Management 3(3-0)
PTh 825 - Health Promotion in Physical Therapy Practice 2(2-0)
PTh 850 - Evidence Based Practice in Physical Therapy 2(2-0)
PTh 860 - Health Informatics for Physical Therapists 2(2-0)
PTh 870 - Rehabilitation Care Management 3(3-0)

Third Year II - Fall (16 hours)
PTh 790 - Clinical Research I 4(4-0)
PTh 832 - Clinical Education IV 12(Spec)

Third Year III - Spring (16 hours)
PTh 890 - Clinical Research II 4(4-0)
PTh 932 - Clinical Education V 12(Spec)

Electives
3-4 hours of PTh electives.

Total: 118-131 semester hours

Note: The total number of credit hours required for completion of the program may be reduced by up to 12 credit hours based on a student's prior course work or experiences. The previous course work or experience must have provided the student with the equivalent knowledge and skills presented in the specific required course(s) within the DPT curriculum. The faculty of the Physical Therapy Program will make the determination on whether a student's previous course work and experience are equivalent to the content of a specific course.

Additional Program Requirements:

Doctoral Research Project: Students must complete a Doctoral Research Project in Clinical Research I and II (PTh 790 and 890).
To fulfill the requirements for PTh 790 and 890 the student must complete either:
- a prospective research project or
- a clinical case report. Students must submit final manuscripts in publication form according to program guidelines. At the completion of the professional curriculum, students will receive a Doctor of Physical Therapy (DPT) degree.

Accreditation
The Doctoral Program in Physical Therapy at Central Michigan University is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE), 111 North Fairfax Street, Alexandria, Virginia 22314; telephone: 703-706-3245; email: accreditation@apta.org; website: www.capteonline.org. The Central Michigan University Doctor of Physical Therapy Program at Michigan Technological University is accredited by the Commission on Accreditation in Physical Therapy Education as an expansion program of the Doctor of Physical Therapy Program at Central Michigan University.
Department of Sociology, Anthropology, and Social Work (SOC, ANT, SWK)
College of Humanities and Social & Behavioral Sciences

Katherine Rosier, Chairperson
142 Anspach Hall 989-774-3160

Mensah Adinkrah, Ph.D., Criminology, Homicide
Elbert Almazan, Ph.D., Medical Sociology, Youth Studies
Brigitte H. Bechtold, Ph.D., Research Methods, Political Economy, Population Studies, Social Policy
Tracy Brown, Ph.D., Native American Cultures, Gender
Rachel Caspari, Ph.D., Physical Anthropology, Race
Sergio Chavez, Ph.D., Archaeology
Laura Cochrane, Ph.D., Africa, Anthropology of Religion
Susan Grettenberger, Ph.D., Social Work, Social Welfare Policy, Non-Profit Organizations
Nancy J. Herman-Kinney, Ph.D., Symbolic Interactionism, Social Psychology, Qualitative Methods
David A. Kinney, Ph.D., Sociology of Education, Research Methods
Athena McLean, Ph.D., Medical Anthropology, Aging, Social Production of Knowledge
Harry Mika, Ph.D. Crime and Social Justice, Alternative Dispute Resolution
Gary Miller, Ph.D., Policy, Research Methods
Gil Richard Musolf, Ph.D., Sociological Theory, Symbolic Interactionism
Robert G. Newby, Ph.D., (Emeritus) Racism and Inequality, Social Psychology, Educational Sociology
Katherine Rosier, Ph.D., Childhood, Social Psychology, Family
Alan Rudy, Ph.D., Political Economy, Environmental Sociology, Sociology of Science and Technology
Mary S. Senter, Ph.D., Stratification, Gender, Applied Sociology
Brian Smith, Ph.D., Juvenile Justice
Justin Smith, Ph.D., Race and Justice, Criminology, Social Inequalities
Carmen White, Ph.D., Educational Anthropology, Ethnicity and Ethnic Relations, Oceanic Cultures

Course Designators:
SOC - Sociology
ANT - Anthropology
SWK - Social Work

Scholarships and Awards
Edward E. McKenna Academic Excellence Award
Established in 1998 in memory of this dedicated teacher, scholar, and unionist by the Department of Sociology, Anthropology, and Social Work. Endowment earning will provide cash awards for winning authors of an annual undergraduate and graduate paper competition
Bernard N. Meltzer Scholarship
Established by friends in honor of Bernard N. Meltzer, former faculty member and chairperson of the Department of Sociology, Anthropology, and Social Work, for a graduate student in sociology.

Master of Arts (M.A.) or Graduate Certificate in Cultural Resource Management

These programs are interdisciplinary. Please see the index for the page number.

Department of Teacher Education and Professional Development
College of Education and Human Services

https://www.cmich.edu/colleges/ehs/program/teach/Pages/Academic%20Programs/Graduate.aspx

Larry Corbett, Chairperson
421 EHS Building, 989-774-3975

Abalo Adewui, Ed.D., curriculum and instruction
Mary Williams Aylor, Ph.D., early childhood
Norma Bailey, Ed.D., middle school education
Lorraine Berak, Ph.D., educational administration, labor and industrial relations
Timothy Brannan, Ph.D., educational technology
Shane Cavanaugh, Ph.D., educational psychology
Natalia Collins, Ph.D., educational psychology
Larry Corbett, Ed.D., educational leadership (Chairperson)
Michael DeSchryver, Ph.D., Educational Psychology/Educational Technology
Kathryn Dirkin, Ph.D., educational technology
Karen Edwards, Ph.D., education administration, clinical supervision
Raymond Francis, Ed.D., curriculum and instruction/emphasis in clinical supervision
Tamara Jetton, Ph.D., curriculum and instruction
Elizabeth Knepper, Ph.D., clinical supervision
William Leibfritz, Ph.D., elementary mathematics
Xiaoping Li, Ed.D., literacy education
James McDonald, Ph.D., science education
Kathleen Moxley, Ph.D., teaching, curriculum, and educational policy language and literacy
Krystyna Nowak-Fabrykowski, Ph.D., early childhood
Howard Parkhurst, Ph.D., curriculum and instruction
Joseph Rivard, Ph.D., reading, educational psychology, educational technology
Leonie Rose, Ph.D., elementary education, literacy education
Barbara Senesac, Ph.D., bilingual education, literacy education
Marguerite Terrill, Ph.D., secondary education
Elizabeth VanDeusen-MacLeod, Ph.D., reading education
Mingyuan Zhang, Ed.D., elementary education

Course Designators:
ECE - Early Childhood Education
EDU - Teacher Education
MLE - Middle Level Education

The Department of Teacher Education and Professional Development offers six master’s degrees: (1) a Master of Arts in Early Childhood Education (2) a Master of Arts in Educational Technology (K-12); (3) a Master of Arts in Elementary Education; (4) a Master of Arts in Reading and Literacy (K-12); (5) a Master of Arts in Middle Level Education; and (6) a Master of Arts in Secondary Education, and (7) a doctorate in Educational Technology (DET). Guide sheets specifying requirements, general elective courses, and other information for all the department’s Master of Arts programs may be obtained from 421 EHS Building or on the department website.
**Master of Arts (M.A.) in Early Childhood Education**

**Minimum Totals for Graduation: 33 hours**

Guide Sheets specifying requirements for all the department’s programs may be obtained from 421 EHS Building or online at [http://www.tepd.cmich.edu/](http://www.tepd.cmich.edu/).

**ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS**

**Admission Requirement Snapshot**

- GPA: 2.7
- Entrance Exam: N/A
- Internation’l Application Deadline: July 1 (Fall), Oct. 1 (spring)
- See Admission Requirement Details Below

**Admission**

Regular admission in the program requires an undergraduate grade point average of at least 2.70 (on a 4-point scale). Students with a GPA below 2.50 will not be considered for candidacy for the graduate program in teacher education. A maximum of 9 hours taken before signing the master’s program may be counted on the program. To earn a CMU graduate level degree, students must have at least a 3.0 (B) cumulative GPA, and a cumulative GPA of 3.0 (B) in all coursework on the student’s authorization of degree program. Courses may apply toward NS endorsement for those holding elementary certification and this program does not lead to initial elementary teacher certification.

**Program Requirements**

All candidates for the M.A. must fulfill requirements for scholarly activity under Plan A (thesis) or Plan B (comprehensive written exam or research paper).

- **Plan A** requires a minimum of 27 hours of course work and a thesis (6 hours of thesis credit), total 33 credits.
- **Plan B** requires a minimum of 30 hours of course work and a capstone seminar (EDU 780, 3 hours of credit), total 33 credits.

**EDU 780** explores research pertinent to all Master of Arts in Elementary Education students, and a comprehensive four (4) hours examination over the coursework in the student’s M.A. program or an approved project. The examination over the coursework must be taken early in the term following the completion of EDU 780. Students will not need to register for a class or pay fees for the examination. The examination may be taken a maximum of two times. Specific descriptions of program requirements are available in 421 EHS Building or online.

**Required Core Courses (15 hours)**

Select one of the following plans:

- **Plan A**
  - EDU 590/SPE 510 - Advanced Technology in Education 3(2-3)
  - EDU 660 - Methods of Educational Research 3(3-0)
  - EDU 698 - Thesis 1-6(Spec)
  - SPE 585 - Early Childhood Special Education 3(0)
- **Plan B**
  - ECE 777 - Seminar: Current Issues in Early Childhood Education 3(3-0)
  - EDU 590/SPE 510 - Advanced Technology in Education 3(2-3)
  - EDU 662 - Applied Educational Measurement and Evaluation 3(3-0)
  - EDU 780/MLE 780 - Master of Arts Capstone Experience 3(3-0)
  - SPE 585 - Early Childhood Special Education 3(3-0)

**Required Cognate Courses (18 hours)**

- ECE 625 - Foundations of Early Childhood Education 3(3-0)
- ECE 628 - Language and Literacy Development of Young Children 3(3-0)
- ECE 629 - Promoting Parent Involvement in Early Childhood Education 3(3-0)
- ECE 630 - Culturally Responsive Early Childhood Programs 3(3-0)
- ECE 644 - Early Childhood Concept Development and Creativity 3(3-0)
- ECE 657 - Cognitive and Psycho-Motor Development of Young Children: Theory & Practice 3(3-0)

**Total: 33 semester hours**

**Important Message for Prospective Students:** It is highly recommended that students contact the appropriate licensing agency in their state of residence if they are considering an academic program that leads to a professional license. CMU offers state-by-state information at [http://dev.cel.cmich.edu/compliance/professionallicensure.aspx](http://dev.cel.cmich.edu/compliance/professionallicensure.aspx) with web links to the appropriate licensing agencies. It is the responsibility of students to contact the appropriate licensing agency and to understand the requirements in their state of residence as applied to their specific situation.

**Admission**

In addition to the university’s general admission requirements, the student must have a valid K-12 teaching certificate or equivalent. Regular admission into the program requires an undergraduate grade point average of at least 2.70 (on a four point scale). Students with a GPA below 2.70 will not be considered for admission to the program. A maximum of 9 hours taken before signing the master’s program may be counted toward the program. Students must earn a B- or better in each graded course.

**Program Requirement**

**Residence Requirement for Plan A and Plan B:** Students are required to complete a minimum of 12 semester hours of credit in graduate courses taken at the Mt. Pleasant campus or from Teacher Education Professional Development tenured/tenure-track faculty in coursework offered by CMU Global Campus.

---

**Master of Arts (M.A.) in Reading and Literacy K-12**

**Minimum Totals for Graduation: 33 - 36 hours**

The Master of Arts in Reading and Literacy K-12 has been developed based on teacher preparation standards written by the International Reading Association (IRA) and the National Council of Teachers of English (NCTE) and adopted by the National Council for the Accreditation of Teacher Education (NCATE). In addition, the course work contains components to meet the standards approved by the Michigan State Board of Education for the Reading Specialist (BR) Endorsement (July 20, 2000). Any certified teacher meeting the requirements for entry into graduate studies at Central Michigan University is eligible to enter the program.

The Master of Arts in Reading and Literacy K-12 provides students with knowledge and skills in reading and writing programs K-12. The major objectives of the program will enable students to:

1. organize and implement school literacy programs
2. diagnose and treat difficulties in literacy
3. implement appropriate reading and writing instruction.
4. develop interdisciplinary and integrated units involving literacy.
5. conduct research about current issues of literacy.
6. develop technological and viewing skills related to literacy programs.

**ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS**

**Admission Requirement Snapshot**

- GPA: 2.7
- Entrance Exam: N/A
- Internation’l Application Deadline: July 1 (Fall), Oct. 1 (spring)
- See Admission Requirement Details Below

**Admission**

In addition to the university’s general admission requirements, the student must have a valid K-12 teaching certificate or equivalent. Regular admission into the program requires an undergraduate grade point average of at least 2.70 (on a four point scale). Students with a GPA below 2.70 will not be considered for admission to the program.

A maximum of 9 hours taken before signing the master’s program may be counted toward the program. Students must earn a B- or better in each graded course.

**Program Requirement**

**Residence Requirement for Plan A and Plan B:** Students are required to complete a minimum of 12 semester hours of credit in graduate courses taken at the Mt. Pleasant campus or from Teacher Education Professional Development tenured/tenure-track faculty in coursework offered by CMU Global Campus.
**Required Courses - Reading & Literacy Concentration (18 hours)**
- EDU 630 - Organization and Implementation of School Literacy Programs 3(3-0)
- EDU 632 - Practicum in the Diagnosis and Treatment of Difficulties in Literacy 6(Spec)
- EDU 636 - Classroom Reading and Writing Instruction 3(3-0)
- EDU 641 - Interdisciplinary Processes and Strategies for Teaching Literacy 3(3-0)
- EDU 730 - Seminar: Issues in Literacy 3(3-0)

**Core Courses**
Select one of the following plans:

**Plan A (15 hours)**
- EDU 613/MLE 613 - Current Educational Issues 3(3-0)
- EDU 660 - Methods of Educational Research 3(3-0)
- EDU 698 - Thesis 1-6(Spec)
- EDU 755 - Advanced Research Design and Interpretation 3(3-0)

**Plan B (18 hours)**

**Required Core (15 hours)**
- EDU 590/SPE 510 - Advanced Technology in Education 3(2-3)
- EDU 613/MLE 613 - Current Educational Issues 3(3-0)
- EDU 614 - Advanced Educational Psychology 3(3-0)
- EDU 662 - Applied Educational Measurement and Evaluation 3(3-0)
- EDU 780/MLE 780 - Master of Arts Capstone Experience 3(3-0)

**Electives for Plan B (3 hours)**
An elective course may be selected from the following:
- EDU 528 - Emergent Literacy: Theory and Practice 3(3-0)
- EDU 538 - Coordination of the Language Arts with Reading 3(3-0)
- EDU 540 - Literacy Education: Theory and Practice 3(3-0)
- EDU 635 - Advanced Language Arts Instruction 3(3-0)
- ENG 517 - Reading and the English Classroom 3(3-0)
- ENG 573 - Linguistics and Reading 3(3-0)
- ENG 580 - Literature for Young Adults 3(3-0)
- ENG 581 - The History of Children’s Literature in English 3(3-0)
- ENG 582 - Cultural Pluralism in Young Adult and Children’s Literature 3(3-0)
- ENG 681 - Seminar in Children’s Literature 3(3-0)
- COM 569 - Communication in the Classroom 3(3-0)
- SPE 577 - Introduction to Specific Learning Disability 3(3-0)
- TAI 585 - Creative Dramatics 3(2-2)

**Note:** Plan B students must also take a comprehensive four (4) hour examination over the course work in the student’s M.A. program. This exam must be taken early in the term following the completion of EDU 780. Students will not need to register or pay fees for this exam. The exam may be taken a maximum of two times. Specific descriptions of the program and exam requirements are available in EHS 421 or online.

**Total: 33-36 semester hours**

**Note:** Plan A requires a total of 33 hours. Plan B requires a total of 36 hours

---

**Master of Arts (M.A.) in Educational Technology**

**Minimum Totals for Graduation: 33 hours**

The Educational Technology master’s degree program prepares students to provide instruction utilizing new learning technologies. The technologies addressed in this program include multimedia, telecommunications, and distance learning. While meeting the needs of the classroom teacher, this program also prepares individuals for technology leadership roles.

The degree program requires a minimum of 33 hours and all candidates for the MA must complete the Educational Technology Seminar, resulting in a terminal project. Educational Technology projects must demonstrate effective uses of technology in K-12 classroom settings.

---

**ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS**

**Admission Requirement Snapshot**
- GPA: 2.7
- Entrance Exam: N/A
- International Application Deadline: July 1 (Fall), Oct. 1 (spring)

In addition to the university’s general admission requirements, the student must either hold a valid K-12 teaching certificate or be employed in an educational capacity within their school, school district, community college, or profession. Regular admission in the program requires an undergraduate grade point average of at least 2.7 (on a 4-point scale). Students with a GPA below 2.5 will not be considered for admission for the graduate program in teacher education. A maximum of 9 hours taken before signing the master’s program may be counted on the program. Students must earn a B- or better in each graded course within the 9 hours taken.

Advisors for the master’s program are assigned only after the student has been regularly or conditionally admitted to Graduate Studies at CMU and has selected an option.

**Degree Requirements**

**Required Courses (12 hours)**
- EDU 590/SPE 510 - Advanced Technology in Education 3(2-3)
- EDU 613/MLE 613 - Current Educational Issues 3(3-0)
- EDU 614 - Advanced Educational Psychology 3(3-0)
- EDU 662 - Applied Educational Measurement and Evaluation 3(3-0)

**Required Cognate Courses (18 hours)**
- EDU 642 - Instructional Multimedia 3(3-0)
- EDU 643 - Instructional Design 3(3-0)
- EDU 653 - The Read/Write Web 3(3-1)
- EDU 707 - Seminar: Issues in Educational Technology 3(3-0)
- EDU 708 - Distance Education 3(3-0)
- EDU 710 - Seminar: Terminal Project 3(3-0)

**Electives (3 hours)**
Select from the following:
- EDL 610 - Grants and Fund Procurement 3(3-0)
- EDU 506 - Principles and Techniques for Individualizing Instruction 3(3-0)
- EDU 515 - Advanced Research Design and Interpretation 3(3-0)
- EDU 528 - Emergent Literacy: Theory and Practice 3(3-0)
- EDU 538 - Coordination of the Language Arts with Reading 3(3-0)
- EDU 540 - Literacy Education: Theory and Practice 3(3-0)
- EDU 566 - Independent Study in Elementary Education 1-6(Spec)
- EDU 709 - Innovative Uses of Technology 3(3-0)

**Total: 33 semester hours (minimum)**
Graduate Certificate in Educational Technology

Minimum Totals for Graduation: 15 hours

The Graduate Certificate in Educational Technology program prepares educators and other educational professionals to effectively utilize new learning technologies. The technologies addressed in this program include multimedia, handheld devices, distance, and telecommunications in education. Designed to meet the needs of educators and other educational professionals, this program also prepares individuals for classroom technology support roles.

Required Courses
EDU 590/SPE 510 - Advanced Technology in Education 3(2-3)
EDU 642 - Instructional Multimedia 3(3-0)
EDU 643 - Instructional Design 3(3-0)
EDU 653 - The Read/Write Web 3(3-1)
EDU 707 - Seminar: Issues in Educational Technology 3(3-0)

Total: 15 credit hours

Note: This Graduate Certificate in Educational Technology is not related to earning a teaching certificate.

Doctor of Educational Technology (D.E.T.)

Minimum Totals for Graduation: 87 hours

This program is offered through Global Campus.

The online doctoral program in educational technology prepares educators in the study of integration of technologies supporting learning and teaching. Specific instruction revolves around the study of the latest educational technologies to increase student achievement in the classroom. Graduates are prepared for careers in K-12 educational technology support, higher education research and teaching, research and development of instructional technologies, and private sector training and development.

The online Doctor of Educational Technology program at Central Michigan University offers students an opportunity to either earn a Master's Degree or matriculate in two years of graduate credit if they currently hold an accredited graduate degree. Certified K-12 teachers in Michigan will also earn the "NP" - educational technology endorsement for their teaching certificate.

Students take an additional 36 credit hours of coursework (12 classes) beyond the Master's level. Upon completion of the apprenticeship/comprehensive exam, students will enroll in 18 dissertation credits to include a proposal writing class.

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

ADMISSION REQUIREMENT SNAPSHOT
GPA: 3.5
Entrance Exam: GRE or MAT
Priority Deadline: March 1
See Admission Requirement Details Below

Admission

In order to be considered for admission to the program, an applicant must have completed a master's degree with a graduate program grade point average of 3.5 or higher, or currently enrolled in CMU's online MA in Educational Technology program, and must have completed three years of professional education experience and the Graduate Record Exam or Miller Analogy Test.

Review of complete application begins March 1 and continues until the cohort is filled. A completed application packet will include the following materials:
1. a completed graduate application;
2. transcripts of all undergraduate and graduate work;
3. resume of professional education experience;
4. Graduate Record Exam (GRE) or Miller Analogy Test (MAT); within the past 5 years
5. short essay describing the relationship between the applicant's professional goals and the D.E.T. program; and
6. three letters of recommendation (dated and on organizational letterhead) that attest to the applicant's potential to succeed in the program.

After reviewing the credentials of the applicants, the Doctoral Program Committee will select those to be interviewed. The Doctoral Program Committee will make all decisions regarding admissions, selecting the cohort from those interviewed. The total application package will be evaluated holistically.

Proof of English Proficiency

Proof of English proficiency is required for admission to any of CMU's graduate programs.
Although most international applicants meet that requirement by having an official TOEFL score report sent to us, there are other acceptable methods of proof. Students can meet the requirement by submitting IELTS scores or MELAB scores, or by having completed an entire course of study (bachelor’s degree, master’s degree, etc.) at an institution where the language of instruction is English. Test score requirements are:

**TOEFL:**
- **Regular Admission:** 79 ibt (550 pbt, 213 cbt)
- **Conditional Admission:** 61-78 (500-547, 173-210)

**IELTS:**
- **Regular Admission:** 6.5
- **Conditional Admission:** 6.0 or 5.5

**MELAB:**
- **Regular Admission:** 80

TOEFL Exempt countries list: [www.grad.cmich.edu/toefl](http://www.grad.cmich.edu/toefl)

### Program Requirements

Progress through the program is based upon obtaining satisfactory grades (a 3.25 GPA average overall), passing written and oral comprehensive exams, and completing a doctoral dissertation. Students who have not earned a Master’s Degree from an accredited university will be enrolled in the online MA in Educational Technology program.

#### Requirements I - Research (9 hours)

The research component encompasses both quantitative and qualitative research methods. The competencies to be developed are essential to interpreting and evaluating research studies to be encountered in all course work as well as to completing the dissertation requirement.

- EDU 800 - Educational Technology Research 3(3-0)
- EDU 801 - Qualitative Research in Educational Technology 3(3-0)
- EDU 802 - Quantitative Research in Educational Technology 3(3-0)

#### Requirements II - Academic Core (12 hours)

The academic core component includes all of the critical areas of study for future educational leaders: foundations, organizational and leadership analyses, and the issues which change and dominate over time. The courses are designed to provide students with the underpinnings to understand and to act effectively upon the challenges confronting the educational organization.

- EDU 807 - Seminar: Learning Tools in Education Technology 3(3-0)
- EDU 808 - Blended and Online Learning 3(3-0)
- EDU 814 - Differentiated Instruction in Online Learning 3(3-0)
- EDU 853 - Evolving Internet Learning 3(3-0)

#### Requirements III - Cognate (15 hours)

There are multiple choices from which students may select a concentration. The specific courses will be determined in consultation between the student and the academic advisor. The cognate, to be determined jointly by the student and advisor, can be completed in one academic discipline or by taking a combination of courses from more than one academic discipline. Students could choose to take a “Leadership” cognate by taking 3 classes currently offered by Educational Leadership and two of the classes below as a cognate.

**Educational Technology Cognate:**
- EDU 810 - Grant Writing 3(3-0)
- EDU 811 - Motivation in Online and Blended Learning 3(3-0)
- EDU 842 - Mobile Learning 3(3-0)
- EDU 862 - Data Driven Decision Making 3(3-0)
- EDU 870 - Higher Order Learning and New Literacies 3(3-0)

### Comprehensive Exams

Students will be expected to take written qualifying exams upon the completion of their academic core classes. Comprehensive exams will be administered in the fall and spring of each year. Upon successful completion of the comprehensive exam, students are advanced to candidacy.

#### Dissertation

**EDU 898 - Dissertation 1-18(Spec)**

The candidate will complete three steps in the dissertation process:

1. the proposal review stage in which there is a formal review of the literature and a journal article submitted for publication; The proposal of the candidate's research, the research question and methodology for conducting the research will be proposed and approved by the candidate's dissertation committee;

2. conducting the research, analyzing the results, and writing the final document including a minimum of one journal article submitted for publication after successful defense; and

3. oral defense of the research.

**Total: 87 semester hours**
Interdisciplinary and Interdepartmental Programs

This section describes programs that are interdepartmental or interdisciplinary. Please contact the director listed in each program for more information.

Interdisciplinary Graduate Programs

Discover how to become a future leader and innovator through interdisciplinary studies.

Interdisciplinary programs draw from two or more academic disciplines that work together to create a powerful learning experience and emphasize integrative learning, critical thinking, essential questioning, and creative problem solving.

Benefits of Interdisciplinary study:
- Discover the value of integrating the study of various academic disciplines suited to your life-long learning interests
- Learn about creative solutions to some of today’s most challenging problems
- Become an interdisciplinary thinker who analytically and creatively embraces new ideas
- Develop collaboration skills while working with others who have different perspectives on problems than yours
- Prepare for graduate and professional study, and for careers in new and emerging fields

Master of Arts (M.A.) in Education

College of Education and Human Services

Global Campus, 802 Industrial Drive, Mount Pleasant 48859; 989-774-3144

Note: Currently the M.A. degree in Education is only offered through Global Campus.

Minimum Totals for Graduation: 30-34 hours

The Master of Arts degree in Education is designed to provide knowledge and skills for individuals required to function effectively in various positions of educational leadership. This is not a certification program for public school teachers, as it presumes the individual is already trained and qualified in the technical aspects of her or his field.

The MA degree in Education program requires the student to complete a core of 18 semester hours, which includes an integrating experience (Capstone Project). An additional 12-16 semester hours must then be completed with specific courses determined by the academic advisor. All candidates for the MA must complete a minimum of 30-34 semester hours.

For information: Global Campus, 802 Industrial Drive, Mt. Pleasant, MI 48859; 989-774-3144.

Admission Requirements, Retention & Termination Standards

**Admission Requirement Snapshot**

<table>
<thead>
<tr>
<th>GPA</th>
<th>Entrance Exam</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.7</td>
<td>N/A</td>
<td>See Admission Requirement Details Below</td>
</tr>
</tbody>
</table>

**Important Message for Prospective Students:** It is highly recommended that students contact the appropriate licensing agency in their state of residence if they are considering an academic program that leads to a professional license. CMU offers state-by-state information at [http://dev.cel.cmich.edu/compliance/professionallicensure.aspx](http://dev.cel.cmich.edu/compliance/professionallicensure.aspx) with web links to the appropriate licensing agencies. It is the responsibility of students to contact the appropriate licensing agency and to understand the requirements in their state of residence as applied to their specific situation.

**Admission**

Applicants holding a baccalaureate or equivalent degree from a college or university of recognized standing may be granted regular admission, provided they have an overall cumulative undergraduate grade point average of 2.7 or higher (on a 4.0 scale). Conditional admission may be granted when the applicant does not meet the requirements for regular admission and evidence exists to support the applicant’s potential for success in the program. Admission decisions are governed by the policies of the Office of Research and Graduate Studies.

Note: For the Integrated Science concentration, applicants must have completed an undergraduate degree with at least 20 semester hours of undergraduate science, including biology, chemistry, geology (or the equivalent) and possess a current teaching certificate with a science endorsement. An applicant who does not meet the foregoing requirements may be granted Conditional Admission with the understanding that additional coursework may be required. Please note: the total number of credit hours for the MA in Education: Integrated Science is 34 hours.

**Program Requirements**

To qualify for graduation, candidates for the Master of Arts (MA) degree in Education must meet all of the following requirements found in the Graduate Degree Requirements and the following requirements:

1. Earned a minimum of 30-34 semester hours of acceptable graduate credit (12-16 semester hours of which must be in the area of concentration/emphasis).

2. Earned a minimum of 18 semester hours from Central Michigan University.
Degree Requirements

Program Core I (18 hours)
EDU 590/SPE 510 - Advanced Technology in Education 3(2-3)
EDU 614 - Advanced Educational Psychology 3(3-0)
EDU 660 - Methods of Educational Research 3(3-0)
EDU 662 - Applied Educational Measurement and Evaluation 3(3-0)
EDU 705 - Theory and Practice in Curriculum Development 3(3-0)
EDU 776 - Seminar: Issues in Education 3(3-0)

Note: EDU 776 Seminar: Issues in Education - Following accepted guidelines toward the end of their degree program, students are required to research, analyze and provide a plan of action relevant to a problem or opportunity within their own organization or professional field.

Concentrations

Select one of the following:

Community College Concentration
This program is designed to provide knowledge and skills for individuals to function effectively in positions of leadership or teaching in a community college environment. This is not a certification program for teachers or administrators but may be utilized for professional advancement or as a base for a doctoral program in Community College Education.

Required Courses (15 hours)
Select from the following:
EDL 676 - Administration of Community Colleges 3(3-0)
EDL 680 - Teaching in Higher Education Settings 3(3-0)
EDL 757 - Student Development Theory 3(3-0)
EDL 778 - Contemporary Issues in Higher Education 3(3-0)
EDU 655 - The Community College 3(3-0)

Total: 33 semester hours

Curriculum and Instruction Concentration
This program is designed to provide knowledge and skills for individuals to function effectively in positions of leadership or the teaching environment. This is not a certification program for teacher or administrators but may be utilized for professional advancement.

Required Courses (9 hours)
EDU 602 - Strategies and Techniques for Teaching 3(3-0)
EDU 613/MLE 613 - Current Educational Issues 3(3-0)
EDU 706 - Theory and Practice of Instruction 3(3-0)

Emphasis (3-6 hours)
Select one of the following emphases:

Instruction Emphasis (3 hours)
Select one of the following:
EDU 515 - Managing Classrooms and Learning Environments 3(Spec)
EDU 770 - Practicum in Systematic Curriculum Development 3(3-0)

Mathematics Emphasis (6 hours)
Select two specific courses in Mathematics for 3 hours each.

Reading Emphasis (6 hours)
Select EDU 603 OR EDU 606, plus EDU 540:
EDU 540 - Literacy Education: Theory and Practice 3(3-0)
EDU 603 - Elementary Diagnosis, Remediation and Differentiation of Reading 3(3-0)
EDU 606 - Secondary Advanced Reading Diagnosis and Instruction 3(3-0)

Total: 30-33 semester hours

Guidance and Development Concentration
This program is designed to provide knowledge and skills for individuals to function effectively in schools, businesses or in the nonprofit sector with special emphasis on managing relationships, making appropriate referrals and recognizing special needs of students, clients or co-workers. It is not a certification program for teachers, counselors or administrators as it presumes the participants are already certified and qualified in the technical aspects of their respective positions. It is designed for educators or practitioners who do not desire to be fully certified counselors but are seeking counseling skills to enhance their teaching competencies.

This non-certification program is designed to improve practitioners’ skills in communicating with their students, colleagues, clients, and supervisors. The classes in this program focus directly on involving participants in skill-building and integration activities. Participants regularly test skills and ideas from courses taught at their work sites and refine the use of these skills through feedback from the instructor, supervisors, and other program participants. Many of the classes require that participants interact with their students, colleagues, clients, or supervisors outside of the university setting. EDU 776 is a capstone course in which participants conduct field or action-oriented research which is then reported in the form of a Plan B paper or project.

Note: This MA will not qualify the graduate for endorsement as a School Counselor.

Required Courses (12 hours)
CED 608 - Clinical Skills in Couple and Family Counseling 3(3-0)
CED 612 - Work and Career in a Global Society 3(3-0)
CED 621 - Orientation to a Culturally Diverse Society 3(3-0)
CED 684 - Grief and Loss Counseling 3(3-0)

Total: 30 semester hours

Integrated Science Concentration
This program is designed to provide knowledge and skills for individuals to function effectively in positions of leadership or the teaching environment. Specifically, it is designed to enhance the knowledge and skills of sciences educators. This is not a certification program for teachers or administrators but may be utilized for professional advancement.

Required Courses (16 hours)
BIO 670 - Concepts in Biological Areas for Educators 3(2-2)
CHM 509 - Environmental Chemistry for Science Teachers 4(3-3)
EDU 615 - Survey of Science Education 3(3-0)
EDU 645 - Advanced Science Teaching Methods 3(3-0)
GEL 650 - Geology for Science Teachers 3(2-2)

Total: 34 semester hours

Training and Development Concentration
This program is designed to provide knowledge and skills for individuals to function effectively in positions of leadership or teaching in the adult education environment. This is not a certification program for teachers or administrators but may be utilized for professional advancement.

Required Courses (12 hours)
EDL 612 - Methods and Techniques of Training and Development 3(3-0)
EDU 620 - Administration Within Diverse Populations 3(3-0)
EDU 624 - Planning for Instruction in Nontraditional Settings 3(3-0)
EDU 626 - The Adult Learner 3(3-0)

Total: 30 semester hours
Master of Science in Administration (M.S.A.)

College of Graduate Studies

Patricia Chase, Ed.D., Director
222 Rowe Hall; 989-774-6525

Course Designator:
MSA - Master of Science in Administration

Minimum Totals for Graduation: 36 hours

The Master of Science in Administration degree is an interdisciplinary program developed to meet the educational needs and interests of administrators in organizations. The primary focus of the degree program is applied action grounded in theory. The principal elements of this degree are knowledge, competencies, and practical processes needed for successful careers in administration. The program includes a core of courses that provides the students with a base of common knowledge and competencies required for successful administration. In addition, the program provides a concentration of specialized courses in the student’s area of professional interest. The program culminates in an integrative applied project that links the concepts of the program to the world of work and demonstrates the unity and coherence of the student’s course of study. Specific courses will be selected by an academic advisor in consultation with the student. This program leads to an MSA degree and is identical whether on-campus or through Global Campus. Credit for course work in either program is interchangeable.

Admission Requirements, Retention & Termination Standards (For On-Campus Students)

Admission Requirement Snapshot

GPA: 2.7
Internat’l Application Deadline: July 1 (Fall), Oct. 1 (spring)
See Admission Requirement Details Below

Admission
To be admitted to the Master of Science in Administration program, a candidate must meet the requirements for regular admission to Graduate Studies at CMU (a baccalaureate degree from a college or university of recognized standing with a cumulative GPA of at least 2.7 or, optionally, 3.0 in the final sixty semester hours of graded coursework toward the bachelor’s degree). At least sixty semester hours of undergraduate coursework must be graded. Applicants who possess an undergraduate GPA less than 2.7 may be considered for conditional admission. A maximum of six hours taken before admission to the MSA program may be counted toward the degree.

Competencies Required
Several MSA administrative core courses and cognate courses have prerequisites. These prerequisite courses are Accounting 201 or 203 and Statistics 282 or their equivalents. Students can satisfy the prerequisites for MSA 600, MSA 602, MSA 634, MSA 635, and MSA 640 in the following ways:

1. Successful completion of the course (grade of C or better) or its equivalent within three years prior to admission to the MSA program;
2. Pass a competency assessment exam. Examinations may be taken twice and must be passed with at least 70% accuracy. Students are limited to two attempts; or
3. Take the course or its equivalent at CMU or another accredited institution and earn a “C” or better. Submit an official transcript if the course is not taken at CMU or
4. Take either the CLEP Financial Accounting test and submit official results of 50 or better or take the DSST Principles of Financial Accounting exam and submit official results of 47 or better. Take the DSST Principles of Statistics exam and submit official results of 48 or better or 400 or better on the revised version.

Satisfactory Progress
Students must maintain a cumulative GPA of 3.0 or higher to remain in good standing. If a student’s cumulative GPA falls below 3.0, the student will be placed on academic probation. Students on probation will be allowed an opportunity to raise the cumulative GPA to a 3.0 according to Graduate Studies policy. Students dismissed from the program may petition for readmission no sooner than one academic year after the semester they were dismissed. Coursework which is over seven years old may not be used toward the MSA degree and certificates.

English Language Requirements for International Students

Applicants with TOEFL scores of 213 CBT, 550 PBT or 79 iBT and above or IELTS scores of 6.5 and above may be granted Regular admission to the MSA Program. Students with TOEFL scores between 500 and 549 PBT or 173 and 210 CBT or 61-78 iBT or IELTS scores of 5.5 or 6 should review the International Student Admission section on TOEFL scores in this Bulletin. Applicants who have satisfactorily completed a 4-year baccalaureate degree entirely in the United States qualify for English Proficiency. All students from non-exempt countries lacking proof of English Proficiency must be assessed by CMU’s English Language Institute. All exceptions must be approved by the MSA Director’s office.

Online Courses and MSA International Students

International students on student visas must obtain departmental approval in order to take online courses.

Advising
Upon admission to the MSA program, the student will be assigned an advisor. The student is required to meet with his or her advisor to determine prerequisite(s) and core area requirements and to select the courses to meet the concentration’s requirements. A record of the program placement will be placed in the student’s file in the Office of Research and Graduate Studies. Any course taken without the express written consent of the MSA Director may not be approved for fulfillment of the degree requirements. When appropriate, other courses may be substituted in a concentration with the approval of the MSA Director. Students are strongly encouraged to complete their accounting and statistic competency requirements within their first 12 semester credits. Students are also strongly encouraged to take MSA 600 before the mid-point of their program.

Graduate Transfer Credit

The MSA Program will consider graduate transfer credit for courses taken by correspondence. Courses must either be recommended by ACE for graduate credit or graduate level courses taken at a regionally accredited institution. Credit will be based on applicability of the courses to the student’s concentration and the MSA Program. Students should also review the Graduate Transfer Credit policy found in this bulletin for additional requirements.

Program Requirements
All MSA students in Administration degree or Graduate Certificates must meet all of the requirements found in the Academic Information “Degree Requirements” section of the Graduate Bulletin and the following requirements (https://bulletins.cmich.edu/2012/gr/administrative/academic/degree-candidacy.asp?yr=2012&level=GR&loc=oncl for the Graduate Bulletin or https://bulletins.cmich.edu/2012/cel/academic/graduation.asp?yr=2012&level=GR&loc=cel for Global Campus):

1. Earned a minimum of 36 semester hours of acceptable graduate credit (15-18 semester hours of which must be in the area of concentration).
2. Earned a minimum of 18 semester hours from Central Michigan University.
3. Submitted evidence of scholarship by meeting the Plan B paper requirement by completing the integrating experience (MSA 699 or 698). This includes all Institutional Review Board (IRB) or research review application requirements. (MSA 699 replaced MSA 685 as of the 10-11 Bulletin.)
4. Successfully completed these required courses: MSA 600, MSA 601, MSA 602, MSA 603, MSA 604, and MSA 699.
5. Applied no more than 15 semester hours of College of Business
Administration courses on the program plan. College of Business Administration courses are:

a. Courses carrying designators ACC, BIS, BLR, BUS, FIN, HSA, MGT and MKT.
b. MSA 601, MSA 602 OR MSA 634 or MSA 635, and MSA 660.
c. Prior learning assessment credits identified as having business school content.
d. Courses transferred from a school of business or management which would be considered College of Business Administration courses at CMU.

6. Have an approved program plan on file.
7. Completed all requirements for the degree within seven years of the awarding of the master's degree.

In addition:

a. MSA Certificate programs may not use more than 12 credits in College of Business Administration courses;
b. MSA Certificate programs must be completed within seven years prior to the awarding of the graduate certificate;
c. Business courses taken on any certificate program will not apply to any business degree at CMU; and
d. Courses with MSA designators may not be used toward an MBA degree at CMU and CMU courses with MBA designators may not be used toward the MSA degree.

**ACCELERATED MASTER OF SCIENCE IN ADMINISTRATION**

*(Currently enrolled CMU Undergraduate students only)*

Undergraduate students majoring in the following Global Campus majors: Integrated Leadership Studies, Community Development, or Administration, or any main campus major with the approval of Undergraduate Academic Services may pursue a Master of Science in Administration degree in any selected concentration, while fulfilling the final year requirements for their Bachelor's degree. The Accelerated Master of Science in Administration program allows students to reduce the total number of credits to complete their undergraduate degree and graduate level degrees by applying up to 12 credits toward the graduation requirements on both degree programs.

**Admission Criteria**

To be eligible for the Accelerated Master of Science in Administration program, the student must have:

A. An overall cumulative undergraduate grade point average (GPA) of at least 3.0 including all General Education requirements (including transfer and AP credits), the semester that they apply for admission to the Accelerated MSA program. This includes all forms of credit to include transfer credit from another institution.
B. CMU undergraduate grade point average (GPA) of at least 3.0 the semester that they apply for admission to the Accelerated MSA program.
C. Minimum of 86 credit hours toward a Bachelor's degree with no less than 18 remaining credit hours to complete the undergraduate degree.

During the final academic year, students will complete 12 credits of MSA coursework that will be the final courses taken and counted toward both the undergraduate and graduate degrees. The student must earn a minimum of a 3.0 GPA or higher in each course below. If the student doesn't earn a 3.0 GPA or higher in each course that is intended to be applied to the graduate degree, the student will be dematriculated from the accelerated program and the MSA courses taken in the accelerated MSA program can only be used on the student's undergraduate program. The student may apply for regular admission to the MSA program and will need to retake or replace the previous credits. The following courses are used for dual counting for the Bachelor's degree and the Accelerated MSA Program:

**First Semester**

- MSA 601 – Organizational Dynamics and Human Behavior 3(3-0)
- MSA 604 – Administration, Globalization and Multiculturalism 3(3-0)

**Second Semester**

- MSA 600 – Foundations of Research Methods in Administration 3(3-0)
- MSA 603 – Strategic Planning for the Administrator 3(3-0)

**Note:** Early undergraduate advising required. STA 282 is required for enrollment in MSA 600. Other undergraduate courses may be recommended by advisor.

*Any student appeal for concurrent admission into the Accelerated MSA Program are submitted and reviewed by the MSA department.

**Degree Requirements**

**Concentrations**

*Note:* Some concentrations are not available at the main campus location.

Select one of the following:

**Acquisitions Administration**

The Acquisitions Administration concentration prepares administrators with a focus on acquisitions by providing a knowledge base in purchasing, regulatory concepts and related factors in acquisitions administration. Students will select 15-18 credits in consultation with their advisor.

**Required Core I (15 hours)**

- MSA 600 - Foundations of Research Methods in Administration 3(3-0)
- MSA 601 - Organizational Dynamics and Human Behavior 3(3-0)
- MSA 602 - Financial Analysis, Planning and Control 3(3-0)
- MSA 603 - Strategic Planning for the Administrator 3(3-0)
- MSA 604 - Administration, Globalization and Multiculturalism 3(3-0)

**Required Core II (3 hours)**

Select one of the following:

- MSA 698 - Directed Administrative Portfolio 3(3-0)
- MSA 699 - Applied Research Project in Administration 3(Spec)

**Required Courses (6 hours)**

- MGT 533 - Purchasing Strategy 3(3-0)
- MSA 611 - Contract Administration 3(3-0)

**Electives (9-12 hours)**

Select three or four of the following:

- IET 500 - Production Concepts 3(3-0)
- IET 527 - Industrial Safety Management 3(3-0)
- MGT 542 - Inventory and Materials Management 3(3-0)
- MGT 543 - Management and Control of Quality 3(3-0)
- MSA 504 - Strategies and Proposals in Government Acquisitions 3(3-0)
- MSA 540 - Legal Considerations of Contract Administration 3(3-0)
- PAD 712 - Implementation and Reform of Public Programs 3(3-0)
- PAD 714 - Program Analysis and Evaluation 3(3-0)
- PSC 514 - American Public Policy Making 3(3-0)
- PSC 522 - Regulatory Processes and Administrative Law 3(3-0)

**Cognate Courses (0-3 hours)**

Select any course offered within any MSA degree program concentration or one of the following courses, in consultation with an academic advisor and approved by the MSA Director:

- MSA 501 - Managing Change with Emotional Intelligence 3(3-0)
- MSA 634 - Managerial Accounting Concepts 3(3-0)
- MSA 635 - Financial Management 3(3-0)
- MSA 640 - Quantitative Applications in Decision Making 3(3-0)
- MSA 660 - Marketing Administration 3(3-0)
- MSA 681 - Administrative Practicum 1-3(Spec)
- MSA 690 - Internship 1-3(Spec)
- MSA 696 - Special Topics 3(3-0)

*Note:* MSA 681 and MSA 690 are only available to students admitted to Central Michigan University's Mount Pleasant campus.

**Total:** 36 semester hours

(Continued)
**Engineering Management**

The purpose of the concentration is to provide a program of study for the students who intend to pursue a career in this field or for engineers who have the need to acquire managerial skills. Students will gain the knowledge needed to manage industrial, engineering, high tech and “green” energy organizations. The concentration combines the analysis and integration of theory, principles, and research in technology, industrial and engineering management with administrative science.

**Required Core I (15 hours)**

- MSA 600 - Foundations of Research Methods in Administration 3(3-0)
- MSA 601 - Organizational Dynamics and Human Behavior 3(3-0)
- MSA 602 - Financial Analysis, Planning and Control 3(3-0)
- MSA 603 - Strategic Planning for the Administrator 3(3-0)
- MSA 604 - Administration, Globalization and Multiculturalism 3(3-0)

**Required Core II (3 hours)**

Select one of the following:

- MSA 698 - Directed Administrative Portfolio 3(3-0)
- MSA 699 - Applied Research Project in Administration 3(spec)

**Required Courses (18 hours)**

- IET 500 - Production Concepts 3(3-0)
- IET 501 - Application of Industrial Management Principles 3(3-0)
- IET 524 - Technology and Environment 3(3-0)
- IET 650 - Project Management 3(3-0)
- IET 670 - Lean Manufacturing & Six Sigma Quality 3(3-0)
- IET 680 - Sustainability and Green Technology 3(3-0)

**Total: 36 semester hours**

**General Administration**

**Statement of Purpose for the Concentration**

The General Administration concentration is designed to serve the needs of a very heterogeneous group of students. The intent is to offer a program of study which provides moderate structure through study in areas that are applicable to a wide variety of administrative settings. In addition, the student is afforded considerable flexibility in designing a program of study which avoids duplication of previous course work, training, or experience by allowing additional study in areas of choice.

**Required Core I (15 hours)**

- MSA 600 - Foundations of Research Methods in Administration 3(3-0)
- MSA 601 - Organizational Dynamics and Human Behavior 3(3-0)
- MSA 602 - Financial Analysis, Planning and Control 3(3-0)
- MSA 603 - Strategic Planning for the Administrator 3(3-0)
- MSA 604 - Administration, Globalization and Multiculturalism 3(3-0)

**Required Core II (3 hours)**

Select one of the following:

- MSA 698 - Directed Administrative Portfolio 3(3-0)
- MSA 699 - Applied Research Project in Administration 3(spec)

**General Administration Concentration Areas (15-18 hours)**

**Guide to Choosing Courses**

Students are encouraged to complete courses listed within a broad range of categories. Students may substitute up to six (6) credits of courses on this concentration providing the courses are consistent with one or more of the categories listed below. The use of the substitutes must be recommended by the advisor and approved by the MSA Director.

**Concentration Courses I**

**Information Systems and Analysis**

The integration of computer and production systems into administrative decision making.

- BIS 601 - Information Systems 3(3-0)
- CPS 603 - Computer Information Systems 3(3-0)
- IET 500 - Production Concepts 3(3-0)
- MKT 555 - Market and Sales Forecasting 3(3-0)
- MSA 640 - Quantitative Applications in Decision Making 3(3-0)

**Concentration Courses II**

**International Systems, Issues, and Problems**

The study of systems, issues, and problems that impact upon dynamic organizations operating within a global environment.

- COM 667 - Seminar in Intercultural Communication 3(3-0)
- FIN 573 - International Finance 3(3-0)
- MGT 667 - International Business 3(3-0)
- MKT 560 - International Marketing 3(3-0)
- MSA 510 - Global Leadership Perspectives 3(3-0)
- PSC 555 - International Law I 3(3-0)

**Concentration Courses III**

**Legal and Political Systems**

The nature of legal and political systems and how they impact the operation of organizations and individual decision making.

- ECO 515 - Collective Bargaining and Labor Law 3(3-0)
- MSA 609 - Ethical and Legal Dimensions of Private Sector Organizations 3(3-0)
- PSC 514 - American Public Policy Making 3(3-0)
- PSC 522 - Regulatory Processes and Administrative Law 3(3-0)

**Concentration Courses IV**

**Organizational Behavior/Human Resources Administration**

The study of individuals within the work organization and the systems and processes that affect their behavior.

- CED 555 - Human Relations Skills 3(3-0)
- COM 665 - Seminar in Communication and Negotiation in Employee Relations 3(3-0)
- MGT 643 - Human Resource Management 3(3-0)
- MGT 646 - Labor Relations Issues 3(3-0)
- MSA 501 - Managing Change with Emotional Intelligence 3(3-0)
- MSA 502 - Workforce Improvement Strategies in Corporate/Non-profit Organizations 3(3-0)
- MSA 503 - Gender and Generational Supervision 3(3-0)
- MSA 647 - People and Project Administration 3(3-0)
- PAD 711 - Public Personnel Management 3(3-0)
- PAD 785 - Strategic Leadership 3(3-0)
- PSY 535 - Organizational Psychology 3(3-0)

**Concentration Courses V**

**Organizational Communications**

Improving communication of individuals and groups within and between organizations.

- COM 560 - Communication and Social/Organizational Change 3(3-0)
- COM 561 - Communication in Conflict Management 3(3-0)
- COM 667 - Seminar in Intercultural Communication 3(3-0)
- EDL 610 - Grants and Fund Procurement 3(3-0)
- JRN 670 - Public Relations Management 3(3-0)
- MKT 555 - Market and Sales Forecasting 3(3-0)
- MSA 660 - Marketing Administration 3(3-0)

**Concentration Courses VI**

**Social and Economic Systems**

The nature of social and economic systems and how they constrain, control, and impact the operational effectiveness of operations.

- IET 524 - Technology and Environment 3(3-0)
- MSA 634 - Managerial Accounting Concepts 3(3-0)
- MSA 635 - Financial Management 3(3-0)
- PAD 622 - Strategic Planning for Public/Non-Profit Organizations 3(3-0)
- PHL 518 - Professional Ethics 3(3-0)
- SOC 512 - Industrial Sociology 3(3-0)

**Note:** Students may not count both ECO 515 and MGT 646 on a certificate or degree program.

**Cognate Courses (0-3 hours)**

Select any course offered within any MSA degree program concentration or one of the following courses, in consultation with an academic advisor and approved by the MSA Director:

- MSA 501 - Managing Change with Emotional Intelligence 3(3-0)
- MSA 634 - Managerial Accounting Concepts 3(3-0)
- MSA 635 - Financial Management 3(3-0)
- MSA 640 - Quantitative Applications in Decision Making 3(3-0)
- MSA 660 - Marketing Administration 3(3-0)
The Health Services Administration concentration is designed to provide the knowledge and skills required for directors, administrators, and supervisors in health services. Students will select 15-18 credits in consultation with their advisor.

**Required Core I (15 hours)**
- MSA 600 - Foundations of Research Methods in Administration 3(3-0)
- MSA 601 - Organizational Dynamics and Human Behavior 3(3-0)
- MSA 602 - Financial Analysis, Planning and Control 3(3-0)
- MSA 603 - Strategic Planning for the Administrator 3(3-0)
- MSA 604 - Administration, Globalization and Multiculturalism 3(3-0)

**Required Core II (3 hours)**
- Select one of the following:
  - MSA 698 - Directed Administrative Portfolio 3(3-0)
  - MSA 699 - Applied Research Project in Administration 3(Spec)

**Required Courses (12 hours)**
- HSC 507 - Introduction to Health Service Organizations and Systems 3(3-0)
- HSC 520 - Health Services Administration 3(3-0)
- HSC 570 - Financial Aspects of Health Services Organizations 3(3-0)
- HSC 571 - Legal Aspects of Health Services Organizations 3(3-0)
- HSL 631 - Healthcare Law, Compliance and Risk Management 3(3-0)
- HSL 651 - Fundamentals of Healthcare Finance 3(3-0)

*Note:* You may only select ONE of HSC 570 OR HSL 651 and only ONE of HSC 571 OR HSL 631.

*Note:* Advisors may recommend to the MSA Director the substitution of another course for HSC 520, if the student has appropriate management experience.

**Electives (3-6 hours)**
- Select from the following:
  - HSC 516 - Travel Course in Health Education 1-15(Spec)
  - HSC 538 - Development of Proposals and Reports in Health Administration 3(3-0)
  - HSC 544 - Biostatistics 3(2-1)
  - HSC 545 - Health Planning 3(3-0)
  - HSC 552 - International Health Systems, Organizations and Policy 3(3-0)
  - HSC 572 - Quality Improvement in Health Services 3(3-0)
  - HSC 581 - Managed Care: Origins, Organizations, and Operations 3(3-0)
  - HSC 617 - Community and Public Health 3(3-0)
  - HSC 700 - Program Evaluation in the Public Health Fields 3(3-0)

**Cognate Courses (0-3 hours)**
- Select any course offered within any MSA degree program concentration or one of the following courses, in consultation with an academic advisor and approved by the MSA Director:
  - MSA 501 - Managing Change with Emotional Intelligence 3(3-0)
  - MSA 634 - Managerial Accounting Concepts 3(3-0)
  - MSA 635 - Financial Management 3(3-0)
  - MSA 640 - Quantitative Applications in Decision Making 3(3-0)
  - MSA 660 - Marketing Administration 3(3-0)
  - MSA 681 - Administrative Practicum 1-3(Spec)
  - MSA 690 - Internship 1-3(Spec)
  - MSA 696 - Special Topics 3(3-0)

*Note:* MSA 681 and MSA 690 are only available to students admitted to Central Michigan University's Mount Pleasant campus.

**Total: 36 semester hours**

---

**Human Resources Administration**

The Human Resources Administration concentration provides a program of study for the student who is pursuing, or intends to pursue, a career in the field of Human Resources. The concentration is designed to provide students with an overall background in the field as well as in the specific areas of Labor Relations, Staffing, Training and Organization Development. Students will select 15-18 credits in consultation with their advisor.

**Required Core I (15 hours)**
- MSA 600 - Foundations of Research Methods in Administration 3(3-0)
- MSA 601 - Organizational Dynamics and Human Behavior 3(3-0)
- MSA 602 - Financial Analysis, Planning and Control 3(3-0)
- MSA 603 - Strategic Planning for the Administrator 3(3-0)
- MSA 604 - Administration, Globalization and Multiculturalism 3(3-0)

**Required Core II (3 hours)**
- Select one of the following:
  - MSA 698 - Directed Administrative Portfolio 3(3-0)
  - MSA 699 - Applied Research Project in Administration 3(Spec)

**Course Requirements (15-18 hours)**

**Guide to Choosing Courses:**
- Students are required to take one course from Category 1, preferably before taking other courses in the concentration. In order to produce the strongest preparation, it is recommended that students take one course from Categories 2 and 3 and two courses from Category 4.

**Category 1 - Survey of Human Resources Administration Courses (Required)**
- Take one of the following, preferably before taking other courses in the concentration.
  - MGT 643 - Human Resource Management 3(3-0)
  - PAD 711 - Public Personnel Management 3(3-0)

**Category 2 - Labor Relations Courses**
- It is recommended that students take one of the following:
  - COM 665 - Seminar in Communication and Negotiation in Employee Relations 3(3-0)
  - ECO 515 - Collective Bargaining and Labor Law 3(3-0)
  - MGT 646 - Labor Relations Issues 3(3-0)

*Note:* Students may not count both ECO 515 and MGT 646 on a certificate or degree program.

**Category 3 - Training & Organization Development Courses**
- It is recommended that students take one of the following:
  - CED 555 - Human Relations Skills 3(3-0)
  - COM 560 - Communication and Social/Organizational Change 3(3-0)
  - COM 561 - Communication in Conflict Management 3(3-0)
  - MGT 649 - Seminar in Organizational Development 3(3-0)
  - MSA 502 - Workforce Improvement Strategies in Corporate/Non-profit Organizations 3(3-0)
  - MSA 503 - Gender and Generational Supervision 3(3-0)

*Note:* Students may not count both COM 560 and COM 561 within the HRA concentration.

**Category 4 - Staffing Courses**
- It is recommended that students take two of the following:
  - MGT 645 - Personnel Compensation Practice and Process 3(3-0)
  - MGT 647 - Employee Selection and Evaluation 3(3-0)
  - MSA 647 - People and Project Administration 3(3-0)
  - PSY 536 - Personality Psychology 3(3-0)
  - PSY 636 - Organizational Applications of Personnel Psychology 3(3-0)

*Note:* Students may not count both MGT 647 and PSY 536 on a certificate or degree program.

**Cognate Courses (0-3 hours)**
- Select any course offered within any MSA degree program concentration or one of the following courses, in consultation with an academic advisor and approved by the MSA Director:
  - MSA 501 - Managing Change with Emotional Intelligence 3(3-0)

(Continued)
Interdisciplinary and Interdepartmental Programs

MSA 634 - Managerial Accounting Concepts 3(3-0)
MSA 635 - Financial Management 3(3-0)
MSA 640 - Quantitative Applications in Decision Making 3(3-0)
MSA 660 - Marketing Administration 3(3-0)
MSA 681 - Administrative Practicum 1-3(Spec)
MSA 690 - Internship 1-3(Spec)
MSA 696 - Special Topics 3(3-0)

Note: MSA 681 and MSA 690 are only available to students admitted to Central Michigan University's Mount Pleasant campus.

Total: 36 semester hours

Information Resource Management

The Information Resource Management Concentration is designed to enable students to develop a comprehensive management approach to the introduction of information systems in an organization, in order to ensure that the information technology solution which is chosen will be deemed the one most appropriate. Students will select 15-18 credits in consultation with their advisor.

Required Core I (15 hours)
MSA 600 - Foundations of Research Methods in Administration 3(3-0)
MSA 601 - Organizational Dynamics and Human Behavior 3(3-0)
MSA 602 - Financial Analysis, Planning and Control 3(3-0)
MSA 603 - Strategic Planning for the Administrator 3(3-0)
MSA 604 - Administration, Globalization and Multiculturalism 3(3-0)

Required Core II (3 hours)
Select one of the following:
MSA 698 - Directed Administrative Portfolio 3(3-0)
MSA 699 - Applied Research Project in Administration 3(Spec)

Required Courses I (3 hours)
BIS 634 - Seminar in Information Systems Issues 3(3-0)
BIS 601 - Management Information Systems 3(3-0)
CPS 603 - Computer Information Systems 3(3-0)

Note: Students may not count both CPS 603 and BIS 601 on an IRM concentration or certificate.

Required Courses III (3 hours)
Select one of the following:
BIS 630 - Systems Analysis and Design 3(3-0)
CPS 510 - Software Systems Engineering 3(3-0)

Note: Students may not count both CPS 510 and BIS 630 on an IRM concentration or certificate.

Required Courses IV (3 hours)
Select one of the following:
BIS 635 - Business Systems Applications 3(3-0)
CPS 612 - Software Project Management 3(3-0)

Note: Students may not count both CPS 612 and BIS 635 on an IRM concentration or certificate.

Electives (3-6 hours)
One to two specialized courses determined by the MSA Director.

Elective Courses (0-3 hours)

Select any course offered within any MSA degree program concentration or one of the following courses, in consultation with an academic advisor and approved by the MSA Director:
MSA 501 - Managing Change with Emotional Intelligence 3(3-0)
MSA 634 - Managerial Accounting Concepts 3(3-0)
MSA 635 - Financial Management 3(3-0)
MSA 640 - Quantitative Applications in Decision Making 3(3-0)
MSA 660 - Marketing Administration 3(3-0)
MSA 681 - Administrative Practicum 1-3(Spec)
MSA 690 - Internship 1-3(Spec)
MSA 696 - Special Topics 3(3-0)

Note: MSA 681 and MSA 690 are only available to students admitted to Central Michigan University's Mount Pleasant campus.

Total: 36 semester hours

International Administration

The International Administration concentration is designed to provide the appropriate educational background for students who are interested in practicing administration in international settings. Those who have administrative responsibilities with international dimensions, but work in the United States, would also find it helpful. Students will demonstrate a sensitivity to contemporary cultural variations and the need for understanding them. This may be evidenced by graduate or undergraduate coursework, experience or other appropriate means.

Required Core I (15 hours)
MSA 600 - Foundations of Research Methods in Administration 3(3-0)
MSA 601 - Organizational Dynamics and Human Behavior 3(3-0)
MSA 602 - Financial Analysis, Planning and Control 3(3-0)
MSA 603 - Strategic Planning for the Administrator 3(3-0)
MSA 604 - Administration, Globalization and Multiculturalism 3(3-0)

Required Core II (3 hours)
Select one of the following:
MSA 698 - Directed Administrative Portfolio 3(3-0)
MSA 699 - Applied Research Project in Administration 3(Spec)

Required Courses (15-18 hours)
Select from the following:
ANT 506/SOC 506 - Comparative Cultural Systems 3(3-0)
COM 667 - Seminar in Intercultural Communication 3(3-0)
FIN 573 - International Finance 3(3-0)
MGT 667 - International Business 3(3-0)
MKT 650 - International Marketing 3(3-0)
MSA 510 - Global Leadership Perspectives
PSC 551 - Seminar in International Relations 3(3-0)
PSC 555 - International Law 3(3-0)
PSC 642 - Problems and Processes of International Development 3(3-0)
PSC 651 - Comparative Political & Economic Systems 3(3-0)

Note: When appropriate, other courses may be substituted with the approval of the MSA Director.

Cognate Courses (0-3 hours)
Select any course offered within any MSA degree program concentration or one of the following courses, in consultation with an academic advisor and approved by the MSA Director:
MSA 501 - Managing Change with Emotional Intelligence 3(3-0)
MSA 634 - Managerial Accounting Concepts 3(3-0)
MSA 635 - Financial Management 3(3-0)
MSA 640 - Quantitative Applications in Decision Making 3(3-0)
MSA 660 - Marketing Administration 3(3-0)
MSA 661 - Administrative Practicum 1-3(Spec)
MSA 690 - Internship 1-3(Spec)
MSA 696 - Special Topics 3(3-0)

Note: MSA 681 and MSA 690 are only available to students admitted to Central Michigan University's Mount Pleasant campus.

Total: 36 semester hours

Leadership

The Leadership Concentration enables students to enhance their knowledge and skills in the area of leadership, group dynamics, organizational change, management of conflict, negotiation, cultural diversity and communication. Students will select 15-18 credits in consultation with their advisor.

Required Core I (15 hours)
MSA 600 - Foundations of Research Methods in Administration 3(3-0)
MSA 601 - Organizational Dynamics and Human Behavior 3(3-0)
MSA 602 - Financial Analysis, Planning and Control 3(3-0)
MSA 603 - Strategic Planning for the Administrator 3(3-0)
MSA 604 - Administration, Globalization and Multiculturalism 3(3-0)

Required Core II (3 hours)
Select one of the following:
MSA 698 - Directed Administrative Portfolio 3(3-0)
MSA 699 - Applied Research Project in Administration 3(Spec)
Required Course (3 hours)
PAD 785 - Strategic Leadership 3(3-0)
Electives (12-15 hours)
CED 555 - Human Relations Skills 3(3-0)
COM 560 - Communication and Social/Organizational Change 3(3-0)
COM 561 - Communication in Conflict Management 3(3-0)
COM 665 - Seminar in Communication and Negotiation in Employee Relations 3(3-0)
COM 667 - Seminar in Intercultural Communication 3(3-0)
ECO 515 - Collective Bargaining and Labor Law 3(3-0)
MGT 646 - Labor Relations Issues 3(3-0)
MGT 649 - Seminar in Organizational Development 3(3-0)
MSA 501 - Managing Change with Emotional Intelligence 3(3-0)
MSA 502 - Workforce Improvement Strategies in Corporate/Non-profit Organizations 3(3-0)
MSA 503 - Gender and Generational Supervision 3(3-0)
MSA 510 - Global Leadership Perspectives 3(3-0)
MSA 609 - Ethical and Legal Dimensions of Private Sector Organizations 3(3-0)
MSA 647 - People and Project Administration 3(3-0)
MSA 696 - Special Topics 3(3-0)
PHL 518 - Professional Ethics 3(3-0)
PSY 531 - Group Dynamics 3(3-0)
PSY 535 - Organizational Psychology 3(3-0)
MSA 641 - Historical and Cultural Perspectives on Philanthropy 3(3-0)
MSA 644 - Philanthropy: The Role of Foundations, Nonprofit Organizations in 3(3-0)
MSA 645 - Strategic Philanthropy: Corporations, Foundations, Individuals and 3(3-0)
MSA 646 - Foundations of Philanthropic Organizations 3(3-0)
Electives (3 hours)
Select one of the following:
EDL 609 - Administration of Volunteer Programs 3(3-0)
ECLD 610 - Grants and Fund Procurement 3(3-0)
MSA 641 - Historical and Cultural Perspectives on Philanthropy 3(3-0)
MSA 642 - Principles, Theory and Ethical Practices in Fundraising and Grant Making 3(3-0)
RPL 521 - Fund Development & Grant Writing for Public & Non-profit Organizations 3(3-0)
Total: 36 semester hours

Project Management
This program is designed to develop practitioners in the field of project management. Curricula focuses on project management fundamentals, such as decision making, planning, scheduling, risk management, quality assurance, cost and value management, and organizational behavior. The program will integrate theory with the development of both hard skills- budgeting, planning and technical knowledge and soft skills such as motivation, community relations, communication and conflict resolution. Graduates will prepare for leadership positions as project management professionals and gain important preparation for the Project Management Professional certification exam.

Required Core I (15 hours)
MSA 600 - Foundations of Research Methods in Administration 3(3-0)
MSA 601 - Organizational Dynamics and Human Behavior 3(3-0)
MSA 602 - Financial Analysis, Planning and Control 3(3-0)
MSA 603 - Strategic Planning for the Administrator 3(3-0)
MSA 604 - Administration, Globalization and Multiculturalism 3(3-0)

Required Core II (3 hours)
Select one of the following:
MSA 695 - Directed Administrative Portfolio 3(3-0)
MSA 699 - Applied Research Project in Administration 3(Spec)

Required Courses (12 hours)
BUS 501 - Project Management Fundamentals 3(3-0)
BUS 505 - Application of Project Management Principles 3(3-0)
BUS 507 - Advanced Project Management Methodologies 3(3-0)
MSA 647 - People and Project Administration 3(3-0)

Electives (3-6 hours)
Select from the following:
COM 560 - Communication and Social/Organizational Change 3(3-0)
COM 667 - Seminar in Intercultural Communication 3(3-0)
MSA 609 - Ethical and Legal Dimensions of Private Sector Organizations 3(3-0)
MSA 611 - Contract Administration 3(3-0)
Cognate Courses (0-3 hours)
Select any course offered within any MSA degree program concentration or one of the following courses, in consultation with an academic advisor and approved by the MSA Director:
MSA 501 - Managing Change with Emotional Intelligence 3(3-0)
MSA 634 - Managerial Accounting Concepts 3(3-0)
MSA 635 - Financial Management 3(3-0)
MSA 640 - Quantitative Applications in Decision Making 3(3-0)
MSA 660 - Marketing Administration 3(3-0)
MSA 681 - Administrative Practicum 1-3(Spec)
MSA 690 - Internship 1-3(Spec)
MSA 696 - Special Topics 3(3-0)

Total: 36 semester hours

Philanthropy and Fund Raising
The purpose of the concentration is to provide an appropriate educational experience for students who intend to pursue careers in the field of philanthropy and fundraising. Students will gain an understanding of the history and cultural traditions of philanthropic and fundraising organizations as well as the knowledge to manage such organizations. Decision-making skills, analysis and integration of theory and application will strengthen students' understanding of the roles, influence and impact of the discipline in the economic, political, and social arena.

Required Core I (15 hours)
MSA 600 - Foundations of Research Methods in Administration 3(3-0)
MSA 601 - Organizational Dynamics and Human Behavior 3(3-0)
MSA 602 - Financial Analysis, Planning and Control 3(3-0)
MSA 603 - Strategic Planning for the Administrator 3(3-0)
MSA 604 - Administration, Globalization and Multiculturalism 3(3-0)

Required Core II (3 hours)
Select one of the following:
MSA 695 - Directed Administrative Portfolio 3(3-0)
MSA 699 - Applied Research Project in Administration 3(Spec)

Required Courses (15 hours)
MSA 612 - Grants Fiscal Administration 3(3-0)
MSA 643 - Administration of Annual, Capital Campaigns and Major Gifts 3(3-0)
Public Administration

The Public Administration Concentration is designed to prepare students for careers in public sector administration. Broadly, the objectives of the program are to provide students with background and competency in five areas including:

1. the political, social, and economic environment of public administration;
2. public management process;
3. public policy analysis;
4. research and analytic methods; and
5. organization theory and behavior.

Required Core I (15 hours)

MSA 600 - Foundations of Research Methods in Administration 3(3-0)
MSA 601 - Organizational Dynamics and Human Behavior 3(3-0)
MSA 602 - Financial Analysis, Planning and Control 3(3-0)
MSA 603 - Strategic Planning for the Administrator 3(3-0)
MSA 604 - Administration, Globalization and Multiculturalism 3(3-0)

Required Core II (3 hours)

Select one of the following:
MSA 698 - Directed Administrative Portfolio 3(3-0)
MSA 699 - Applied Research Project in Administration 3(Spec)

Required Courses (15-18 hours)

Select five or six from the following:
ECO 515 - Collective Bargaining and Labor Law 3(3-0)
COM 665 - Seminar in Communication and Negotiation in Employee Relations 3(3-0)
MGT 646 - Labor Relations Issues 3(3-0)
PAD 610 - Foundations of Public Administration 3(3-0)
PAD 622 - Strategic Planning for Public/Non-Profit Organizations 3(3-0)
PAD 655 - Managing Modern Local Government 3(3-0)
PAD 661 - Administration and Policy in American State Government 3(3-0)
PAD 711 - Public Personnel Administration Practice 3(3-0)
PAD 713 - Public Budgeting and Finance 3(3-0)
PAD 714 - Program Analysis and Evaluation 3(3-0)
PAD 775 - Organization Theory in Public Administration 3(3-0)
PAD 785 - Strategic Leadership 3(3-0)
PSC 514 - American Public Policy Making 3(3-0)
PSC 522 - Regulatory Processes and Administrative Law 3(3-0)
PSC 563 - Politics and Policy in Urban Communities 3(3-0)
PSC 566 - Intergovernmental Relations in the United States 3(3-0)

Note: Only one of the following may be used to fulfill concentration requirements: ECO 515, COM 665, or MGT 646.

Cognate Courses (0-3 hours)

Select any course offered within any MSA degree program concentration or one of the following courses, in consultation with an academic advisor and approved by the MSA Director:

RPL 511 - Liability and Risk Management in Leisure Services 3(3-0)
RPL 521 - Fund Development & Grant Writing for Public & Non-profit Organizations 3(3-0)
RPL 545 - Marketing of Leisure Services 3(3-0)
RPL 636 - Recreation Facility Operations and Management 3(3-0)
RPL 640 - Recreation Program and Event Administration 3(3-0)

Note: Select only one of RPL 545 OR MSA 660, not both.

Electives (9-12 hours)

Select from the following:
MSA 660 - Marketing Administration 3(3-0)
RPL 611 - Evaluation in Recreation and Leisure Services 3(3-0)
RPL 618 - Issues in Leisure 3(3-0)

Required Courses (6 hours)

Select one of the following:
MSA 698 - Directed Administrative Portfolio 3(3-0)
MSA 699 - Applied Research Project in Administration 3(Spec)

Recreation Administration

The Recreation Administration Concentration is designed to provide students with background and competencies in recreation administration, grant writing, evaluation, current issues, as well as areas of individualized interest. Students will select 15-18 credits in consultation with their advisor.

Required Core I (15 hours)

MSA 600 - Foundations of Research Methods in Administration 3(3-0)
MSA 601 - Organizational Dynamics and Human Behavior 3(3-0)
MSA 602 - Financial Analysis, Planning and Control 3(3-0)
MSA 603 - Strategic Planning for the Administrator 3(3-0)
MSA 604 - Administration, Globalization and Multiculturalism 3(3-0)

Required Core II (3 hours)

Select one of the following:
MSA 698 - Directed Administrative Portfolio 3(3-0)
MSA 699 - Applied Research Project in Administration 3(Spec)

Required Courses (6 hours)

Select five or six from the following:
RPL 511 - Liability and Risk Management in Leisure Services 3(3-0)
RPL 521 - Fund Development & Grant Writing for Public & Non-profit Organizations 3(3-0)
RPL 545 - Marketing of Leisure Services 3(3-0)
RPL 636 - Recreation Facility Operations and Management 3(3-0)
RPL 640 - Recreation Program and Event Administration 3(3-0)

Note: Select only one of RPL 545 OR MSA 660, not both.

Cognate Courses (0-3 hours)

Select any course offered within any MSA degree program concentration or one of the following courses, in consultation with an academic advisor and approved by the MSA Director:

MSA 600 - Marketing Administration 3(3-0)
MSA 634 - Managerial Accounting Concepts 3(3-0)
MSA 635 - Financial Management 3(3-0)
MSA 640 - Quantitative Applications in Decision Making 3(3-0)
MSA 660 - Marketing Administration 3(3-0)
MSA 681 - Administrative Practicum 1-3(Spec)
MSA 690 - Internship 1-3(Spec)
MSA 696 - Special Topics 3(3-0)

Note: MSA 681 and MSA 690 are only available to students admitted to Central Michigan University’s Mount Pleasant campus.

Total: 36 semester hours
Interdisciplinary and Interdepartmental Programs

Research Administration

The purpose of the concentration is to provide an appropriate educational experience to Research Administration professionals that will allow them to gain insight into the most recent developments in the field, gain practical experience, meet the growing data and informational needs and demands in their respective organizations, and to advance in the research administration profession.

Required Core I (15 hours)
MSA 600 - Foundations of Research Methods in Administration 3(3-0)
MSA 601 - Organizational Dynamics and Human Behavior 3(3-0)
MSA 602 - Financial Analysis, Planning and Control 3(3-0)
MSA 603 - Strategic Planning for the Administrator 3(3-0)
MSA 604 - Administration, Globalization and Multiculturalism 3(3-0)

Required Core II (3 hours)
Select one of the following:
MSA 698 - Directed Administrative Portfolio 3(3-0)
MSA 699 - Applied Research Project in Administration 3(Spec)

Required Courses (12 hours)
MSA 611 - Contract Administration 3(3-0)
MSA 612 - Grants Fiscal Administration 3(3-0)
MSA 613 - Project Administration 3(3-0)
MSA 614 - Ethics in Research Administration 3(3-0)

Electives (6 hours)
Select from the following:
MSA 615 - Sponsored Project Administration 3(3-0)
MSA 616 - The Practice of Research Administration 3(3-0)
MSA 617 - Clinical Research Administration 3(3-0)
MSA 622 - Research Facilities Administration and Cost 3(3-0)

Total: 36 semester hours

Training and Development

This program is designed to develop practitioners with the knowledge and skills necessary to lead, support, diagnose problems and implement solutions that enhance organizational performance. Graduates will prepare for leadership positions as human resource professionals, training and development specialists, organizational development consultants, instructional designers, and performance technologists.

Required Core I (15 hours)
MSA 600 - Foundations of Research Methods in Administration 3(3-0)
MSA 601 - Organizational Dynamics and Human Behavior 3(3-0)
MSA 602 - Financial Analysis, Planning and Control 3(3-0)
MSA 603 - Strategic Planning for the Administrator 3(3-0)
MSA 604 - Administration, Globalization and Multiculturalism 3(3-0)

Required Core II (3 hours)
Select one of the following:
MSA 698 - Directed Administrative Portfolio 3(3-0)
MSA 699 - Applied Research Project in Administration 3(Spec)

Required Courses (12 hours)
EDL 612 - Methods and Techniques of Training and Development 3(3-0)
EDL 624 - Planning for Instruction in Nontraditional Settings 3(3-0)
MSA 502 - Workforce Improvement Strategies in Corporate/Non-profit Organizations 3(3-0)
MSA 503 - Gender and Generational Supervision 3(3-0)

Electives (6 hours)
Select two of the following:
COM 560 - Communication and Social/Organizational Change 3(3-0)
COM 667 - Seminar in Intercultural Communication 3(3-0)
EDL 620 - Administration Within Diverse Populations 3(3-0)
EDL 626 - The Adult Learner 3(3-0)
MSA 501 - Managing Change with Emotional Intelligence 3(3-0)

Total: 36 semester hours

Acquisitions Administration Certificate

Minimum Totals for Graduation: 15 hours

Required Courses (6 hours)
MGT 533 - Purchasing Strategy 3(3-0)
MSA 611 - Contract Administration 3(3-0)

Electives (9 hours)
Select three of the following:
IET 500 - Production Concepts 3(3-0)
IET 527 - Industrial Safety Management 3(3-0)
MGT 542 - Inventory and Materials Management 3(3-0)
MGT 543 - Management and Control of Quality 3(3-0)
MSA 504 - Strategies and Proposals in Government Acquisitions 3(3-0)
MSA 540 - Legal Considerations of Contract Administration 3(3-0)
PAD 712 - Implementation and Reform of Public Programs 3(3-0)
PAD 714 - Program Analysis and Evaluation 3(3-0)
PSC 514 - American Public Policy Making 3(3-0)
PSC 522 - Regulatory Processes and Administrative Law 3(3-0)

Total: 15 semester hours

Engineering Management Certificate

Minimum Totals for Graduation: 18 hours

Required Courses (18 hours)
IET 500 - Production Concepts 3(3-0)
IET 501 - Application of Industrial Management Principles 3(3-0)
IET 524 - Technology and Environment 3(3-0)
IET 650 - Project Management 3(3-0)
IET 670 - Lean Manufacturing & Six Sigma Quality 3(3-0)
IET 680 - Sustainability and Green Technology 3(3-0)

Total: 18 semester hours

MSA Graduate Certificates

The following MSA Graduate Certificates are offered:
- Acquisitions Administration
- Engineering Management
- General Administration
- Health Services Administration
- Human Resources Administration
- Information Resources Administration
- International Administration
- Leadership
- Philanthropy and Fundraising
- Public Administration
- Research Administration

Note: Not all certificates are available at the main campus location.

The 15-18 credit MSA Graduate Certificate program is designed for regularly admitted graduate students who desire advanced training in the field of administration. Credits successfully earned with the certificate program may be used toward the MSA degree, if the concentration is the same. A maximum of six (6) semester hours from a previous or concurrent graduate degree or certificate can be transferred towards a graduate certificate. Students may substitute courses only with the approval of the MSA Director. Students may use up to 6 transfer credits providing they meet the criteria for transfer credit outlined in this bulletin. Coursework and other requirements must be completed within seven years prior to the awarding of a graduate certificate. Prior learning credit may not be used on the certificate program.

Note: Students may not use more than 12 credits of College of Business courses. Required courses: 5-6 courses from the appropriate concentration.

Acquisitions Administration Certificate

Minimum Totals for Graduation: 15 hours

Required Courses (6 hours)
MGT 533 - Purchasing Strategy 3(3-0)
MSA 611 - Contract Administration 3(3-0)

Electives (9 hours)
Select three of the following:
IET 500 - Production Concepts 3(3-0)
IET 527 - Industrial Safety Management 3(3-0)
MGT 542 - Inventory and Materials Management 3(3-0)
MGT 543 - Management and Control of Quality 3(3-0)
MSA 504 - Strategies and Proposals in Government Acquisitions 3(3-0)
MSA 540 - Legal Considerations of Contract Administration 3(3-0)
PAD 712 - Implementation and Reform of Public Programs 3(3-0)
PAD 714 - Program Analysis and Evaluation 3(3-0)
PSC 514 - American Public Policy Making 3(3-0)
PSC 522 - Regulatory Processes and Administrative Law 3(3-0)

Total: 15 semester hours

Engineering Management Certificate

Minimum Totals for Graduation: 18 hours

Required Courses (18 hours)
IET 500 - Production Concepts 3(3-0)
IET 501 - Application of Industrial Management Principles 3(3-0)
IET 524 - Technology and Environment 3(3-0)
IET 650 - Project Management 3(3-0)
IET 670 - Lean Manufacturing & Six Sigma Quality 3(3-0)
IET 680 - Sustainability and Green Technology 3(3-0)

Total: 18 semester hours

(Continued)
General Administration Certificate

Minimum Totals for Graduation: 15 hours

Students are encouraged to complete courses listed within a broad range of categories. If not taken as part of the core curriculum, any one (1) MSA designator course may be completed to partially fulfill the requirements of the General Administration concentration.

Students may substitute up to six (6) credits of courses on this concentration providing the courses are consistent with one or more of the categories listed below. The use of the substitutes must be recommended by the advisor and approved by the MSA Director.

Required Courses (15-18 hours)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIS 601</td>
<td>Information Systems 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>CED 555</td>
<td>Human Relations Skills 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>COM 560</td>
<td>Communication and Social/Organizational Change 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>COM 561</td>
<td>Communication in Conflict Management 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>COM 665</td>
<td>Seminar in Communication and Negotiation in Employee Relations 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>COM 667</td>
<td>Seminar in Intercultural Communication 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>CPS 603</td>
<td>Computer Information Systems 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>ECO 515</td>
<td>Collective Bargaining and Labor Law 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>EDL 610</td>
<td>Grants and Fund Procurement 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>FIN 573</td>
<td>International Finance 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>IET 500</td>
<td>Production Concepts 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>IET 524</td>
<td>Technology and Environment 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>JRN 670</td>
<td>Public Relations Management 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>MGT 643</td>
<td>Human Resource Management 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>MGT 646</td>
<td>Labor Relations Issues 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>MGT 667</td>
<td>International Business 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>MKT 555</td>
<td>Market and Sales Forecasting 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>MKT 560</td>
<td>International Marketing 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>MSA 501</td>
<td>Managing Change with Emotional Intelligence 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>MSA 502</td>
<td>Workforce Improvement Strategies in Corporate/Non-profit Organizations 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>MSA 503</td>
<td>Gender and Generational Supervision 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>MSA 510</td>
<td>Global Leadership Perspectives 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>MSA 609</td>
<td>Ethical and Legal Dimensions of Private Sector Organizations 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>MSA 634</td>
<td>Managerial Accounting Concepts 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>MSA 635</td>
<td>Financial Management 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>MSA 640</td>
<td>Quantitative Applications in Decision Making 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>MSA 647</td>
<td>People and Project Administration 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>MSA 660</td>
<td>Marketing Administration 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>PAD 622</td>
<td>Strategic Planning for Public/Non-Profit Organizations 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>PAD 711</td>
<td>Public Personnel Management 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>PAD 785</td>
<td>Strategic Leadership 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>PHL 518</td>
<td>Professional Ethics 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>PSC 514</td>
<td>American Public Policy Making 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>PSC 522</td>
<td>Regulatory Processes and Administrative Law 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>PSC 555</td>
<td>International Law 1(3-0)</td>
<td></td>
</tr>
<tr>
<td>PSY 535</td>
<td>Organizational Psychology 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>SOC 512</td>
<td>Industrial Sociology 3(3-0)</td>
<td></td>
</tr>
</tbody>
</table>

Note: Students may not count both ECO 515 and MGT 646 on a certificate or degree program.

Total: 15 semester hours

Health Services Administration Certificate

Minimum Totals for Graduation: 15 hours

Required Courses (12 hours)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSC 507</td>
<td>Introduction to Health Service Organizations and Systems 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>HSC 520</td>
<td>Health Services Administration 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>HSC 570</td>
<td>Financial Aspects of Health Services Organizations 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>HSC 571</td>
<td>Legal Aspects of Health Services Organizations 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>HSL 631</td>
<td>Healthcare Law, Compliance and Risk Management 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>HSL 651</td>
<td>Fundamentals of Healthcare Finance 3(3-0)</td>
<td></td>
</tr>
</tbody>
</table>

Note: You may only select ONE of HSC 570 OR HSL 651 and only ONE of HSC 571 OR HSL 631.

Note: Advisors may recommend to the MSA Director the substitution of another course for HSC 520, if the student has appropriate management experience.

Elective Courses (3 hours)

Select one of the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HSC 516</td>
<td>Travel Course in Health Education 1-15(Spec)</td>
<td></td>
</tr>
<tr>
<td>HSC 538</td>
<td>Development of Proposals and Reports in Health Administration 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>HSC 544</td>
<td>Biostatistics 3(2-1)</td>
<td></td>
</tr>
<tr>
<td>HSC 545</td>
<td>Health Planning 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>HSC 552</td>
<td>International Health Systems, Organizations and Policy 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>HSC 572</td>
<td>Quality Improvement in Health Services 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>HSC 581</td>
<td>Managed Care: Origins, Organizations, and Operations 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>HSC 617</td>
<td>Community and Public Health 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>HSC 700</td>
<td>Program Evaluation in the Health Fields 3(3-0)</td>
<td></td>
</tr>
</tbody>
</table>

Total: 15 semester hours

Human Resources Administration Certificate

Minimum Totals for Graduation: 15 hours

Course Requirements (15 hours)

Students are required to take one course from Category 1, preferably before taking other courses in the concentration.

In order to produce the strongest preparation, it is recommended that students take one course from Categories 2 and 3, and two courses from Category 4.

Category 1 - Survey of Human Resources Administration (Required) (3 hours)

Take one of the following, preferably before taking other courses in the concentration.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGT 643</td>
<td>Human Resource Management 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>PAD 711</td>
<td>Public Personnel Management 3(3-0)</td>
<td></td>
</tr>
</tbody>
</table>

Category 2 - Labor Relations Courses

It is recommended that students take one of the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 665</td>
<td>Seminar in Communication and Negotiation in Employee Relations 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>ECO 515</td>
<td>Collective Bargaining and Labor Law 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>MGT 646</td>
<td>Labor Relations Issues 3(3-0)</td>
<td></td>
</tr>
</tbody>
</table>

Note: Students may not count both ECO 515 and MGT 646 on a certificate or degree program.

Category 3 - Training & Organization Development Courses

It is recommended that students take one of the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CED 555</td>
<td>Human Relations Skills 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>COM 560</td>
<td>Communication and Social/Organizational Change 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>COM 561</td>
<td>Communication in Conflict Management 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>MGT 649</td>
<td>Seminar in Organizational Development 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>MSA 502</td>
<td>Workforce Improvement Strategies in Corporate/Non-profit Organizations 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>MSA 503</td>
<td>Gender and Generational Supervision 3(3-0)</td>
<td></td>
</tr>
</tbody>
</table>

Note: Students may not count both COM 560 and COM 561 within the HRA certificate or concentration.

Category 4 - Staffing Courses

It is recommended that students take two of the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CED 555</td>
<td>Human Relations Skills 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>COM 560</td>
<td>Communication and Social/Organizational Change 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>MGT 645</td>
<td>Personnel Compensation Practice and Process 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>MGT 647</td>
<td>Employee Selection and Evaluation 3(3-0)</td>
<td></td>
</tr>
<tr>
<td>MSA 502</td>
<td>Workforce Improvement Strategies in Corporate/Non-profit Organizations 3(3-0)</td>
<td></td>
</tr>
</tbody>
</table>

Note: Students may not count both MGT 647 and PSY 536 on a certificate or degree program.

Total: 15 semester hours
Interdisciplinary and Interdepartmental Programs

Information Resource Management Certificate

Minimum Totals for Graduation: 15 hours

Required Courses I (3 hours)
- BIS 634 - Seminar in Information Systems Issues 3(3-0)
- Required Courses II (3 hours)
  - BIS 601 - Management Information Systems 3(3-0)
  - CPS 603 - Computer Information Systems 3(3-0)
  - Note: Students may not count both BIS 601 and CPS 603 on an IRM concentration or IRM certificate.
- Required Courses III (3 hours)
  - BIS 630 - Systems Analysis and Design 3(3-0)
  - CPS 510 - Software Systems Engineering 3(3-0)
  - Note: Students may not count both BIS 630 and CPS 510 on an IRM concentration or IRM certificate.
- Required Courses IV (3 hours)
  - BIS 635 - Business Systems Applications 3(3-0)
  - CPS 612 - Software Project Management 3(3-0)
  - Note: Students may not count both BIS 635 and CPS 612 on an IRM concentration or IRM certificate.
- Required Courses V (3 hours)
  - One specialized course determined by the MSA Director.

Total: 15 semester hours

International Administration Certificate

Minimum Totals for Graduation: 15 hours

Required Courses (15 hours)
- ANT 506/SOC 506 - Comparative Cultural Systems 3(3-0)
- COM 667 - Seminar in Intercultural Communication 3(3-0)
- FIN 573 - International Finance 3(3-0)
- MGT 667 - International Business 3(3-0)
- MKT 560 - International Marketing 3(3-0)
- MSA 510 - Global Leadership Perspectives 3(3-0)
- PSC 551 - Seminar in International Relations 3(3-0)
- PSC 555 - International Law I 3(3-0)
- PSC 642 - Problems and Processes of International Development 3(3-0)
- PSC 651 - Comparative Political & Economic Systems 3(3-0)

Electives (3 hours)

Total: 15 semester hours

Leadership Certificate

Minimum Totals for Graduation: 15 hours

Required Course
- PAD 785 - Strategic Leadership 3(3-0)

Electives (12 hours)
- CED 555 - Human Relations Skills 3(3-0)
- COM 560 - Communication and Social/Organizational Change 3(3-0)
- COM 561 - Communication in Conflict Management 3(3-0)
- COM 665 - Seminar in Communication and Negotiation in Employee Relations 3(3-0)
- COM 667 - Seminar in Intercultural Communication 3(3-0)
- ECO 515 - Collective Bargaining and Labor Law 3(3-0)
- MGT 646 - Labor Relations Issues 3(3-0)
- MGT 649 - Seminar in Organizational Development 3(3-0)
- MSA 501 - Managing Change with Emotional Intelligence 3(3-0)
- MSA 502 - Workforce Improvement Strategies in Corporate/Non-profit Organizations 3(3-0)
- MSA 503 - Gender and Generational Supervision 3(3-0)
- MSA 510 - Global Leadership Perspectives 3(3-0)
- MSA 609 - Ethical and Legal Dimensions of Private Sector Organizations 3(3-0)
- MSA 647 - People and Project Administration 3(3-0)
- MSA 696 - Special Topics 3(3-0)
- PHL 518 - Professional Ethics 3(3-0)
- PSY 531 - Group Dynamics 3(3-0)
- PSY 535 - Organizational Psychology 3(3-0)

Note: Students may not count both ECO 515 and MGT 646 on a certificate or degree program.

Total: 15 semester hours

Philanthropy and Fundraising

Minimum Totals for Graduation: 18 hours

Required Courses (15 hours)
- MSA 612 - Grants Fiscal Administration 3(3-0)
- MSA 643 - Administration of Annual, Capital Campaigns and Major Gifts 3(3-0)
- MSA 644 - Philanthropy: The Role of Foundations, Non Profit Organizations in 3(3-0)
- MSA 645 - Strategic Philanthropy: Corporations, Foundations, Individuals and 3(3-0)
- MSA 646 - Foundations of Philanthropic Organizations 3(3-0)

Electives (3 hours)
- Select one of the following:
  - EDL 609 - Administration of Volunteer Programs 3(3-0)
  - EDL 610 - Grants and Fund Procurement 3(3-0)
  - MSA 641 - Historical and Cultural Perspectives on Philanthropy 3(3-0)
  - MSA 642 - Principles, Theory and Ethical Practices in Fundraising and Grant Making 3(3-0)
  - RPL 521 - Fund Development & Grant Writing for Public & Non-profit Organizations 3(3-0)

Total: 18 semester hours

Project Management Certificate

Minimum Totals for Graduation: 15 hours

Required Courses (12 hours)
- BUS 501 - Project Management Fundamentals 3(3-0)
- BUS 505 - Application of Project Management Principles 3(3-0)
- BUS 507 - Advanced Project Management Methodologies 3(3-0)
- MSA 647 - People and Project Administration 3(3-0)

Electives (3 hours)
- Select from the following:
  - COM 560 - Communication and Social/Organizational Change 3(3-0)
  - COM 667 - Seminar in Intercultural Communication 3(3-0)
  - MSA 609 - Ethical and Legal Dimensions of Private Sector Organizations 3(3-0)
  - MSA 611 - Contract Administration 3(3-0)

Total: 15 semester hours

Public Administration Certificate

Minimum Totals for Graduation: 15 hours

Required Courses (15 hours)
- ECO 515 - Collective Bargaining and Labor Law 3(3-0)
- COM 665 - Seminar in Communication and Negotiation in Employee Relations 3(3-0)
- MGT 646 - Labor Relations Issues 3(3-0)
- MGT 649 - Seminar in Organizational Development 3(3-0)
- MSA 501 - Managing Change with Emotional Intelligence 3(3-0)
- MSA 502 - Workforce Improvement Strategies in Corporate/Non-profit Organizations 3(3-0)
- MSA 503 - Gender and Generational Supervision 3(3-0)
- MSA 510 - Global Leadership Perspectives 3(3-0)
- MSA 609 - Ethical and Legal Dimensions of Private Sector Organizations 3(3-0)
- MSA 647 - People and Project Administration 3(3-0)
- MSA 696 - Special Topics 3(3-0)
- PHL 518 - Professional Ethics 3(3-0)
- PSY 531 - Group Dynamics 3(3-0)
- PSY 535 - Organizational Psychology 3(3-0)

Note: when appropriate, other courses may be substituted with the approval of the MSA Director.

Total: 15 semester hours

(Continued)
Interdisciplinary and Interdepartmental Programs

PSC 522 - Regulatory Processes and Administrative Law 3(3-0)
PSC 563 - Politics and Policy in Urban Communities 3(3-0)
PSC 566 - Intergovernmental Relations in the United States 3(3-0)

Note: Only one of the following may be used to fulfill certificate requirements: ECO 515, COM 665, or MGT 646.

Total: 15 semester hours

Recreation and Park Administration Certificate

Minimum Totals for Graduation: 18 hours
The Recreation, Parks, and Leisure Administration graduate certificate is designed to provide students with background and competencies in administration, grant writing, evaluation, current issues, as well as areas of individualized interest. Students will select 18 credits in consultation with their advisor.

Required Courses (6 hours)
RPL 611 - Evaluation in Recreation and Leisure Services 3(3-0)
RPL 618 - Issues in Leisure 3(3-0)

Electives (12 hours)
Select from the following:
MSA 660 - Marketing Administration 3(3-0)
RPL 511 - Liability and Risk Management in Leisure Services 3(3-0)
RPL 521 - Fund Development & Grant Writing for Public & Non-profit Organizations 3(3-0)
RPL 545 - Marketing of Leisure Services 3(3-0)
RPL 636 - Recreation Facility Operations and Management 3(3-0)
RPL 640 - Recreation Program and Event Administration 3(3-0)

Note: Select only one of RPL 545 OR MSA 660, not both.

Total: 18 semester hours

Research Administration Certificate

Minimum Totals for Graduation: 18 hours

Required Courses (12 hours)
MSA 611 - Contract Administration 3(3-0)
MSA 612 - Grants Fiscal Administration 3(3-0)
MSA 613 - Project Administration 3(3-0)
MSA 614 - Ethics in Research Administration 3(3-0)

Electives (6 hours)
Select from the following:
MSA 615 - Sponsored Project Administration 3(3-0)
MSA 616 - The Practice of Research Administration 3(3-0)
MSA 617 - Clinical Research Administration 3(3-0)
MSA 622 Research Facilities Administration and Cost 3(3-0)

Total: 18 semester hours

Training and Development Certificate

Minimum Totals for Graduation: 18 hours

Required Courses (12 hours)
EDL 612 - Methods and Techniques of Training and Development 3(3-0)
EDL 624 - Planning for Instruction in Nontraditional Settings 3(3-0)
MSA 502 - Workforce Improvement Strategies in Corporate/Non-profit Organizations 3(3-0)
MSA 503 - Gender and Generational Supervision 3(3-0)

Electives (6 hours)
Select two of the following:
COM 560 - Communication and Social/Organizational Change 3(3-0)
COM 667 - Seminar in Intercultural Communication 3(3-0)
EDL 620 - Administration Within Diverse Populations 3(3-0)
EDL 626 - The Adult Learner 3(3-0)
MSA 501 - Managing Change with Emotional Intelligence 3(3-0)

Total: 18 semester hours
Master of Arts (M.A.) in Cultural Resource Management

College of Humanities and Social & Behavioral Sciences

Minimum Totals for Graduation: 36 hours

The graduate program of study in Cultural Resource Management is designed to prepare professionals for careers in the growing field of cultural resource management. Practitioners in this multifaceted field assist private and government entities in identifying cultural resources such as archaeological and historical sites, culturally or historically significant structures, and culturally significant locations or resources, assessing such sites and resources, and developing plans for their preservation, curation, and ethical use. The CRM program will equip students with knowledge of disciplinary methods as well as federal guidelines and regulations governing the practice in this field.

Admission Requirements, Retention & Termination Standards

Application Deadline: February 1 for fall admittance consideration; September 30 for spring admittance consideration.

In addition to the general university requirements for admission to the Cultural Resource Management program, applicants must also provide the following:

1. evidence of an overall undergraduate grade point average of 3.0.
2. evidence of at least 18 hours of undergraduate course work in anthropology, history, museum studies, or cognate fields;
3. an essay (two or three pages, double-spaced) which includes a discussion of professional goals, how the applicant's background will lead to success in the program, and how the program will assist the applicant in achieving her or his goals. This essay will replace the written statement requested as part of the application to the College of Graduate Studies.
4. three letters of recommendation from former professors or professionals in a field related to CRM that attest to the applicant's potential to succeed in the program.
5. If the applicant is an international student for whom English is not the first language, a score of 79 or higher on the iBT Test of English as a Foreign Language (TOEFL) or 6.5 IELTS.
6. Per university policy, conditional admission may be considered for applicants with backgrounds or grade point averages that do not meet these requirements. Courses taken to meet these requirements may not be counted toward graduate degree requirements. Regular admission status should be requested upon completion of all conditional requirements.
7. Students may transfer up to 9 hours of graduate credit in consultation with a program advisor.

Retention and termination policies will follow the policies and procedures laid out in the CMU Graduate Bulletin under the heading Academic and Retention Standards.

Required Courses (18 hours)

- ANT 626 - Theory and Research in Archaeology 3(3-0)
- ANT 645 - Cultural Resource Management in Archaeology 3(3-0)
- HST 580 - Public History 3(3-0)
- HST 791 - Graduate Research 3-6(Spec)
- MST 610 - International Cultural Laws and Ethics 3(3-0)
- MST 620 - Museum Management Spec(3-0)

Note: students must complete at least 3 hours of HST 791. Students may substitute HST 711, 713, 715, or 717 for HST 791.

Additional Requirements I (3-6 hours)

Select one of the following Internship/Fieldwork capstone experiences for at least 3 hours' credit:

- ANT 500 - Field School in Archaeology 3-6(Spec)
- HST 595 - Internship in Public History 1-6(Spec)
- MST 598 - Museum Internship 6(Spec)

Additional Requirements II (3-6 hours)

- ANT 798 - Thesis 3-6(Spec)
- HST 798 - Thesis 1-6(Spec)
- MST 798 - Creative Endeavors in Museum Studies 3(3-0)

Note: Students completing a thesis must initiate the formation of a review committee consisting of a chair and at least one other reader.

Additional Requirements III

Comprehensive examination on laws and ethics relevant to cultural resource management. The examination will be scheduled in the final semester of the student's program and will be evaluated by a committee of at least two examiners.

Electives (6-12 hours)

Students must select elective courses, usually from the list below, in consultation with a program advisor. All students are strongly urged to select either ANT 520, North American Indian Ethnohistory or HST 523 American Indian History. Courses not approved by an advisor may not be applied to the student's degree program. It is not advisable for a student to complete more than 3 hours of any variable credit courses on the list below.

- ANT 521 - North American Indian Ethnohistory 3(3-0)
- ANT 540 - Archaeological Field and Laboratory Techniques 3(3-0)
- ANT 542 - Methods in Forensic Anthropology: Osteology and Skeletal Analysis 4(3-2)
- ANT 544 - Great Lakes Archaeology 3(3-0)
- ANT 588 - Special Topics in Anthropology 1-10(Spec)
- ANT 698 - Independent Studies in Anthropology 1-12(Spec)
- BLR 521 - Environmental Law and Policy 3(3-0)
- EDL 609 - Administration of Volunteer Programs 3(3-0)
- EDL 610 - Grants and Fund Procurement 3(3-0)
- GEO 500 - Advanced Cartography 3(2-2)
- GEO 501 - Principles and Applications of Geographic Information System 3(2-2)
- GEO 503 - Advanced Geographic Information Systems 3(2-2)
- GEO 508 - Digital Remote Sensing 3(2-2)
- GEO 512 - Quantitative Methods for Spatial Analysis 3(2-2)
- GEO 515 - Geography of the Great Lakes Region 3(3-0)
- GEO 516 - Advanced Remote Sensing Systems 3(2-2)
- GEO 530 - Land Use Planning 3(3-0)
- GEO 531 - Integrated Land Use Planning 3(3-0)
- HST 511 - Colonial British America 3(3-0)
- HST 512 - Era of the American Revolution 3(3-0)
- HST 514 - Democracy, Expansion, and Reform in America, 1824-1848 3(3-0)
- HST 516 - Emergence of Modern America, 1877-1920 3(3-0)
- HST 522 - Indians of the Great Lakes Region 3(3-0)
- HST 526 - Modern American Political Culture, 1865-Present 3(3-0)
- HST 583 - Archival Administration 3(3-0)
- HST 585 - Oral History 3(3-0)
- HST 600 - Historiography 3(3-0)
- HST 602 - Colloquium in U.S. History to 1865 3-6(3-0)
- HST 603 - Colloquium in U.S. History Since 1865 3-6(3-0)
- HST 636 - Colloquium in Ancient History 3-6(3-0)
- HST 650 - Colloquium in European History to 1450 3(3-0)
- HST 651 - Colloquium in Early Modern European History 3-6(3-0)
- HST 652 - Colloquium in Modern European History 3-6(3-0)
- HST 681 - Historic Preservation 3(3-0)
- HST 690 - Advanced Readings 1-9(Spec)
- HST 695 - Special Studies Abroad 3-15(Spec)
- HST 711 - Seminar in Colonial and Revolutionary America 3-6(3-0)
- HST 713 - Seminar in the History of Nineteenth Century America 3-6(3-0)
- HST 717 - Seminar in the History of Twentieth Century America 3-6(3-0)
- HST 723 - Seminar in American Diplomatic History 3(3-0)
- HST 738 - Seminar in Ancient History 3-6(3-0)
- HST 740 - Seminar in Medieval West 3(3-0)
- HST 741 - Seminar in Early Modern Europe 3(3-0)

(Continued)
Graduate Certificate in Cultural Resource Management
College of Humanities and Social & Behavioral Sciences

Minimum Totals for Graduation: 18 - 21 hours
The graduate certificate program of study in Cultural Resource Management is designed to prepare professionals for careers in the growing field of cultural resource management. Practitioners in this multifaceted field assist private and government entities in identifying cultural resources such as archaeological and historical sites, culturally significant structures, and culturally significant locations or resources, assessing such sites and resources, and developing plans for their preservation, curation, and ethical use. The CRM certificate program will equip students with knowledge of disciplinary methods as well as federal guidelines and regulations governing the practice in this field.

Admission Requirements, Retention & Termination Standards
Application Deadline: February 1 for fall admittance consideration; September 30 for spring admittance consideration.
In addition to the general university requirements for admission to the Cultural Resource Management program, applicants must also provide the following:
1. evidence of an overall undergraduate grade point average of 3.0.
2. evidence of at least 18 hours of undergraduate course work in anthropology, history, museum studies, or cognate fields;
3. an essay (two or three pages, double-spaced) which includes a discussion of professional goals, how the applicant’s background will lead to success in the program, and how the program will assist the applicant in achieving her or his goals. This essay will replace the written statement requested as part of the application to the College of Graduate Studies.
4. three letters of recommendation from former professors or professionals in a field related to CRM that attest to the applicant’s potential to succeed in the program.
5. If the applicant is an international student for whom English is not the first language, a score of 79 or higher on the iBT Test of English as a Foreign Language (TOEFL) or 6.5 IELTS.
6. Per university policy, conditional admission may be considered for applicants with backgrounds or grade point averages that do not meet these requirements. Courses taken to meet these requirements may not be counted toward graduate degree requirements. Regular admission status should be requested upon completion of all conditional requirements.
7. Students may transfer up to 9 hours of graduate credit in consultation with a program advisor. Retention and termination policies will follow the policies and procedures laid out in the CMU Graduate Bulletin under the heading Academic and Retention Standards.

Required Courses (15 hours)
ANT 626 - Theory and Research in Archaeology 3(3-0)
ANT 645 - Cultural Resource Management in Archaeology 3(3-0)
HST 580 - Public History 3(3-0)
MST 610 - International Cultural Laws and Ethics 3(3-0)
MST 620 - Museum Management 3(3-0)

Additional Requirements I (3-6 hours)
Select one of the following Internship/Fieldwork capstone experiences for at least 3 hours’ credit:
ANT 500 - Field School in Archaeology 3-6(Spec)
HST 595 - Internship in Public History 1-6(Spec)
MST 598 - Museum Internship 6(Spec)

Additional Requirements II
Comprehensive examination on laws and ethics relevant to cultural resource management. The examination will be scheduled during the final semester of the student’s program and will be evaluated by a committee of at least two examiners.

Total: 36 semester hours

Total: 18-21 semester hours
Master of Arts (M.A.) in Humanities
College of Humanities and Social & Behavioral Sciences

Course Designator:
HUM - Humanities

Minimum Totals for Graduation: 30 hours
Susan A. Schiller, Ph.D., Director
032 Anspach Hall, 989-774-3681

The Master of Arts in Humanities is a degree designed for generalists, for those more interested in synthesis than specialization. It provides an integrated study of the humanities in a cross-disciplinary format. Because the various areas of the humanities are naturally interrelated, this format emphasizes connection rather than fragmentation. The courses for the 30-semester hour program are generally selected from such traditional areas of the humanities as history, English, philosophy, religion, art, music, and broadcast and cinematic arts; they may, however, also include such areas as women’s studies, political science, sociology, anthropology, and theatre.

The program is flexible enough to meet the needs of a great variety of students. It is an appropriate degree choice for students seeking a graduate degree which offers educational development, personal development, or a focus on interdisciplinary knowledge.

Note: Some courses listed are not offered on a regular basis and some courses may only be offered by Global Campus. Several courses are available in an online format.

Admission Requirements, Retention & Termination Standards

<table>
<thead>
<tr>
<th>Admission Requirement Snapshot</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPA: 2.7</td>
</tr>
<tr>
<td>Entrance Exam: N/A</td>
</tr>
<tr>
<td>Internatl Application Deadline: July 1 (Fall), Oct. 1 (spring)</td>
</tr>
<tr>
<td>See Admission Requirement Details Below</td>
</tr>
</tbody>
</table>

Admission requirements are the same as those for admission to the Graduate Studies at CMU (baccalaureate degree and overall GPA of 2.7) and a minimum of 20 hours of coursework in areas of the Humanities (history, English, philosophy, etc.) with GPA of 2.7.

Requirements I (24 hours)
A minimum of 24 hours of graduate credit in the Humanities, selected in consultation with advisor, including:
- History Requirements (6-9 hours)
- English Requirements (6-9 hours)
- Other Requirements (12-18 hours)
These are selected from the following areas with approval from the advisor:
- Art
- Music (non-studio/non-performance)
- Religion
- Philosophy
- Broadcast and Cinematic Arts
- Political Science
- Sociology
- Anthropology
- Theatre (non-performance courses)

See Structure (Core Courses) below.

Note: A minimum of 15 hours of the above courses must be in courses numbered 600 or above.

Requirements II (6 hours)
Select one of the following plans:
- Plan A (6 hours)
  Thesis with oral defense.
  HUM 799 - Thesis 1-6(Spec)
- Plan B (6 hours)
  6 hours of additional coursework approved by the advisor, plus a scholarly paper.

Total: 30 semester hours
Structure (Core Courses)
In order to ensure both coherence and the advantage of complementary disciplinary approaches in the program of studies, each student’s coursework must be approved in advance by a faculty advisor. Coursework leading to the degree will be organized around a core (15-18 hours) of courses that are based on topics and themes or on the individual student’s interests and goals.

The following is a list of representative topics that have been approved by the M.A. in Humanities Council. Approved topics or themes include:
- I. The Rise of Industrial Society
- II. Images and Ideas of Self
- III. Contemporary Issues in the Humanities: Race, Class and Gender
- IV. Popular Culture Studies
- V. Native American Issues in Modern Culture
- VI. Global and Cultural Studies

Alternative topics or themes to those listed above may be proposed by the student as well, and/or a student may also choose a “broad” approach that is not based on a single topic or theme.
Neuroscience
College of Humanities and Social & Behavioral Sciences

Gary Dunbar, Director
Health Professions Building 2182; 989-774-3282

Jamie Alan, Ph.D., University of North Carolina. Regulation of signal transduction pathways as they relate to development of cancer in c. elegans and in cultured human cells.

Richard W. Backs, Ph.D., University of Southern California. Human factors, psychophysiology, aging, attention, and emotion.

Gary Dunbar, Ph.D., Clark University. Stem cell, dietary supplements, and pharmacological therapies for neurodegenerative diseases, including Huntington's, Alzheimer's, and Parkinson's diseases.

Kenneth Jenrow, Ph.D., Oakland University. Electrophysiology, mitigating neuroinflammation and its deleterious effects on synaptic plasticity and cognitive function.

Jamie Johansen, Ph.D., Michigan State University. Developing reliable mouse models of neurodegenerative diseases, such as Parkinson's and Kennedy's diseases, for testing potential therapies.

Yannick Marchalant, Ph.D., université de Caen, France. Influence of brain aging and neuroinflammatory processes on the development of neurodegenerative diseases.

Kevin Park, Ph.D., University of Illinois at Urbana-Champaign. Molecular genetics and neurobiology of neurodegenerative diseases, preclinical therapeutic development.

Mark Reilly, Ph.D., West Virginia University. Experimental analysis of behavior, operant/respondent conditioning, animal learning, quantitative models, behavioral pharmacology, and substance abuse.

Julien Rossignol, Ph.D., Nantes University, France. Molecular biology, cellular biology, and immunology. Optimizing adult stem cell transplantation technology in the context of neurodegenerative diseases.

Michael Sandstrom, Ph.D., Ohio State University. Assessing brain plasticity, compensatory neuronal activity, or neurochemical control during active behavior at various stages of deteriorative brain diseases such as Parkinson's and Huntington's using animal models.

Reid Skeel, Ph.D., University of Florida. Functional applications of neuropsychological assessments.

Michelle Steinhibl, Ph.D., genetic models of human neurodegenerative disease, cellular and molecular neurobiology.

Ksenia Ustinova, Ph.D., Russian State University of Sport. Motor control and learning, rehabilitation of patients with neurological diseases including stroke, spinocerebellar ataxia, Parkinson's disease.

Course Designator:
NSC - Neuroscience

Master of Science (M.S.) in Neuroscience

Minimum Totals for Graduation: 30 hours

The Masters of Science (M.S.) in Neuroscience Program at Central Michigan University is designed to give each student a comprehensive understanding of the core principles in neuroscience and the requisite training that will prepare students for further, doctoral-level graduate training or for positions in academics, industry, or government that utilize highly trained research skills in specific areas of neuroscience. Throughout the program, all students are expected to be actively involved in research with a Program faculty member, who serves as a mentor. The focus of the M.S. Program in Neuroscience is to build a broad-based and comprehensive understanding of the basic principles of neuroscience and develop a strong background for applied research in some specific area of neuroscience. Current areas of specific research training include studying the causes of and potential treatments for neurodegenerative diseases, the CNS involvement in behavioral learning in the context of abused substances, understanding the mechanisms underlying rehabilitation from movement disorders, and potential treatments for CNS insults, including spinal cord injury, cancer, and radiation-induced cognitive deficits. Students are encouraged to contact Program faculty members in their area of research interest prior to submitting application materials.

Admission Requirements, Retention & Termination Standards

<table>
<thead>
<tr>
<th>Admission Requirement Snapshot</th>
</tr>
</thead>
<tbody>
<tr>
<td>GPA: 3.0</td>
</tr>
<tr>
<td>Entrance Exam: GRE</td>
</tr>
<tr>
<td>Application Deadline: March 1 (Fall)</td>
</tr>
<tr>
<td>See Admission Requirement Details Below</td>
</tr>
</tbody>
</table>

The application deadline for receipt of all materials will be March 1. When applying for the M.S. degree in Neuroscience, applicants must send three letters of reference, official transcripts, and official GRE scores directly to the Program Director. Applicants are expected to complete a Bachelor of Science degree, have at least 15 hours of courses in neuroscience, chemistry, and/or biology (including biologically-based psychology courses), have at least 3 hours of statistics, and have a 3.0 grade point average (on a 4.0 scale) to gain admittance to the program. Preference will be given to students with prior research experience, especially in the area of neuroscience. Students who are deficient in certain subject areas, such as statistics or chemistry, will be expected to make up these deficiencies in addition to the normally prescribed graduate coursework for the degree. A maximum of 9 credit hours earned during non-degree status may be applied toward the M.S. degree in Neuroscience.

The M.S. degree in Neuroscience is based upon the satisfactory completion of a minimum of 30 semester hours of graduate work, including the successful completion of the Principles of Neuroscience courses and successful completion of a thesis (with oral defense). Students who are unable to pass the comprehensive examination for the Principles of Neuroscience courses after three attempts will be dismissed from the program. Students who complete the required coursework and successfully defend their thesis will attain the Master of Science in Neuroscience degree. All other retention and termination standards for the program follow University policy as specified in the Graduate Bulletin.

Required Courses I (18 hours)
NSC 501 - Principles of Neuroscience I (4-4-0)
NSC 502 - Principles of Neuroscience II (4-4-0)
NSC 690 - Research Seminar Neuroscience 1-4(Spec)
NSC 798 - Thesis: Design 1-3(Spec)
NSC 799 - Thesis: Implementation 1-3(Spec)

Note: A minimum of 4 hours of NSC 690 and 6 hours from a combination of NSC 798 and NSC 799 is required.

Required Courses II (3 hours)
Select one of the following:
BIO 500 - Biological Statistics 3(2-2)
PSY 511 - Statistics in Psychology 3(3-1)

Required Courses III (3 hours)
Select one of the following:
BIO 600 - Biological Research Design and Analysis 3(2-2)
PSY 611 - Research Design 3(3-0)

Electives (6 hours)
To be chosen in consultation with an advisor.

Note: Students need a minimum of 2 credit hours from elective courses at the 600 level.

Total: 30 semester hours
Doctor of Philosophy (Ph.D.) in Neuroscience
Minimum Totals for Graduation: 90 hours

The Doctor of Philosophy (Ph.D.) in Neuroscience Program at Central Michigan University is designed to give each student a comprehensive understanding of the core principles in neuroscience and the requisite training that will prepare students for positions in academics, industry, or government that utilize highly trained research skills in specific areas of neuroscience. The foundation of the Program is the provision during the first two years, which encompasses all the requirements for the Master of Science (M.S.) degree in Neuroscience. Throughout the program, all students are expected to be actively involved in research with a Program faculty member, who serves as a mentor. Upon receiving the M.S. degree in Neuroscience (or its equivalent, for students who enter the Ph.D. Program after their second year), students will work closely with their mentor to establish a line of research that will lead to a publishable-quality major paper and dissertation. As such, the focus of the Ph.D. Program in Neuroscience is to build upon the student's broad-based and comprehensive understanding of the basic principles of neuroscience and develop a strong background for applied research in some specific area of neuroscience. Current areas of specific research training include studying the causes of and potential treatments for neurodegenerative diseases, the CNS involvement in behavioral learning in the context of abused substances, understanding the mechanisms underlying rehabilitation from movement disorders, and potential treatments for CNS insults, including spinal cord injury, cancer, and radiation-induced cognitive deficits. Students are encouraged to contact Program faculty members in their area of research interest prior to submitting application materials.

Admission Requirements, Retention & Termination Standards

<table>
<thead>
<tr>
<th>Admission Requirement</th>
<th>GPA: 3.0</th>
<th>Entrance Exam: GRE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Application Deadline</td>
<td>March 1 (Fall)</td>
<td>See Admission Requirement Details Below</td>
</tr>
</tbody>
</table>

The application deadline for receipt of all materials will be March 1. When applying for the Ph.D. degree in Neuroscience, applicants must send three letters of reference, official transcripts, and official GRE scores directly to the Program Director. Applicants are expected to complete a Bachelor of Science degree, have at least 15 hours of courses in neuroscience, chemistry, and/or biology (including biologically-based psychology courses), have at least 3 hours of statistics, and have a 3.0 grade point average (on a 4.0 scale) to gain admittance to the program. Preference will be given to students with prior research experience, especially in the area of neuroscience. Students who are deficient in certain subject areas, such as statistics or chemistry, will be expected to make up these deficiencies in addition to the normally prescribed graduate coursework for the degree. A maximum of 9 credit hours earned during non-degree status may be applied toward the M.S. or Ph.D. degree in Neuroscience.

The Doctor of Philosophy degree in Neuroscience is based upon the satisfactory completion of a minimum of 90 semester hours of graduate work, including the successful completion of the Principles of Neuroscience courses and successful completion of a thesis (with oral defense). Students who are unable to pass the comprehensive examination for the Principles of Neuroscience courses after three attempts will be dismissed from the program. Students who complete the required coursework for the first two years and successfully defend their thesis will attain the Master of Science in Neuroscience degree. Thus, each Ph. D. student must complete the equivalent of all the requirements for the M.S. degree in Neuroscience. Upon completion of the requirements for the M.S. degree in Neuroscience, students will be required to complete NSC 800 (a major paper with oral defense) for their qualifying exam. Upon successful completion of their qualifying exam, the student is an official Ph.D. candidate in the Program. Students who do not successfully defend their major paper by the third attempt will be dismissed from the Program. Upon completion of the remaining course requirements and following the successful oral defense of the dissertation, the student will receive the Ph.D. in Neuroscience degree. All other retention and termination standards for the program follow University policy as specified in the Graduate Bulletin.

Program Requirements

Admission to doctoral candidacy is based upon satisfactory grades (i.e., maintaining a minimum 3.0 grade point average), completion of thesis requirements, and completion of both semesters of the Principles of Neuroscience (NSC 501 and NSC 502) or passing the comprehensive examination for these courses, and successfully completing NSC 800. The doctoral degree is awarded upon the successful completion and defense of the doctoral dissertation.

Required Courses I (48-66 hours)
- NSC 501 - Principles of Neuroscience I (4(4-0)
- NSC 502 - Principles of Neuroscience II (4(4-0)
- NSC 690 - Research Seminar Neuroscience 1-4(Spec)
- NSC 789 - Graduate Seminar in Neuroscience 1-12(Spec)
- NSC 798 - Thesis: Design 1-3(Spec)
- NSC 799 - Thesis: Implementation 1-3(Spec)
- NSC 800 - Neuroscience Research for Doctoral Candidacy 1-12(Spec)
- NSC 898 - Doctoral Dissertation: Design 1-12(Spec)
- NSC 899 - Doctoral Dissertation: Implementation 1-12(Spec)

Note: A minimum of 4 hours of NSC 690, 6 hours of NSC 789, 6 hours from a combination of NSC 798 and NSC 799, 6 hours of NSC 800, and 18 credit hours from the combination of NSC 898 and NSC 899 is required. In addition to course work, a student must complete an oral examination over the thesis, major paper (NSC 800), and the dissertation.

Required Courses II (3 hours)
Select one of the following:
- BIO 500 - Biological Statistics 3(2-2)
- PSY 511 - Statistics in Psychology 3(3-1)

Required Courses III (3 hours)
Select one of the following:
- BIO 600 - Biological Research Design and Analysis 3(2-2)
- PSY 611 - Research Design 3(3-0)

Electives (18-36 hours)
To be chosen in consultation with an advisor.

Total: 90 semester hours
Graduate Certificate in Data Mining

College of Science and Engineering

This is an interdepartmental program. Contact the Mathematics, Computer Science, or Geography department for more information.

Minimum Totals for Graduation: 15 - 18 hours

The Data Mining Certificate program is designed to give each student a comprehensive training of basic foundation, advanced knowledge and applications of data mining. The primary goal is to develop a high quality program and a creative learning environment that enable students to acquire advanced data mining knowledge and experience in real world applications, team work and presentations that are essential in work place.

Admission Requirements

Admission is dependent upon a student having completed at least three years of undergraduate program with a minimum GPA of 3.0 overall and at least 3 credit hours of basic statistics or equivalent. An international student must satisfy the required minimum TOEFL score as specified in the Graduate Bulletin. The consideration of admission deadline is the same as the University policy as specified in the Graduate Bulletin. The application deadline for consideration of a graduate teaching assistantship is March 1st. The materials include (1) undergraduate transcript or graduate transcript, if a student is already in a graduate program, (2) the graduate assistantship application form, and (3) three letters of recommendation.

Certificate Requirements

The Data Mining certificate program requires a successful completion of 15 to 18 credit hours of graduate course work. Students must have CMU graduate student status. If a student has taken at least one course (or equivalent course) from the list of required and primary elective courses, the student is required to have a total of 15 credit hours. If a student has taken more than one of these courses, the student will have to take courses from the secondary electives in order to fulfill the 15 hours requirement. If a student has not taken any of these courses, the student is required to take all the 18 credit hours. Students must have an earned Bachelor's degree before receiving the certificate.

Required Core Courses (9 hours)

- CPS 685 - Pattern Recognition and Data Mining 3(3-0)
- GEO 503 - Advanced Geographic Information Systems 3(2-2)
- STA 591 - Data Mining Techniques I 3(3-0)

Primary Electives (6-9 hours)

Choose at least two out of the following courses. Primary electives are to be chosen in consultation with and approval of a data mining program advisor. The choice of two courses depends on the background a student has prior to joining the program.

- CPS 541 - Databases 3(3-0)
- CPS 585 - Applied Data Engineering 3(3-0)
- GEO 512 - Quantitative Methods for Spatial Analysis 3(2-2)
- STA 580 - Applied Statistical Methods I 3(3-0)

Secondary Electives (0-6 hours)

Any graduate level quantitative or computational course. Secondary electives are to be chosen in consultation with and approval of a data mining program advisor.

Total: 15-18 semester hours

Master of Arts in Teaching Integrated Science (M.A.T.)

College of Science and Engineering

Contact: John Scheide, Dept. of Biology
989-774-3291; scheidej@cmich.edu

Minimum Totals for Graduation: 30 - 36 hours

The Master of Arts in Teaching Integrated Science is designed for K-12 teachers with a major in Integrated Science (Di endorsement) or Science (DX endorsement) who want to balance and strengthen their science content knowledge and skills in the broad arena of science. Secondary teachers with an endorsement in a particular science area (biology, chemistry, earth science, physics) may find this degree useful for the eventual addition of a new endorsement. However, these teachers should also consider a masters program (MS, MA, or MAT) in their area of specialty (e.g., Biology, Chemistry, etc.). Completion of the MAT in the Integrated Science program by itself does not involve any new endorsement. Teachers will apply new content knowledge to their classrooms through the design of instructional materials and experiments that emphasize student learning through inquiry. They will also gain pedagogical skills required to teach inquiry-based science. Students may choose to pursue either a Plan A thesis option (a 30 semester hour degree) or a Plan B non-thesis option (a 36 semester hour degree). Fifteen credits must be earned at the 600-level or above. The thesis or research project is completed under the direction of the major advisor and the student’s advisory committee. Students interested in the thesis option should identify a faculty member who has appropriate scientific and academic qualifications and is willing to commit appropriate time to thesis supervision, and define a project of mutual interest. A thesis proposal must be prepared in collaboration with the faculty advisor and the committee before the research project is to begin. Approval from other committees and oversight bodies (e.g., IRB, Safety Officer) may be required before the thesis research can begin.

Admission Requirements

To be eligible for Regular Admission to the Master of Arts in Teaching Integrated Science applicants should have:

1. completed an undergraduate degree with a major in integrated science, science, biology, chemistry, earth science, physical science or physics (or the equivalent) with a 2.7 or better grade point average in their major and a 3.0 grade point average overall.
2. taken at least 30 semester hours of undergraduate science.
3. current teacher certification with a science endorsement.
4. completed at least one year of teaching at the level of their certification in a permanent (not substitute) teaching position.

Applicants are required to submit a statement of interests, transcripts, evidence of teacher certification, and three letters of recommendation. An applicant who does not meet the foregoing requirements may be granted Conditional Admission with the understanding that additional coursework may be required. Applicants from non-English speaking countries are required to demonstrate proficiency in English via the TOEFL exam. Applicants for graduate teaching assistantships (Biology department only) are required to submit GRE General scores (contact the Department of Biology for application materials and deadlines). All degree requirements must be completed in 7 years or less. Since most courses will need to be taken in the summer, full-time teachers may take up to 5 years to complete the degree.

Select one of the following Plans:
Plan A (30 hours)
Thirty semester hours of graduate work including 6 credit hours of thesis and at least one credit hour in seminar. Since the thesis is an extensive research project, students planning further graduate study in science education may choose this option as a prelude to doctoral work.

Required Science Education Courses (9 hours)
EDU 615 - Survey of Science Education 3(3-0)
EDU 618 - The Nature of Science in Science Teaching 3(3-0)
EDU 645 - Advanced Science Teaching Methods 3(3-0)

Elective Science Content Courses (12-14 hours)
The electives must be 500- or 600-level science courses in astronomy, biology, chemistry, earth science, engineering, environmental education, geology, physical science, or physics chosen with the approval of your advisor. These courses should strengthen your teaching expertise or apply toward a new area of endorsement. Students with elementary certification may choose to take courses that are specifically designed to provide content and hands-on science appropriate for K-8 classrooms. Students who are certified at the secondary level are encouraged to focus on graduate-level courses in one of the sciences. All students must identify and take at least one course at a field station or participate in a significant field experience, laboratory research experience or internship-like experience approved by the advisor.

Required Capstone Courses (7-9 hours)
 Required Capstone Course I (6 hours)
Select one of the following:
EDU 698 - Thesis 1-6(Spec)
SCI 798 - Thesis 1-6(Spec)

Required Capstone Course II (1-3)
Select one of the following:
EDU 780/MLE 780 - Master of Arts Capstone Seminar 3(3-0)
SCI 730 - Seminar 1(1-0)

Plan B (36 hours)
Thirty-six semester hours of graduate-level coursework approved by the advisory committee. In addition, students must submit an approved Plan B paper demonstrating either research or independent study in an area of science or science education. The Plan B paper might focus on improving the teaching of science in your school including improvements in curriculum, instruction, or leadership in science teaching. Or it might focus on answering a particular question in any one of the science disciplines, for example, someone might look at the various ferns found at Neithercut Woodland and then develop a guide to be used by those visiting the property.

Required Science Education Courses (9 hours)
EDU 615 - Survey of Science Education 3(3-0)
EDU 618 - The Nature of Science in Science Teaching 3(3-0)
EDU 645 - Advanced Science Teaching Methods 3(3-0)

Elective Science Education Courses (23-25 hours)
The electives must be 500- or 600-level science courses in astronomy, biology, chemistry, earth science, engineering, environmental education, geology, physical science, or physics chosen with the approval of your advisor. These courses should strengthen your teaching expertise or apply toward a new area of endorsement. Students with elementary certification may choose to take those courses that are specifically designed to provide content and hands-on science appropriate for K-8 classrooms. Students who are certified at the secondary level are encouraged to focus on graduate-level courses in one of the sciences. All students must identify and take at least one course at a field station or participate in a significant field experience, laboratory research experience or internship-like experience approved by the advisor.

Required Capstone Course (2-4 hours)
SCI 790 - Research in Science Education 2-4(Spec)

Total: 30-36 semester hours
Examination: Students must pass a comprehensive oral and/or written examination over the coursework and administered by the advisory committee.
Transfer Credit: A maximum of 10 semester credits are accepted for transfer, with the approval of the advisory committee.

Doctor of Philosophy (Ph.D.) in Earth and Ecosystem Science
College of Science and Engineering
Jessica Lapp
E&T Building 228, 989-774-4401

Course Designator:
EES - Earth and Ecosystem Science

Minimum Totals for Graduation: 60 hours
The Doctor of Philosophy (Ph.D.) degree in Earth and Ecosystem Science (EES) at Central Michigan University is an interdisciplinary program that provides advanced scientific training in an investigative field of study that employs a systems-level approach to evaluate the physical, chemical, and biological structure and function of various natural environments.

This research-intensive degree program trains students to understand, investigate and evaluate the multiple patterns and processes that regulate environmental variation across a range of temporal and spatial scales. EES students investigate the behavior of whole ecosystems in specific and unique geographic regions, with a particular focus on the interrelations between multiple factors that regulate variation in the environment. This subject is broad and inherently multidisciplinary, encompassing aspects of biology, chemistry, geology, geography, physics and mathematics. Research in EES explores patterns (biodiversity, reaction, physical architecture), processes (fate, transport, efficiency), regulation (complexity, stability, feedback) and management (sustainability, global change) of ecosystems and key ecosystem components. The EES program promotes research on a range of ecosystem types including terrestrial, aquatic (freshwater and saltwater) and global ecosystems in natural, managed, or disturbed states.

The Earth and Ecosystem Science (EES) doctoral degree program at CMU provides students with an opportunity to develop the ability and skills necessary to conduct independent, primary research of professional quality; their research focuses on identification, description, and interpretation of factors that regulate variation in the structure and function of ecosystems. The EES degree program offers a collegial forum for advanced students to explore hypothesis-driven, as well as discovery-driven, research topics in Earth and Ecosystems Science. Students develop advanced skills in areas including analytical approaches and methodologies, critical thinking, and the communication of research results. EES promotes academic excellence through the successful completion of graduate research that will inform professional and public shareholders so they can better understand and manage sustainable ecosystems.

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

GPA: 3.0
Entrance Exam: GRE
Application Deadline: February 1 for all materials
See Admission Requirement Details Below

The deadline for receipt of application materials for admission into the EES program is February 1. Materials received after this date will be reviewed at the discretion of the EES Council.

Application materials must be submitted to the Graduate Student Services office and must include:
• official transcripts for undergraduate and graduate work,
• official GRE scores,
• a personal statement outlining interest in the EES program and identifying a faculty advisor,
• a demonstrated potential for success in research as indicated by prior experience and presented in resume or cv format,
• three letters of recommendation.

Candidates are expected to hold a Bachelor of Science (B.S.) or Master of Science (M.S.) degree in chemistry, biology, geology, geography, or other relevant areas of science. International students must meet the requirements for regular admission to Graduate Studies at CMU. For English proficiency, see the CMU English Language Standards in the current Graduate Bulletin. Students admitted for a doctoral degree in EES must have a faculty mentor approved and financial support in the form of a teaching or research assistantship in place. Students may apply for a teaching assistantship through one of the participating academic departments (deadline February 1).

A formal evaluation of each student's training will be carried out within the first semester of the student's admission into the EES Ph.D. program by the student's mentor. This evaluation will be used to identify each student's strengths and limitations in academic training and background; the mentor will then determine the plan of study including recommending courses to be taken and identifying professional activities needed to bolster their academic background. Students must form a dissertation committee within their first year of graduate work. The student's dissertation committee will be composed of the faculty mentor plus 3 faculty members, one of whom is outside the student's immediate area of specialization.

Student progress will be assessed at mandatory annual meetings between each student and the dissertation committee. Each student will prepare a proposal describing the research to be done for the dissertation prior to the comprehensive exam, which will be administered through the doctoral committee within the first 2 years of admission to the program. Students will have two opportunities to pass the comprehensive exam; those who fail a second time will be terminated from the program and encouraged to complete the requirements for a related M.S. degree (such as biology or GIS). Finally, each student will defend the final dissertation in a public presentation summarizing research results, followed by an oral defense. The public presentation and defense of the dissertation will be judged and voted on by the committee and must be approved by the Office of Research and Graduate Studies. All EES students will be encouraged to publish their results in reputable peer-reviewed journals and to present at professional conferences at local, regional and international venues. We anticipate full-time students will complete the program in a 4-5 year period.

Program Requirements

The EES Ph.D. is designed to be a research degree in which students are trained primarily by conducting research under the guidance of a faculty mentor. The program will utilize a suite of core courses plus elective courses to augment the intensive research training. Core courses are designed to provide a range of students with universal skill-sets (analytical, conceptual, communication) needed to conduct primary systems-level research in complex environments. To ensure students receive training in a broad array of research tools, each student will complete elective graduate course work in related disciplines. Students will have the option to take up to 6 credits in a special topics course. Successful completion of the Ph.D. requires a minimum of 60 hours of graduate work beyond the bachelor's degree. Up to 30 hours of relevant graduate work may be transferred for students entering with a master's degree in a related field. Each student's program of study will be developed in consultation with the faculty mentor and approved by the program director. Typically, students entering with a bachelor's degree will take 12-30 hours of disciplinary elective courses and 12-30 hours of special topics and directed research credits (and students entering with a relevant master's degree will take 3-9 hours of disciplinary elective courses and 3-9 hours of special topics and directed research, or more depending on transfer credits) in addition to the required core courses and the dissertation.

Required Courses (6 hours)

EE 701 - Earth and Ecosystem Science Colloquium 3(3-0)
EE 703 - Advances in Earth and Ecosystem Science 3(3-0)

Elective Courses I (3-30 hours)

At least 3 credits elected from the following with the consent of the mentor and program director:
• Biology: 500-700 level BIO courses
• Chemistry: 500-700 level CHM courses
• Geology and Meteorology: 500-600 level GEL or MET courses
• Geography: 500-700 level GEO courses
• Mathematics and Statistics: 500-700 level MTH or STA courses

Elective Courses II (3-30 hours)

EE 790 - Special Topics in Earth and Ecosystem Science 1-6(Spec)
EE 796 - Directed Research in Earth and Ecosystem Science 1-30(Spec)

Dissertation (12 hours)

EE 899 - Dissertation 1-12(Spec)

Total: 60 semester hours
Doctor of Philosophy (Ph.D.) in the Science of Advanced Materials
College of Science and Engineering

Jessica Lapp
E&T Building 228, 989-774-4401

Course Designators:
SAM - Science of Advanced Materials

Minimum Totals for Graduation: 60 hours

The science of materials combines elements of chemistry, physics and biology, and requires a solid background in mathematics. The CMU Science of Advanced Materials (SAM) Ph.D. program is designed to create a correspondingly interdisciplinary environment that will train effective researchers without erecting artificial boundaries between disciplines. The formal coursework focuses on the scientific framework for studying materials and is organized around the themes of modeling, characterization, and synthesis. These are the key methodologies employed in materials research and the SAM program emphasizes the synergy among them.

The curriculum for the SAM program includes the following components: core courses that establish a solid foundation in the science of materials; elective courses in a number of specialized areas; seminar courses focusing on the current SAM literature and developing essential skills in scientific communication; and the dissertation.

Students may enter the program with diverse backgrounds, but a Master’s degree in a relevant field is required.

**Admission Requirements, Retention & Termination Standards**

**Admission Requirement Snapshot**

<table>
<thead>
<tr>
<th>Entrance Exam: GRE</th>
<th>Application Deadline: March 15</th>
</tr>
</thead>
<tbody>
<tr>
<td>See Admission Requirement Details Below</td>
<td></td>
</tr>
</tbody>
</table>

Applicants already holding a Master’s degree in a materials-related area may apply for entry into the program. Students with a bachelor’s degree in physics, chemistry, biochemistry, biology, geology, engineering, mathematics, or other relevant areas of science may wish to pursue a Master’s degree at CMU before applying to the SAM program. Complete applications submitted for the March 15 deadline each year will receive full consideration. Applications received outside this window, or during the summer and fall semesters, will only be considered upon the specific written request of a SAM faculty advisor. Applicants are encouraged to contact specific SAM faculty members prior to submitting the application.

Applications must include:

- transcripts of previous undergraduate and graduate studies,
- GRE scores,
- a statement outlining your interest in the SAM program and identifying the faculty mentor with whom you’ve already been in contact,
- a cv/résumé, and
- three letters of recommendation.

International students must meet the requirements for regular admission to Graduate Studies at CMU. For English proficiency, see the English Proficiency Standards in the current Graduate Bulletin. These materials will be used in evaluating candidates for admission. A completed M.S. thesis on a materials-related topic may be counted toward the directed research credits required for the SAM Ph.D. degree. Although some courses may be transferred or waived based on prior graduate work, no more than 30 credit hours can be transferred. Successful completion of the Ph.D. requires satisfactory completion of a minimum of 60 credit hours beyond the bachelor’s degree.

**Program Requirements**

During the second year, Ph.D. students will take a comprehensive examination to demonstrate competence in their area of specialization and the science of advanced materials more generally. The exam will be based on coursework, the current scientific literature in the area, and other appropriate material. Students passing the comprehensive exam will attain dissertator status. Students who fail will be terminated from the program.

Students normally will begin directed research work no later than during the first semester of residence. Students will meet with their research advisor as early as possible, and form a dissertation committee consisting of at least four members. The committee chair (research director) and two other members will come from the program faculty. One of these will have research expertise outside the student’s immediate area of specialization. One additional committee member may come from an institution external to CMU, including industrial labs, as appropriate.

During the second year, students will prepare an original research proposal, present it as a seminar to program faculty and students and defend it before the dissertation committee. Students will carry out the bulk of their doctoral research in years 2-4 of the program. The final requirements will be the preparation and oral defense of a scholarly dissertation that presents the results of the student’s dissertation research. The oral defense and the dissertation must be approved by the dissertation committee and by the Office of Research and Graduate Studies. A student’s progress through the program will be monitored by an annual review of his or her overall performance by the program director or dissertation committee.

**Required Courses I (8 hours)**

**Materials Core**

Select two of the following:

- SAM 720 - Inorganic and Nanomaterials Laboratory 4(2-6)
- SAM 721 - Polymeric and Biomaterials Laboratory 4(2-6)
- SAM 723 - Engineering Materials Laboratory 4(2-6)

**Required Courses II (4 hours)**

Current Topics Seminar

- SAM 685 - Current Topics in the Science of Advanced Materials 1-5(Spec)
- SAM 785 - Seminar in the Science of Advanced Materials 1(1-0)

**Note:** The student may enroll in SAM 685 multiple times until 3 credits are earned.

**Optional Electives (0-30 hours)**

The student may enroll in up to 30 credit hours of elective graduate courses selected in consultation with and approved by the program advisor or graduate coordinator.

**Research (6-36 hours)**

- SAM 796 - Directed Research in the Science of Advanced Materials 1-36(Spec)

**Dissertation (12 hours)**

- SAM 899 - Dissertation 1-12(Spec)

**Total: 60 semester hours**
# Key to Designators

<table>
<thead>
<tr>
<th>Designator</th>
<th>Program Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAD</td>
<td>Academic Advancement</td>
</tr>
<tr>
<td>ACC</td>
<td>Accounting</td>
</tr>
<tr>
<td>ACT</td>
<td>Actuarial Science</td>
</tr>
<tr>
<td>AFL</td>
<td>Air Force Leadership</td>
</tr>
<tr>
<td>AMD</td>
<td>Apparel Merchandising &amp; Design</td>
</tr>
<tr>
<td>AMS</td>
<td>American Studies</td>
</tr>
<tr>
<td>ANT</td>
<td>Anthropology</td>
</tr>
<tr>
<td>ARB</td>
<td>Arabic</td>
</tr>
<tr>
<td>ART</td>
<td>Art</td>
</tr>
<tr>
<td>ASL</td>
<td>American Sign Language</td>
</tr>
<tr>
<td>AST</td>
<td>Astronomy</td>
</tr>
<tr>
<td>ATR</td>
<td>Athletic Training</td>
</tr>
<tr>
<td>BCA</td>
<td>Broadcast and Cinematic Arts</td>
</tr>
<tr>
<td>BIO</td>
<td>Biology</td>
</tr>
<tr>
<td>BIS</td>
<td>Business Information Systems</td>
</tr>
<tr>
<td>BLR</td>
<td>Business Law and Regulation</td>
</tr>
<tr>
<td>BUS</td>
<td>Business</td>
</tr>
<tr>
<td>CDO</td>
<td>Communication Disorders</td>
</tr>
<tr>
<td>CED</td>
<td>Counselor Education and Personal Development</td>
</tr>
<tr>
<td>CGL</td>
<td>Cultural and Global Studies</td>
</tr>
<tr>
<td>CHM</td>
<td>Chemistry</td>
</tr>
<tr>
<td>CHN</td>
<td>Chinese</td>
</tr>
<tr>
<td>CNE</td>
<td>Credit, no equivalent</td>
</tr>
<tr>
<td>COM</td>
<td>Communication</td>
</tr>
<tr>
<td>CPS</td>
<td>Computer Science</td>
</tr>
<tr>
<td>DAN</td>
<td>Dance</td>
</tr>
<tr>
<td>DBI</td>
<td>DeafBlind Intervener</td>
</tr>
<tr>
<td>DHA</td>
<td>Degrees in Health Administration</td>
</tr>
<tr>
<td>DOL</td>
<td>Doctor of Organizational Leadership</td>
</tr>
<tr>
<td>ECE</td>
<td>Early Childhood Education</td>
</tr>
<tr>
<td>ECO</td>
<td>Economics</td>
</tr>
<tr>
<td>EDL</td>
<td>Educational Leadership</td>
</tr>
<tr>
<td>EDU</td>
<td>Teacher Education</td>
</tr>
<tr>
<td>EES</td>
<td>Earth and Ecosystem Science</td>
</tr>
<tr>
<td>EGR</td>
<td>Engineering</td>
</tr>
<tr>
<td>EHS</td>
<td>Education and Human Services</td>
</tr>
<tr>
<td>ELI</td>
<td>English Language Institute</td>
</tr>
<tr>
<td>ENG</td>
<td>English Language and Literature</td>
</tr>
<tr>
<td>ENS</td>
<td>Environmental Science</td>
</tr>
<tr>
<td>ENT</td>
<td>Entrepreneurship</td>
</tr>
<tr>
<td>ENV</td>
<td>Environmental Studies</td>
</tr>
<tr>
<td>ESC</td>
<td>Earth Science</td>
</tr>
<tr>
<td>EUR</td>
<td>European Studies</td>
</tr>
<tr>
<td>FIN</td>
<td>Finance</td>
</tr>
<tr>
<td>FLN</td>
<td>Foreign Language</td>
</tr>
<tr>
<td>FMD</td>
<td>Fashion Merchandising &amp; Design</td>
</tr>
<tr>
<td>FNS</td>
<td>Foods &amp; Nutrition</td>
</tr>
<tr>
<td>FRN</td>
<td>French</td>
</tr>
<tr>
<td>FYE</td>
<td>First Year Experience</td>
</tr>
<tr>
<td>GEL</td>
<td>Geology</td>
</tr>
<tr>
<td>GEO</td>
<td>Geography</td>
</tr>
<tr>
<td>GER</td>
<td>German</td>
</tr>
<tr>
<td>GRIK</td>
<td>Greek</td>
</tr>
<tr>
<td>GRN</td>
<td>Gerontology</td>
</tr>
<tr>
<td>HDF</td>
<td>Human Development &amp; Family Studies</td>
</tr>
<tr>
<td>HNS</td>
<td>Environmental Health and Safety</td>
</tr>
<tr>
<td>HOA</td>
<td>Hotel Administration (AT UNLV)</td>
</tr>
<tr>
<td>HON</td>
<td>Honors</td>
</tr>
<tr>
<td>HPS</td>
<td>Health Professions</td>
</tr>
<tr>
<td>HSA</td>
<td>Hospitality Services Administration</td>
</tr>
<tr>
<td>HSC</td>
<td>School of Health Sciences</td>
</tr>
<tr>
<td>HSL</td>
<td>Health Systems Leadership</td>
</tr>
<tr>
<td>HST</td>
<td>History</td>
</tr>
<tr>
<td>HUM</td>
<td>Humanities</td>
</tr>
<tr>
<td>IET</td>
<td>Industrial and Engineering Technology</td>
</tr>
<tr>
<td>IND</td>
<td>Interior Design</td>
</tr>
<tr>
<td>IPR</td>
<td>Integrative Public Relations</td>
</tr>
<tr>
<td>IPS</td>
<td>International Program Studies</td>
</tr>
<tr>
<td>ITC</td>
<td>Information Technology</td>
</tr>
<tr>
<td>JPN</td>
<td>Japanese</td>
</tr>
<tr>
<td>JRN</td>
<td>Journalism</td>
</tr>
<tr>
<td>LAR</td>
<td>Liberal Arts</td>
</tr>
<tr>
<td>LAT</td>
<td>Latin</td>
</tr>
<tr>
<td>LDR</td>
<td>Leadership Studies</td>
</tr>
<tr>
<td>LIB</td>
<td>Library</td>
</tr>
<tr>
<td>MAR</td>
<td>Marine Science</td>
</tr>
<tr>
<td>MBA</td>
<td>Master of Business Administration</td>
</tr>
<tr>
<td>MDP</td>
<td>Media, Design, and Production</td>
</tr>
<tr>
<td>MED</td>
<td>College of Medicine</td>
</tr>
<tr>
<td>MET</td>
<td>Meteorology</td>
</tr>
<tr>
<td>MHA</td>
<td>Master of Health Administration</td>
</tr>
<tr>
<td>MGT</td>
<td>Management</td>
</tr>
<tr>
<td>MKT</td>
<td>Marketing</td>
</tr>
<tr>
<td>MLE</td>
<td>Middle Level Education</td>
</tr>
<tr>
<td>MMD</td>
<td>Multimedia Design</td>
</tr>
<tr>
<td>MPH</td>
<td>Master of Public Health</td>
</tr>
<tr>
<td>MSA</td>
<td>Master of Science in Administration</td>
</tr>
<tr>
<td>MSL</td>
<td>Military Science and Leadership</td>
</tr>
<tr>
<td>MST</td>
<td>Museum Science</td>
</tr>
<tr>
<td>MTH</td>
<td>Mathematics</td>
</tr>
<tr>
<td>MTR</td>
<td>Music Theatre</td>
</tr>
<tr>
<td>MUS</td>
<td>Music</td>
</tr>
<tr>
<td>NSC</td>
<td>Neuroscience</td>
</tr>
<tr>
<td>OJB</td>
<td>Ojibwe</td>
</tr>
<tr>
<td>PAD</td>
<td>Public and Nonprofit Administration</td>
</tr>
<tr>
<td>PED</td>
<td>Sports Instructional Program (Activity)</td>
</tr>
<tr>
<td>PES</td>
<td>Physical Education and Professional Courses</td>
</tr>
<tr>
<td>PHA</td>
<td>Physician Assistant</td>
</tr>
<tr>
<td>PHL</td>
<td>Philosophy</td>
</tr>
<tr>
<td>PHS</td>
<td>Physical Science</td>
</tr>
<tr>
<td>PHY</td>
<td>Physics</td>
</tr>
<tr>
<td>POR</td>
<td>Portuguese</td>
</tr>
<tr>
<td>PSC</td>
<td>Political Science</td>
</tr>
<tr>
<td>PSY</td>
<td>Psychology</td>
</tr>
<tr>
<td>PTH</td>
<td>Physical Therapy</td>
</tr>
<tr>
<td>REL</td>
<td>Religion</td>
</tr>
<tr>
<td>RLA</td>
<td>Recreation and Leisure Activities</td>
</tr>
<tr>
<td>RPL</td>
<td>Recreation, Parks, and Leisure Services Administration</td>
</tr>
<tr>
<td>RUS</td>
<td>Russian</td>
</tr>
<tr>
<td>SAM</td>
<td>Science of Advanced Materials</td>
</tr>
<tr>
<td>SCI</td>
<td>Sciences</td>
</tr>
<tr>
<td>SEP</td>
<td>Sustainability and Environmental Policy</td>
</tr>
<tr>
<td>SOC</td>
<td>Sociology</td>
</tr>
<tr>
<td>SPE</td>
<td>Special Education</td>
</tr>
<tr>
<td>SPN</td>
<td>Spanish</td>
</tr>
<tr>
<td>SSC</td>
<td>Social Sciences</td>
</tr>
<tr>
<td>STA</td>
<td>Statistics</td>
</tr>
<tr>
<td>SWK</td>
<td>Social Work</td>
</tr>
<tr>
<td>TAI</td>
<td>Theatre and Interpretation</td>
</tr>
<tr>
<td>UNV</td>
<td>Prior Learning</td>
</tr>
</tbody>
</table>
Key to Course Descriptions

Course Numbers. The level of a course is indicated by the number. Usually it is expected that students will take courses appropriate to their classification. It is particularly important for freshmen to register for courses numbered below 200.

000-099 Credits in these courses do not apply to the minimum 124 hour requirement for graduation.
100-199 Primarily for Freshmen
200-299 Primarily for Sophomores
300-399 Primarily for Juniors
400-499 Primarily for Seniors
500-599 Advanced Undergraduate Courses

A student who has been formally admitted to the College of Graduate Studies and who takes courses numbered 500 or higher will receive graduate credit and, with the approval of the advisor, may apply it to a degree program.

600-699 Graduate Courses. Open only to students who have been admitted to the College of Graduate Studies. Undergraduate students should use the form available from the College of Graduate Studies to apply to take a graduate course for undergraduate credit.

700-799 Graduate Courses. Open only to students who have been admitted to the College of Graduate Studies.

800-899 Graduate Courses. Open only to students who have been admitted to the College of Graduate Studies and who are in the third year of doctoral study or full time internship at the specialist level.

900-999 Graduate Courses. Open only to students who have been admitted to the College of Graduate Studies and who are in the fourth year of doctoral study.

Graduate courses which are subject to limitation under the policy on unspecified content or variable credit are listed in each department.

Non-Degree Courses

Courses numbered (DESIGNATOR) 589 - Professional Development (1-6) do not apply to degree requirements. These courses cover selected issues designed for professional development, in-service training to meet specific staff development needs in education, business/industry, allied health, technology, and other professional settings. They are not applicable to degree requirements.

Cross-Listed Courses

Cross-listed courses are those courses identified in the course listing as "identical to" another course. Credit may not be earned in more than one of these courses.

Credit and Attendance Hours

Central Michigan University complies with the federal credit hour definition: "one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for approximately fifteen weeks for one semester" 34CFR 600.2 (11/1/2010). This credit policy applies to all courses regardless of the delivery format. Laboratory, internship, practica, studio, and similar non-lecture courses will require at least an equivalent amount of work.

The number of semester hours of credit in each course is indicated by the first number following the title of the course. Within the parentheses, the first number indicates the number of hours of lecture per week; the second number, the hours of laboratory per week. EXAMPLE: 4(3-2) means four hours of credit, three hours of lecture, 2 hours of laboratory.

Prerequisites

Some courses listed as prerequisites may have their own prerequisites. You may need to plan more than one semester in advance when deciding which semester to take a particular course. Students seeking to substitute prerequisite courses with equivalents or permission of instructor may do so only with departmental approval. Such substitutions are not automatic.

Definitions

• Prerequisite – Any course(s) and/or other requirement(s) that must be completed prior to enrolling in a particular course.
• Pre/Co-requisite(s) – Any course and/or other requirement(s) that students may take prior to, or concurrently, with the particular course.
• Co-requisite – Any course and/or other requirement(s) that students must take concurrently with a particular course.
• Recommended – Any course and/or other requirement(s) that might be useful for students to complete prior to enrolling in a particular course.

Syntax Guidelines

• Multiple Course Requirements are separated by a comma. Example: ART 105, 115.
• Compound requirements are separated by a semi-colon. Example: ART 105, 115; Admission to the Teacher Education Program.
• Alternative courses are separated by "or." Example: ART 105 or 115.
• Multiple alternative courses are preceded by the use of “One of:”. Example: One of: ART 105, 115, 215.
• Default prerequisites. "or permission of instructor" and "or equivalent" are default prerequisites and therefore apply to any course. It is understood that students may contact a faculty member for permission to register for a class (with a bump card) or have previous coursework evaluated for equivalency (with a bump card). Thus, these phrases should not appear in course descriptions.
• "Or graduate standing" should appear only in 500 level classes to permit graduate students to register without CMU’s undergraduate requirements.

Variable Credit Courses

Variable credit courses are indicated by a semester-hour designation such as 1-3(Spec). (Spec) means there are special arrangements regarding the number of hours spent in class. Maximum hours which a student may earn in a variable credit course to apply toward graduation are the highest number in the semester-hour designation for the course (i.e., three hours maximum in example listed above).

Distance Learning, Online, or Hybrid Courses

Distance learning courses include online courses, hybrid courses, and other courses that do not have the traditional face-to-face classroom format. Course approved for offering in a distance learning format are identified in each course description when the course is approved for distance learning, hybrid, or online.

Other Designation

• CR/NC Credit/No Credit, see index for more information.
• Italic Type Indicates the course is approved for the University Program
• Courses are listed in alphabetical order by designator.
ACC - Accounting

See the School of Accounting for more information.

ACC 501 Advanced Accounting 3(3-0)
Incorporate investments and consolidated statements, purchases, and goodwill, segment reporting, interim reporting, partnerships, foreign operations, and fund accounting. Prerequisites: ACC 301, 302; 56 semester hours completed and admission to Professional Business Studies or listed on signed major or minor, or graduate status.

ACC 511 Federal Income Tax II 3(3-0)
Formation, operation, distributions, redemption, dissolution, and liquidation of corporations, partnerships, Subchapter S corporations and personal holding companies; accumulated earnings tax; tax shelter investments. Prerequisites: ACC 311; 56 semester hours completed; admission to Professional Business Studies or listed on signed major or minor.

ACC 512 Tax Research and Administration 3(3-0)
A study of the sources of tax law, professional tax research techniques, IRS procedures used to administer the tax system, and professional tax practice standards. Prerequisites: ACC 311; 56 semester hours completed; admission to Professional Business Studies or listed on signed major or minor.

ACC 517 Federal Estate and Gift Taxation 3(3-0)
Concentrated study of federal taxation of death transfers and gratuitous lifetime transfers including preparation of decedents final income tax return. Prerequisites: 56 semester hours completed; admission to Professional Business Studies or listed on signed major or minor.

ACC 521 Managerial Cost Control Analysis 3(3-0)
Principles and techniques of accounting data analysis and profit planning, measurement, control, and cost management. Prerequisites: ACC 321; 56 semester hours completed; admission to Professional Business Studies or listed on signed major or minor. Recommended: MGT 340.

ACC 524 Budgeting: Planning and Control 3(3-0)
Intensive study of budgeting for both profit and non-profit organizations. Prerequisites: ACC 321, FIN 332; 56 semester hours completed; admission to Professional Business Studies or listed on signed major or minor.

ACC 531 Auditing and Assurance Services 3(3-0)
A study of assurance services offered by professional services firms with major emphasis on the traditional auditing concepts and procedures. Prerequisites: signed major authorization in accounting; completion or concurrent enrollment in ACC 370; 56 semester hours completed; admission to Professional Business Studies or listed on signed major or minor.

ACC 533 Auditing Procedures and Statistical Sampling 3(3-0)
Auditing programs, work paper techniques, procedures, and statistical sampling. Prerequisites: ACC 531 with a grade of B- or better; BIS 221; 56 semester hours completed; admission to Professional Business Studies or listed on signed major or minor.

ACC 535 EDP Auditing and Control 3(3-0)
EDP auditing including controls, applications, software, systems, and service center records. Prerequisites: ACC 531, BIS 221; 56 semester hours completed; admission to Professional Business Studies or listed on signed major or minor.

ACC 536 Forensic Accounting 3(3-0)
The study of financial fraud and the methods of fraud detection, investigation, and prevention. Prerequisites: 75 semester hours completed; admission to professional Business Studies or graduate status.

ACC 543 Fund Accounting 3(3-0)
Accounting principles and procedures for governmental units and various non-profit organizations. Prerequisites: ACC 302; 56 semester hours completed; admission to Professional Business Studies or listed on signed major or minor.

ACC 550 Internal Auditing 3(3-0)
Emphasis on internal auditing as an internal control. Standards, ethics, concepts, techniques, and reporting practices relevant to financial, compliance, and operational auditing. Prerequisites: signed accounting major or minor; 56 hours completed; admission to Professional Business Studies.

ACC 551 Advanced Seminar for Public Accounting 3(Spec)
An advanced seminar course applying financial and assurance functions within a public accounting perspective. Prerequisite: Departmental approval.

ACC 570 Strategic Accounting System Development and Implementation 3(3-0)
The strategic design and implementation of accounting systems for competitive advantages. Includes enterprise resource planning, business process re-engineering, change management and semantic object modeling. Prerequisites: ACC 301, ACC 302, ACC 321, ACC 370; 56 semester hours completed and admission to Professional Business Studies; or listed on signed major or minor; or graduate students, permission of the MBA Director.

ACC 597 Special Topics In Accounting 1-3(Spec)
Advanced topics in accounting. Not more than 3 credits for ACC 597 count toward accounting major, minor, or concentration. Prerequisite: permission of instructor; 56 semester hours completed; admission to Professional Business Studies or listed on signed major or minor.

ACC 605 Accounting Theory I 3(3-0)
Various theories of income measurement and asset valuation. Roles of policy making bodies in formulating accounting and reporting standards. Basic objectives and elements of financial statements. Prerequisite: ACC 501 or concurrent enrollment in 501.

ACC 689 Accounting Internship 3(Spec)
Full time, on-the-job work experience for one semester in industry, government, or public accounting arranged through departmental internship supervisor. A research paper relating to the student's work experience obtained on the internship is required. CR/NC only. Prerequisites: 12 hours of accounting, overall GPA of 3.2, accounting GPA of 3.2, acceptance by program supervisor.

ACC 711 Tax Seminar 3(3-0)
Development of tax principles and tax law; tax research methods; alternatives for tax law changes; effects of taxes in business decisions; tax administration and practice. Prerequisites: ACC 311, ACC 302, ECO 600.

ACC 721 Managerial Accounting Seminar 3(3-0)
Detailed analysis and discussion of controversial and contemporary problems and issues in managerial accounting. Prerequisites: ACC 321, FIN 332, ECO 600.

ACC 730 Configuration, Control & Implementation of Global Accounting Systems using GRC 3(3-0)
Basic conceptual framework, design, implementation, and control of enterprise resource planning systems. This course is approved for offering in a distance learning format. Prerequisites: MBA 619.

ACC 731 Auditing Seminar 3(3-0)
Analysis and evaluation of current thought and prospective developments in auditing. Emphasis on philosophies, standards, concepts, postulates, and problem areas. Prerequisites: ACC 370, ACC 531, STA 282.

ACC 741 Fund Accounting Seminar 3(3-0)
Coverage of current developments and trends in areas of concern to non-profit entities including special studies or problem areas and potential solutions. Prerequisite: ACC 543.

ACC 791 Independent Studies 1-3(Spec)
Directed reading or research on an approved topic. Prerequisites: 15 hours of graduate credit and instructor approval. Not more than 3 credits for ACC 791 may count toward accounting concentration.

ACC 797 Special Topics in Accounting 1-3(Spec)
Advanced topics in accounting. Prerequisite: permission of instructor. No more than 3 credits for ACC 797 may count toward accounting concentration.

ACT - Actuarial Science

See the Department of Mathematics for more information.

ACT 539 Probability Foundations of Actuarial Science 3(3-0)
Fundamental probability tools for quantitatively assessing risk, with emphasis on application of these tools to problems encountered in actuarial science. Prerequisites: FIN 317; STA 584.

ACT 540 Mathematical Theory of Interest 4(4-0)
Fundamental concepts of mathematical theory of interest and applications in calculating present and accumulated values for various streams of cash flows. Introduction to financial instruments. Prerequisite: MTH 133.

ACT 541 Actuarial Mathematics for Life Contingencies I 3(3-0)
Introduction to survival distributions and life tables, life annuities and life insurance, benefit premiums and benefit reserves. Prerequisites: ACT 339, 540.

ACT 542 Actuarial Mathematics for Life Contingencies II 3(3-0)
Introduction to multiple state models including multiple life models and multiple decrements models, pension mathematics, interest rate models, and cash flow analysis for insurance products. Prerequisites: ACT 541.

ACT 543 Mathematics of Financial Models 3(3-0)
Introduction to stochastic calculus for financial modeling, derivative securities with emphasis on option pricing using the Black-Scholes model, bond pricing using interest rate models. Prerequisites: ACT 540; STA 584; or Graduate Standing.

ANT - Anthropology

See the Department of Sociology, Anthropology and Social Work for more information.

ANT 500 Field School in Archaeology 3-6(Spec)
Intensive practical experience in field survey, excavation, and laboratory analysis of resulting materials. Prerequisite: ANT 174 or 175 or 240; and permission of instructor.

ANT 506 Comparative Cultural Systems 3(3-0)
Explores theories of cultural development, with particular emphasis on urban and post-industrial cultures. Students investigate cultures different from their own. Identical to SOW 506. Credit may not be earned in more than one of these courses. This course is approved for offering in a distance learning format. Prerequisite: One anthropology or sociology course.
ANT 520 Medical Anthropology 3(3-0)
Transcultural variations in conceptions of health, illness, disease, sickness and healing; cultural practices and social, political, economic and global forces that impact these conditions. Prerequisites: Six credits of cultural anthropology and/or sociology.

ANT 521 North American Indian Ethnobiology 3(3-0)
The history of Native American peoples in North America since 1492, impact of colonization and U.S. policy upon Native Americans, and ethnobiological theory and methodology. Prerequisite: Senior standing and ART 320 or 365 or HST 323; or graduate standing.

ANT 531 Capstone Experience in Global Justice 3(3-0)
Capstone course synthesizes course work on the issues of global social justice injustices. Explores roots, consequences, types, policy approaches, and strategies for pursuing global justice. Identical to SOC 531. Credit may not be earned in more than one of these courses. Prerequisites: SOC/ANT 101; 15 hours in the Global Justice Minor; Completion of the Service Learning component of the Global Justice Minor; and Approval of the Global Justice Advisor. May be taken by SOC or ANT Majors with the approval of the Global Justice Advisor. Or, graduate standing.

ANT 532 Global Aging: Cross-Cultural Aging in a Globalized World 3(3-0)
Comparative study of cultural shapings, expressions and experiences of contemporary aging. Social and cultural responses to perceived problems of aging. Transformations of aging under globalization. Cross listed with SOC 532. Credit may only be earned for one of these courses. Prerequisite: Six credits of cultural anthropology, gerontology and/or sociology.

ANT 540 Archaeological Field and Laboratory Techniques 3(3-0)
Practical instruction in archaeological methods including field survey and excavation; description, classification, data analysis, and documentation of cultural materials in the laboratory. Prerequisites: ANT 175 and one of the following: ANT 340, 344, 348; or Graduate standing.

ANT 542 Methods in Forensic Anthropology: Osteology and Skeletal Analysis 4(3-2)
Lectures and laboratory training in forensic identification and analysis of human skeletal remains for utilization by criminal justice authorities, missing persons bureaus, archaeologists and paleoanthropologists. Prerequisites: ANT 173, 342, or 347; or graduate standing.

ANT 544 Great Lakes Archaeology 3(3-0)
Examination of prehistoric cultural trends and societies in the Great Lakes region within the context of broader trends in eastern North America and impact of historic Euroamerican settlement. Prerequisites: ANT 175; or Graduate standing.

ANT 588 Special Topics in Anthropology 1-10(Spec)
Consideration of subject matter not included in courses currently listed in catalog. Prerequisite: 15 credit hours in Anthropology or Graduate Standing.

ANT 590 Gender, Culture & Society 3(3-0)
Analysis of gender roles in various cultures; theoretical approaches to explaining gender role variation. Identical to SOC 390 and WGS 390. Credit may not be earned in more than one of these courses. (Not open to students who have completed ANT 490 or WGS 490). Prerequisites: 6 hours of anthropology and/or sociology, and/or women's studies.

ANT 600 Advanced Field Methods in Archaeology 1-6(Spec)
Advanced training in archaeological methods for graduate students. Prerequisite: Permission of academic adviser.

ANT 626 Theory and Research in Archaeology 3(3-0)
Integration of theory, research, interpretation and explanation of the human past, archaeological evidence, theoretical frameworks in interpretation and explanation of the human past, research strategies and design.

ANT 645 Cultural Resource Management in Archaeology 3(3-0)
Evaluation of laws and practice of Cultural Resource Management (CRM) and applied archaeology within public, private, and governmental settings. May not be taken by students who have completed ANT 345.

ANT 698 Independent Studies in Anthropology 1-12(Spec)
Directed reading and/or research on an approved topic. Not open to students on academic probation.

ANT 700 Directed Student Research in Archaeology 1-6(Spec)
Supervised applied research experience at a field site, museum, laboratory, or other institution where data are collected and analyzed. Prerequisite: Permission of academic advisor.

ANT 798 Thesis 3-6(Spec)
Credit is earned in this course through the successful completion of a thesis in anthropology in consultation with a thesis advisor. Prerequisites: Successful completion of 6 hours of coursework in the Cultural Resource Management MA program.

ART - Art
See the Department of Art and Design for more information.

ART 506 Advanced Drawing Studio 1-12(Spec)
An individualized studio experience for the advanced student in drawing media. Development of an independently directed body of work and portfolio. Prerequisite: ART 405.

ART 514 Advanced Ceramics 1-12(Spec)
Individualized studio work in ceramics as it relates to the creation of a cohesive and personal body of artwork. Prerequisite: 9 credit hours of ART 414.

ART 517 Advanced Figure Drawing Studio 1-12(Spec)
An individualized studio experience with emphasis on the human figure that would include problems in foreshortening, placement, and composition. Prerequisite: ART 416.

ART 533 Advanced Painting Studio 1-12(Spec)
An individualized studio experience for the advanced student of painting leading to artistic achievement and professional development. Prerequisite: ART 430.

ART 535 Digital Multimedia for Designers 3(0-6)
The design and visual development of multimedia using a variety of authoring tools. Prerequisites: ART 338, ART 438, and a signed BFA with a concentration in graphic design.

ART 541 Advanced Photography Studio 1-12(Spec)
An individualized studio experience for the advanced photography student, emphasizing long-term independent projects, critiques, and the creation of a professional portfolio. Prerequisite: 6 hours of ART 441.

ART 551 Advanced Printmaking Studio 1-12(Spec)
An individualized studio experience in printmaking beyond ART 450 competency. Development of a fine art print portfolio. Prerequisite: ART 450 or 9 hours of printmaking credit and graduate standing.

ART 556 Independent Studio 1-12(Spec)
An individualized studio experience determined in consultation with a faculty member. Prerequisites: minimum 56 credit hours or graduate standing.

ART 561 Advanced Sculpture Studio 1-12(Spec)
An individualized studio experience focusing on personal research of new techniques, processes, materials, history and concepts of traditional and contemporary sculpture, and professional development. Prerequisites: ART 460 or 462.

ART 574 Advanced Fibers Studio 1-12(Spec)
An individualized studio experience focusing on personal research of concepts, techniques, and materials of fibers. Prerequisite: 6 credit hours of ART 474.

ART 575 Surface Design on Fabric II 3(0-6)
Advanced techniques and aesthetics for the application of image, pattern, and color with dyes and pigments through silkscreen, batik, prints, resists, and transfers on fabric. Prerequisites: ART 375 or graduate standing.

ART 580 Seminar in Ancient/Medieval Art History 3-6(3-0)
Advanced study of a topic in ancient or medieval art history selected by instructor using readings, discussion, lecture, and research as appropriate. This course is repeatable when content is not duplicated. May be taken for graduate credit. Prerequisites: ART 283, 319, and additional 6 hours of 300-level art history courses; or graduate standing.

ART 581 Seminar in Early Modern Art History 3-6(3-0)
Advanced study of a topic in early modern art history selected by instructor using readings, discussion, lecture, and research as appropriate. This course is repeatable when content is not duplicated. May be taken for graduate credit. May be offered as Writing Intensive. Prerequisites: ART 285, 319, and additional 6 hours of 300-level art history courses; or graduate standing.

ART 584 Drawing in Florence 3(Spec)
An advanced drawing course in Florence, Italy, using the city as a source of inspiration for creative work. Prerequisites: ART 106 and permission of instructor.

ART 586 Special Topics Seminar in Art History 3-9(3-0)
Advanced study of a thematic or cross-temporal art historical topic selected by instructor using readings, discussion, lecture, and research as appropriate. Repeatable up to 9 hours when content does not duplicate previous topics. Prerequisites: ART 319; additional 6 hours of 300-level art history courses.

ART 589 Research Seminar in Art History 3(3-0)
Seminar investigating research projects in art history. Must be taken in one of the last two semesters prior to graduation. May be taken for graduate credit. Prerequisites: 3 credits of 500-level art history and signed ART History Major; or graduate standing.

ART 597 Special Studies 1-6(Spec)
Further in-depth graduate study when scholarly/student adequacy beyond ART 497 is achieved.
ASL - American Sign Language

See the Department of Communication Disorders for more information.

ASL 510 ASL Linguistics 3(3-0)
This course will examine the linguistic basis of American Sign Language. Topics will include the form, content, and use of ASL, the relationship between ASL, spoken languages, and other signed languages; ASL acquisition; and historical change in ASL. Prerequisites: ASL 100, ASL 202.

ASL 590 Independent Study 1-4(Spec)
Student-initiated study of a topic related to the ASL minor guided by a faculty member or faculty committee. Prerequisites: ASL 100, ASL 202, permission of instructor.

ASL 594 ASL in Elementary Education 3(Spec)
Students apply their ASL skills and knowledge of Deaf culture by providing ASL instruction in a community educational enrichment program for elementary school children. Prerequisite: ASL 202; ASL 100 or 390; permission of instructor.

ASL 595 Community Placements with Deaf Children and Adults 3(1-3)
Students apply their American Sign Language skills and knowledge of Deaf culture by working in community placements with Deaf children and/or adults. Prerequisites: ASL 202; ASL 100 or 390; and permission of instructor.

ASL 597 American Sign Language Teaching Assistantship 3(Spec)
Students apply their American Sign Language skills and knowledge of Deaf culture by assisting in the provision of ASL instruction in the university ASL course. Prerequisites: ASL 202; ASL 100 or 390; and permission of instructor. Recommendations: Letter of support from university ASL course instructor.

AST 599 Special Topics 1-6(Spec)
Study of a selected topic, specific application, or current issue related to but not covered by the ASL Minor curriculum. Prerequisites: ASL 100, ASL 202, permission of instructor.

AST - Astronomy

See the Department of Physics for more information.

AST 511 Astronomy for Teachers 3(2-2)
Teaching astronomy in the elementary, middle, and secondary schools. Appropriate subject matter, student activities, demonstrations, experiments, sources of astronomical materials, planetarium utilization. Prerequisite: AST 111.

AST 562 Observational Astronomy 3(2-2)
Astronomical coordinate systems, astronomical instruments, and the techniques of astronomical direct imaging, photometry, and spectroscopy. Prerequisites: AST 260, 261 or graduate standing. Pre/Co-requisite: PHY 322 or graduate standing.

AST 563 Astrophysics 3(3-0)
 Stellar atmospheres, stellar interiors, interstellar matter and topics of current interest. Prerequisites: AST 261; PHY 332.

AST 580 Special Topics in Astronomy 1-9(Spec)
Topics in astronomy or astrophysics not ordinarily covered in regular courses. Prerequisites: As specified in course syllabus.

AST 590 Independent Study 1-6(Spec)
Individual study in an area not covered in regular courses. Prior permission of the instructor must be obtained. Prerequisites: AST 260 and permission of instructor.

ATR - Athletic Training

See the School of Rehabilitation and Medical Sciences for more information.

ATR 585 Special Topics 1-3(Spec)
Exploration of selected topics in the field of athletic training, sports medicine or other health related areas. Topic and prerequisites will be printed in Course Search and Registration materials. Repeatable up to 3 credits with different topics. This course may be offered in an online or hybrid format. Prerequisites: Determined specific to the topic presented. See Course Search and Registration.

BCA - Broadcast and Cinematic Arts

See the School of Broadcast and Cinematic Arts for more information.

BCA 503WI Critiquing Mass Media 3(3-0)
Critical appraisal of mass communications systems and content with special attention to trends. Prerequisites: BCA 210 with a C or better or signed BCA Studies Minor or graduate standing.

BCA 506WI Series Script Writing For Visual Media 3(3-0)
Techniques for creating episodic and serial scripts, emphasizing story structure, characterization, and creative team dynamics for electronic media. Prerequisites: BCA 211 with a grade of C or better; limited to juniors or above or graduate standing.

BCA 508WI Screenwriting for Cinematic Narrative 3(3-0)
Techniques, formatting styles and aesthetic strategies for writing and analyzing short- and feature-length cinematic narrative screenplays, emphasizing characterization, plot and structure. Writing Intensive. Prerequisites: BCA 211 with a grade of C or better; limited to juniors or above; or graduate standing.

BCA 510 Electronic Media Law 3(3-0)
Regulation of the electronic media. Examination of legal and administrative materials and cases. Prerequisites: BCA 210 with a C or better and junior standing or above; or graduate standing.

BCA 511 Electronic Media Sales 3(3-0)
Organizational systems and processes of sales in electronic media. Emphasis on techniques found most reliable in modern sales practices in radio, television, internet and cable. Prerequisites: BCA 210 with a grade of C or better; limited to juniors or above; or signed Electronic Media Sales Minor; or graduate standing.

BCA 512 Electronic Media Promotion 3(3-0)
Tools and techniques of promotion for electronic media. Emphasis on media needs, community relations and problems unique to the electronic media promoter. Prerequisites: BCA 210 with a C or better or signed Integrative Public Relations major; BCA 311; limited to juniors or above; or graduate standing.

BCA 515 Sports Broadcasting 3(2-2)
Overview of the sports broadcasting industry. Emphasis on tools and techniques of live-event production and electronic sports reporting. Prerequisites: BCA 210, 317 each with C or better; or graduate standing in Broadcast and Cinematic Arts.

BCA 516WI Electronic Media Management 3(3-0)
Discusses management in contemporary American electronic media settings. Writing Intensive. Prerequisites: Limited to juniors or above; or graduate standing.

BCA 517 Advanced Audio and Video Performance 3(2-2)
Study and intensive practice in complex media performance situations. Special emphasis on realistic laboratory experience designed to explore the professional requirements of electronic media talent. Prerequisites: BCA 317 with a grade of "C" or better; or graduate standing in Broadcast and Cinematic Arts.

BCA 518 Electronic News Reporting 3(2-2)
Techniques of gathering, reporting, and interviewing for electronic media. Prerequisites: BCA 318 with a C or better; or graduate standing.

BCA 519 Electronic Media Programming 3(3-0)
Examination of electronic media programming in terms of recent trends and strategies. Emphasis on broadcasting and cable. Prerequisites: Limited to juniors or above; or graduate standing in Broadcast and Cinematic Arts.

BCA 520 Special Topics in Electronic Media 1-9(Spec)
Current topics for each semester listed in Course Search and Registration. Repeatable up to 9 hours when content does not duplicate previous special topic studies. Prerequisites: Limited to juniors or above; or graduate standing in Broadcast and Cinematic Arts.

BCA 521 Advanced Electronic Cinematography 3(2-2)
Advanced theory and practice in the production of short form narrative video, with emphasis on the aesthetic aspects of lighting, direction and editing. Prerequisites: BCA 223, 440 each with a grade of C or better; limited to juniors or above; or graduate standing in Broadcast and Cinematic Arts.

BCA 522 Multimedia Audio Post-Production 3(2-2)
Advanced recording, editing, sweetening, synchronizing and mixing of audio for picture in multimedia applications. Prerequisites: BCA 223, 421 with a grade of C or better; or graduate standing in Broadcast and Cinematic Arts.

BCA 524 Producing Television News 3(1-4)
A practical approach to producing news. Encompasses gathering, writing, producing, and directing news programming over local cable outlets. Prerequisites: BCA 318 or 223; limited to juniors or above or graduate standing in Broadcast and Cinematic Arts.

BCA 525 Film Genre Study 3-9(Spec)
In-depth examination of selected film genres, themes and trends. Repeatable up to 9 hours when content previously studied is not duplicated. This course may be offered in an online or hybrid format. Prerequisites: Limited to juniors or above; or graduate standing.

BCA 527 Film Directors 3-9(Spec)
Critical examination of selected film directors, focusing on their themes and visual style. Repeatable up to nine hours when content previously studied is not duplicated. Prerequisites: Limited to juniors or above; or graduate standing in Broadcast and Cinematic Arts.

BCA 528 History and Analysis of Nonfiction Film 3(2-2)
History of the non-fiction film, with emphasis on narrative, aesthetic and rhetorical dimensions, as well as production, distribution and consumption conditions. Prerequisites: Limited to juniors or above; or graduate standing in Broadcast and Cinematic Arts.

BCA 529 Internship in Electronic Media 2-6(Spec)
Directed work experience at participating media venues. May count 6 hours maximum toward a major, 3 hours toward a minor. Minimum 2.5 GPA required. Prerequisite: prior written approval of BCA Intern Director; limited to seniors or above; open only to signed BCA majors or minors.

BCA 531 Industrial and Educational Video/Media Production 3-2(2)
Lecture and intensive hands-on theory, design and production of video and interactive programs specifically for and within institutional/corporate settings. Prerequisites: BCA 223, 440 with a minimum grade of C in each; limited to juniors or above; or graduate standing.

BCA 532 History in the Age of the Digital 3(2-2)
History of the digital age of media, with an emphasis on recent developments in the history of American mass media since the 1970s. Prerequisites: BCA 318, 440 each with a grade of C or better; limited to Juniors or above; or graduate standing in Broadcast and Cinematic Arts.
BCA 532 Advanced Video/Multimedia Post-Production 3(2-2)
Lecture and intensive hands-on theory, design and production of multimedia/interactive digital video, with emphasis on advanced post-production technologies and techniques. Prerequisites: BCA 223, 440 with a grade of C or better; or graduate standing.

BCA 533 Advanced Electronic Media Design 3(2-2)
Advanced examination of website production, streaming, and stored audio/video media, specifically for electronic media outlets. Emphasis on design aesthetics, application of theory, and website maintenance. Prerequisites: BCA 332; or graduate standing in Broadcast and Cinematic Arts.

BCA 540WI Recording Industry & Business 3(3-0)
Exploration of the music recording industry, music copyrights and music industry business strategies to reach consumers in the physical and online domains. Writing Intensive. Prerequisites: Limited to juniors or above; or graduate standing.

BCA 542 Contemporary Recording & Mixing 3(2-2)
Advanced recording, mixing and mastering techniques of contemporary music for multimedia distribution. Summer session only. Laboratory hours arranged with instructor. Prerequisites: BCA 421 with a grade of B or better; or graduate standing in Broadcast and Cinematic Arts.

BCA 560 Radio Operations 1(1-4)
Preparation and performance in radio broadcast practices, emphasizing daily operations and radio management principles. Summer Session I only. Laboratory hours arranged with instructor. Prerequisites: Minimum 2.25 GPA, BCA 222 or 317; or graduate standing in Broadcast and Cinematic Arts.

BCA 561 Radio Operations II 3(1-4)
Preparation and performance in radio broadcast practices, emphasizing radio programming and promotion principles. Summer Session II only. Laboratory hours arranged with instructor. Prerequisites: Minimum 2.25 GPA, BCA 222 or 317, BCA 560; or graduate standing in Broadcast and Cinematic Arts.

BCA 566 Hockey's Cinematic Depictions 1(1-0)
Focused practice in media criticism through analysis of the sport, business and aesthetics of hockey as depicted in benchmark fiction and non-fiction films. Prerequisites: Limited to juniors or above; or graduate standing in Broadcast and Cinematic Arts.

BCA 600 Introduction to Electronic Media Research and Writing 3(3-0)
Introduction to graduate-level academic writing and research design focusing on vocabulary, syntax, and research theory and method components as they relate to electronic media. Prerequisites: Admission to the BCA graduate program.

BCA 601 Theories of Mass Communication 3(3-0)
Examination of theories and application of conceptual frameworks to the study of mass communication.

BCA 602 Mass Communication Research Methods 3(3-0)
Examination of quantitative and qualitative research methods applied to the study of mass communication.

BCA 603 Qualitative Mass Communication Research Methods 3(3-0)
Examination of qualitative research methods applied to the study of mass communication. Recommended: BCA 601.

BCA 604 Quantitative Mass Communication Research Methods 3(3-0)
Examination of quantitative research methods applied to the study of mass communication. Recommended: BCA 601.

BCA 611 Seminar in Telecommunications Media Policy 3(3-0)
An examination of the policies that impact the structure, functions and prospects of American electronic media systems. Recommended: BCA 601.

BCA 612 Electronic Media Seminar 3(3-0)
Directed readings of current issues and controversies in electronic media. Prerequisites: BCA 501; 602 or 603 or 604.

BCA 613 Media Entrepreneurship 3(3-0)
This class is designed to help students understand the work of a media entrepreneur and the basics of starting and running a business. Prerequisites: BCA 601; BCA 602 or 603 or 604.

BCA 619 Continuing Registration for Final Research Project 1(1-0)
A non-credit course intended for students who have completed all program credits but still need to use university resources to complete their degree requirements. Prerequisite: Graduate standing in Broadcast and Cinematic Arts.

BCA 625 Film and Video Theory and Criticism 3(3-0)
Study of the major theories of film and video emphasizing the reflective, transformational, and semiotic schools. Survey of various critical modes. Prerequisite: Graduate standing in Broadcast and Cinematic Arts.

BCA 720 Special Topics in Mass Media 3-9(Spec)
Current topics for each semester listed in Course Search and Registration. 3 hours each; maximum credit, 9 hours. Prerequisite: One course in BCA numbered 500 and above; Graduate Standing in Broadcast and Cinematic Arts.

BCA 729 Advanced Independent Study in Electronic Media 1-9(Spec)
Intensive, specialized study under guidance of a faculty member or faculty committee. Prerequisites: Completion of appropriate contract proposal; Permission of advisor and instructor.

BCA 730 Plan B Project Research 3(3-0)
Advanced research for Plan B project. No more than nine credits may be earned in BCA 729 and BCA 730 combined. CR/NC only. Prerequisites: BCA 601, 602; permission of Plan B committee members based on satisfactory completion of research prospectus.

BCA 798 Thesis 1-6(Spec)
CR/NC only. Prerequisites: BCA 602; Permission of Graduate Advisor.

**BCA-BIO**

**BIO - Biology**

See the Department of Biology for more information.

**BIO 500 Biological Statistics 3(2-2)**
An introduction to biological statistics; emphasis on concepts of descriptive statistics and central tendency, inferential statistics, one-way ANOVA and correlation/linear regression. Prerequisites: Graduate standing or twelve (12) hours of biology. Recommended MTH 130.

**BIO 501 Evolution 3(3-0)**
Mechanisms of descent with modification are discussed in a framework of microevolution, speciation, and macroevolution. Prerequisites: BIO 326 or graduate standing.

**BIO 502 Teaching Biology 3(2-3)**
Development of pedagogical content knowledge for teaching of secondary biology; required training course for prospective teachers of biology. Prerequisites: Completion of at least 22 credits of BIO coursework; GPA of at least 2.7 in BIO classes; admission to the teacher education program.

**BIO 509 Ichthyology 4(3-1)**
Anatomy, taxonomy, physiology, natural history, and ecology of fishes with laboratory emphasis on fishes of the Great Lakes region. Prerequisites: BIO 212, 213 both with a grade of C- or better; or BIO 218, or graduate standing.

**BIO 510 Fisheries Biology 1(2-1)**
Analysis of fish populations, management of fisheries resources, and other problems related to freshwater fisheries. Prerequisites: BIO 218.

**BIO 511 Aquatic Insects 3(1-4)**
Natural history and systematic of freshwater insects. Prerequisites: BIO 218 or graduate standing.

**BIO 515 Ornithology 4(2-4)**
An introduction to avian biology emphasizing evolution, systematics and the annual cycle. Identification, song, and general ecology are studied through field trips and laboratory work. Prerequisites: BIO 212, 213 both with a grade of C- or better; or BIO 218; or graduate standing.

**BIO 518 Animal Behavior 3(2-3)**
Behavior in invertebrate and vertebrate organisms related to genetics, morphology, and the ecology of animal populations. Prerequisites: BIO 218 or graduate standing.

**BIO 519 Invertebrate Systematics and Ecology 4(2-4)**
A review of the evolution and ecology of invertebrates with emphasis on the identification, collection and conservation of organisms in the Great Lakes region. Prerequisites: BIO 218 or Graduate Student Standing. Recommended: BIO 340.

**BIO 523 Fresh Water Algae 4(2-4)**
Taxonomy, morphology, and ecology including analysis and collection methods.

**BIO 524 Molecular Biology 3(3-0)**
Molecular nature of genetic and recombinant DNA techniques, explored through the analysis of experimental data. Prerequisites: BIO 326, CHM 346; or graduate standing. Recommended: CHM 521, 522.

**BIO 525 Plant Ecology 4(2-4)**
A study of plants emphasizing physical and biotic interrelationships, and factors which govern their distribution. Field work stressed. Prerequisites: BIO 340; a plant identification course highly recommended.

**BIO 526 Limnology 3(3-0)**
Physical, chemical, and biological properties of inland aquatic ecosystems focusing on lakes. Topics include basin origin, light, mixing, organism diversity, nutrient cycling, and food webs. Prerequisites: BIO 212, 213 both with a C- or better; or BIO 340; or graduate standing. Recommended: One of: CHM 120, 132, 161.

**BIO 527 Limnological Methods 2(0-4)**
A quantitative examination of the physical, chemical and biological aspects of lake ecosystems. Pre/co-requisite: BIO 526.

**BIO 534 Endocrinology 3(3-0)**
Hormones, their synthesis, secretion, and their mode of action. Prerequisites: BIO 392 or graduate standing.

**BIO 536 Histology 3(2-3)**
A study of the principle cells and tissues of humans. Prerequisites: BIO 218 and 392; or graduate standing.

**BIO 537 Immunology 3(3-0)**
A description of the biological and biochemical mechanisms of the immune response. Emphasis will be placed on adaptive immunity activation, immunobiology, and immune system dysfunction. Prerequisites: BIO 324, 326, 392; CHM 342 or 346; or graduate standing. Recommended: CHM 425 or 521.
BIO 539 Virology 3(3-0)
Basic principles of viral structure and replication. Provides a detailed survey of viruses, including emergent viral pathogens. Explores viral evolution, anti-viral drugs and vaccines. Prerequisites: BIO 324, 326 or Graduate Status in the Biology Department.

BIO 540 Mammalogy 4(3-3)
Survey of evolution, taxonomy, behavioral ecology, physiological ecology, conservation biology, and management as these relate to Class Mammalia. Prerequisites: BIO 212, 213 both with a grade of C- or better; or BIO 218; or graduate standing.

BIO 541 Wildlife Biology and Management 4(2-4)
Presents the basic ecological principles and the varied techniques utilized in managing the wildlife resource. Prerequisites: BIO 212, 213 both with a grade of C- or better; or BIO 340; or graduate standing.

BIO 544 Developmental Biology 4(3-3)
Patterns and cellular/molecular mechanisms of embryonic development, emphasizing animals. Prerequisites: BIO 212, 213 with a grade of C- or better; or BIO 324, 326; CHM 132 or 161.

BIO 545 Molecular Genetics 3(3-0)
Genetic approach to fundamental biological problems. Covers genetic techniques and modern molecular methods, including recombinant DNA technology and functional genomics in model systems and humans. Prerequisites: BIO 324, 326; CHM 345. Recommended: CHM 346.

BIO 546 Molecular Genetics Laboratory 1(0-3)
Laboratory course, to accompany BIO 545, explores genetic techniques and modern molecular methods, including recombinant DNA technology and functional genomics in model systems. Pre/Co-requisites: BIO 545.

BIO 549 Herpetology 3(2-3)
Survey of extant amphibians and reptiles from standpoint of morphology, behavior, physiology, evolution, and ecology. Local collecting field trips required. Prerequisites: BIO 218 or graduate standing.

BIO 550 Transmission Electron Microscopy 4(1-6)
Biological specimen preparation and examination using transmission electron microscopy. Use of digital photography in electron micrograph production. Prerequisites: BIO 212, 213 both with a grade of C- or better; or BIO 324; BIO 330; or graduate standing; permission of instructor.

BIO 552 Scanning Electron Microscope Technique 4(3-3)
Principles, practices and techniques of SEM, includes methods of specimen preparation and instruction in generating electron micrographs. Prerequisites: Graduate standing or BIO 330.

BIO 553 Confocal Microscopy 3(2-3)
Principles and practice of biological confocal laser scanning microscopy, including sample preparation and the use of molecular probes. Prerequisites: BIO 212, 213 both with a grade of C- or better; or BIO 324; BIO 330; or graduate standing.

BIO 554 Advanced Electron Microscopy 3(1-4)
Routine maintenance, alignment and optimization of a TEM and an SEM for high resolution micrographs, as well as advanced techniques in specimen preparation. Prerequisites: BIO 550, BIO 552.

BIO 555 Great Lakes Wetland and Aquatic Plants 4(2-4)
The biology of wetland plants including: identification, systematics, and ecology. Students will visit wetlands throughout Michigan and learn to identify common wetland and aquatic plants. Prerequisites: BIO 203 or graduate standing.

BIO 556 Biological EDS Analysis 3(1-4)
Techniques and application of biological specimens using an SEM with an energy dispersive spectrometer (EDS). Includes specimen preparation and operation of an EDS system. Prerequisite: BIO 552.

BIO 557 Dendrology 4(2-4)
The biology of woody plants including: identification, anatomy, physiology, systematics, and ecology. Students will learn Michigan native trees and shrubs and select cultivars. Prerequisites: BIO 203.

BIO 558 Natural Resources Management 2(Spec)
Research and management of fisheries, wildlife, forests, and watersheds through field trips and presentations by specialists. Prerequisites: Graduate status or BIO 340.

BIO 559 Field Botany 3(2-3)
The collection, identification, and preparation of herbarium specimens from the local flora. Prerequisites: BIO 203.

BIO 560 Avian Ecology 3(2-3)
Relationships among behavior, community organization and ecology of birds are examined through investigative field work. Prerequisites: BIO 340 or graduate standing. Recommended: BIO 515.

BIO 561 Wetland Ecology and Management 3(3-0)
The study of wetland ecosystem structure and function. Chemical, physical, and biological interactions will be put into the context of conservation, management, and restoration. Prerequisite: BIO 340.

BIO 562 Plant Systematics and Evolution 4(3-3)
In-depth study, covering important topics in plant identification, evolution and systematics. Prerequisites: BIO 203 or graduate standing.

BIO 565 Microbial Diversity and Physiology 3(3-0)
This course explores the diversity of microorganisms, including methods for classifying microorganisms and assessing their diversity, and a detailed survey of microbial metabolic diversity. Prerequisite: BIO 326 or Biology graduate status.

BIO 566 Microbial Diversity and Physiology Laboratory 1(0-3)
This is an advanced laboratory course that explores experimental techniques used to study the diversity and physiology of microorganisms. This laboratory course accompanies BIO 565. Prerequisite: BIO 326 or Biology graduate status. Co-requisite: BIO 565.

BIO 567 Biogeochemistry 3(3-0)
Examines the molecular mechanisms by which microorganisms drive the cycling of Earth’s major elements. Prerequisites: BIO 212, 213 both with a grade of C- or better; or BIO 208; CHM 132; or graduate standing in a CST program.

BIO 570 Cellular Dynamics 3(3-0)
A course that explores advanced topics in cell biology focusing on landmark discoveries and experimental techniques using the primary literature. Prerequisites: BIO 324, 326; or Biology graduate status.

BIO 571 Cellular Dynamics Laboratory 1(0-3)
An advanced laboratory course that explores experimental techniques in cell biology research. This is a laboratory course that accompanies BIO 570. Prerequisites: BIO 324, 326; or Biology graduate status. Co-requisite: BIO 570.

BIO 575 Applied Bioinformatics 4(3-3)
Application of bioinformatics techniques. Topics include: gene finding, pairwise and multiple sequence alignments of DNA and protein sequences, and the use of GenBank and BLAST. Prerequisite: BIO 326 or graduate standing.

BIO 576 Animal Cell Culture 4(1-6)
Practical aspects of animal cell culture, involving media preparation, aseptic manipulation of cell culture, cell maintenance, and cell storage. Recommended: BIO 392.

BIO 580 Medical Microbiology 4(2-4)
Focuses on relationships between humans and pathogenic microbes. Covers major groups of medically important microorganisms, pathological consequences of infection, diagnostic procedures, and clinical case problem-solving. Prerequisites: BIO 208; BIO 392 or HSC 215; or graduate standing.

BIO 585 Conservation Medicine 3(3-0)
Examines various diseases and their importance to wildlife, domestic animals, and humans. Epidemiology and ecology of diseases are discussed within the framework of conservation medicine. Prerequisites: BIO 208, 340; or graduate standing.

BIO 590 Cardiovascular Physiology 3(3-0)
Basic principles of normal mammalian cardiovascular physiology. Prerequisites: BIO 392 or graduate standing.

BIO 591 Neurophysiology 3(3-0)
Principles of nervous system function: cytology, electrophysiology, ion channels, membrane potentials, neurochemistry, synaptic function and its modification, sensory physiology. Prerequisites: BIO 392.

BIO 595 Cancer Biology 3(3-0)
Examination of the underlying molecular, cellular, and genetic pathways involved in carcinogenesis, tumor growth, angiogenesis and metastasis. Additional topics include tumor immunology and treatment strategies. Prerequisites: BIO 212, 213 both with a grade of C- or better; or BIO 324, 326; CHM 342 or 345; or graduate standing. Recommended: CHM 425 or S21.

BIO 597 Special Topics In Biology 3(1-6)
Topics of special interest that are not normally included in existing courses. Specific topics and instructor’s prerequisites will be announced in Course Search and Registration. Prerequisite: See Course Search and Registration.

BIO 600 Biological Research Design and Analysis 3(2-2)
An examination of the proper design and statistical analysis needed to solve problems in laboratory and field biology. Recommended: BIO 500.

BIO 610 Biology Colloquium 1-9(Spec)
Closed by permission of instructor. A non-credit course intended for students who have completed all program credits but still need to use university resources to complete their degree requirements.

BIO 619 Continuing Registration for Final Research Project 1(1-0)
An non-credit course for students who have completed all program requirements but still need to use university resources to complete their degree requirements.

BIO 620 Biology Practicum 1-9(Spec)
Practical experience in methodology and techniques in selected field or laboratory-oriented topics, offered in subjects related to graduate faculty specialties. Prerequisites: See Course Search and Registration.

BIO 626 Topics in Genetics 1(3-0)
Various advanced topics in genetics are covered which range from transmission genetics to molecular genetics and evolution. Student participation is expected. May be repeated to a maximum of 3 hours. Prerequisite: BIO 326.

BIO 629 Topics in Eukaryotic Molecular Genetics 1(3-0)
Seminar on current research papers in molecular genetics of animals, plants and fungi. Student presentations and discussions expected. May be repeated up to 4 credits. Prerequisites: Graduate Standing in the Biology M.S. program.
BIO 630 Art of Scientific Communication 2(2-2)
Exploration of methods involved in the writing of refereed scientific papers, grant proposals, theses and dissertations, and oral or poster presentations at scientific meetings.

BIO 635 Toxicology 3(3-0)
Study of toxic chemicals, their effects on living organisms, and the metabolism and fate of the chemical in the organism. Prerequisites: BIO 392, CHM 346, CHM 521, CHM 522.

BIO 637 Topics in Immunology 1-3(Spec)
Various topics in immunology are covered as lecture or readings from current literature. May be repeated as offered to a maximum of 3 hours. Prerequisites: BIO 357.

BIO 642 Advanced Statistical Methods for Research 3(3-0)
Examines the assumptions and utility of statistical techniques used in research, with emphasis on applications in biology and multivariate techniques with complex datasets. Prerequisite: BIO 500.

BIO 650 Population Ecology 4(3-2)
Theoretical and realistic considerations of mechanisms affecting dynamics of plant and animal populations.

BIO 651 Topics in Ethology 1-3(Spec)
Discussion of various ethological topics from current literature. May be repeated as offered to a maximum of 3 hours. Prerequisite: BIO 518 and permission of instructor.

BIO 652 Behavioral Ecology 3(2-3)
An integration of behavior and ecology from the standpoint of species diversity, habitat utilization, reproduction, and competition. Field observations to illustrate principles of adaptation through behavioral channels. Prerequisites: BIO 340 and BIO 518.

BIO 653 Stream Ecology 3(2-3)
Structure and function of stream ecosystems with emphasis on biological processes. Prerequisites: BIO 340 or admission to Biology MS Program.

BIO 656 Fish Ecology 2(2-0)
A study of the ecological relationships of fishes.

BIO 657 Fisheries Management 2(2-0)
A study of specific habitats as related to fisheries management, habitat alteration problems, alternative management solutions, special techniques, and specific management topics. Prerequisites: BIO 510 or graduate status.

BIO 658 Zooplankton Biology 3(2-3)
An examination of the taxonomy, physiology, behavior and ecology of planktonic animals. Prerequisites: BIO 218, 340.

BIO 670 Concepts in Biological Areas for Educators 3(2-2)
In-depth studies on organisms of a local park, museum, zoo, aquarium, garden or other related biological facility providing basic knowledge to communicate to others. Prerequisite: Admission in the MAT Integrated Science Program or Master of Arts in Education with 9 credits of Biology earned in the undergraduate degree.

BIO 680 Conservation Biology 3(3-0)
Addresses dynamics and problems of small populations and perturbed species, communities and ecosystems and practical aspects of implementing protection. Prerequisites: BIO 326, 340; or admission to the biology graduate program.

BIO 685 Phylogeography 3(3-0)
Detailed study of phylogeny reconstruction, comparative evolutionary methods, and how to critically evaluate evolutionary studies. Prerequisite: Graduate standing in Biology or Earth and Ecosystems Science. Recommended: Prior coursework in plant biology, zoology, microbiology and genetics.

BIO 690 Conservation Genetics 4(3-3)
Students learn technical and theoretical genetic methods used in conservation while generating, analyzing and interpreting data to generate sound scientific conclusions.

BIO 691 Landscape Ecology 4(3-3)
Students gain a technical and theoretical foundation of landscape ecology as it applies to conservation biology and discuss applications of landscape ecology and GIS tools. Pre/Co-requisite: BIO 680. Recommended: BIO 500 or STA 382; GEO 203, 303.

BIO 692 Topics in Physiology 1-4(Spec)
Seminars, technique courses or lecture courses on new frontiers in physiology or of special interest. May be repeated for a maximum of 4 hours. Prerequisites: BIO 392.

BIO 695 Graduate Internship in Biology 1-6(Spec)
An in-depth work experience in the graduate student's research area performed under the supervision of a trained professional in the selected area of biology. Prerequisite: A graduate internship agreement must be signed and on file in the Biology office or with the Director of the Biological Station at least four weeks prior to enrollment.

BIO 730 Seminar 1(1)-0
Formal, oral departmental presentation of the Plan A thesis research. Required of students receiving the M.S. in Biology, Plan A. CR/NC only. Prerequisites: Permission of thesis Committee Chair.

BIO 790 Research in Biology 2-4(Spec)
Acquaints the student with research techniques. Prerequisite: Registration requires the approval of the department chairperson. CR/NC only.

BIO 798 Thesis 1-9(Spec)
An acceptable thesis may be presented for six to nine hours of credit. CR/NC only. Prerequisite: Plan A thesis prospectus on file in the biology department office and approval of the department chairperson.

**BIS - Business Information Systems**

See the Department of Business Information Systems for more information.

BIS 502 Network Fundamentals 3(3-0)
Basic concepts of network communication using the Open Systems Interconnection (OSI) model, as well as media, access protocols, routing, reliability, and network services. This course may be offered in an online or hybrid format. Prerequisite: Graduate student status or 86 hours undergraduate credits completed.

BIS 510 Network & Systems Security Fundamentals 3(3-0)
Developing Skills needed to effectively and accurately analyze security risks related to networks and related systems, including issues of authenticity, confidentiality, integrity, and availability. This course may be offered in an online or hybrid format. Prerequisites: BIS 380 or CPS 565.

BIS 520 Teaching & Training at the Post-Secondary Level 3(3-0)
Learning process, planning and delivering instruction and training, assessing learning, using technology, adult learners, and current research. Designed for collegiate-level business instructors or trainers. Prerequisites: BIS 350 or admission to the MSIS or MBA program or graduate standing. This course is approved for offering in a distance learning format.

BIS 521 Governance, Risk, & Compliance in Cybersecurity 3(3-0)
Investigating external and internal threats that compromise data and digitized intellectual property. Implementing effective policies for mitigating risks and security and remediation measures in organizations. This course may be offered in an online or hybrid format. Prerequisite: BIS 510.

BIS 523 Cybercrime Forensics 3(3-0)
Introduction to cybercrime and computer forensics. Exploring laws regulating electronic evidences along with establishing the basis for gathering electronic digital evidence and artifacts. This course may be offered in an online or hybrid format. Prerequisite: BIS 510.

BIS 525 Managing Security & Privacy in the Cloud 3(3-0)
Exploring cloud computing concepts, frameworks, and security/privacy issues related to cloud deployments. Evaluating relevant security approaches, security architecture, and cloud security policy and requirements. This course may be offered in an online or hybrid format. Prerequisite: BIS 510.

BIS 530 Cybersecurity, Systems, and Network Certification 3(3-0)
Building upon the ten security domains, uses the essential preparation tools and techniques to become a Certified Information Systems Security Professional. This course may be offered in an online or hybrid format. Prerequisite: BIS 510.

BIS 588 Business Analytics using GIS 3(3-0)
Addresses concepts and methods in Business Analytics using Geographic Information Systems (BAGIS) and the application of GIS in business research, finance, marketing, logistics and decision-making. This course may be offered in an online format. Prerequisites: BIS 255 or BIS 601 or MBA 610. Recommended: BIS 422 or BIS 638.

BIS 597 Special Studies in Business Information Systems 1-12(Spec)
Selected topics not normally included in existing courses, with current topics listed in Course Search. Registration is repeatable up to 12 credits with different topics. This course may be offered in an online or hybrid format. Prerequisites: See Course Search and Registration.

BIS 598 Integration of Business Processes Using SAP Software 4(Spec)
Examination of how ERP fundamental business processes interact using SAP software. Prerequisites: A course supported by SAP software taken at CMU or permission of BIS Chairperson.

BIS 601 Information Systems 3(3-0)
Introduction to the development and use of Information Systems (IS) in organizations, contemporary IS issues, and the use of software to solve business problems. This course may be offered in an online or hybrid format.

BIS 619 Continuing Registration for Final Research Project 1(1)-0
A non-credit course intended for students who have completed all program credits but still need to use university resources to complete their degree requirements.

BIS 625 Research in Information Systems 3(3-0)
Addresses information systems (IS) research concepts and methods, and the application of concepts in planning and conducting IS research studies. This course may be offered in an online or hybrid format.

BIS 627 Web Site Development 3(3-0)
Development of web sites using Hypertext Markup Language (HTML), Cascading Style Sheet (CSS), client-side JavaScript, and XHTML to support business functions. This course may be offered in an online or hybrid format. Prerequisite: Admission to the Master of Science in Information Systems (MSIS) program.

BIS 628 Application Development 3(3-0)
This course involves designing and developing computer applications using a modern programming language. This course may be offered in an online or hybrid format.
BIS 630 Systems Analysis and Design 3(3-0)
Introduction to the systems approach to the analysis, design and develop-
ment of information systems. Methods, tools and technologies are used to
develop information systems prototypes. This course may be offered in an
online or hybrid format.

BIS 632 Business Network Systems Management 3(3-0)
Examination of the management of telecommunication issues in busi-
ness applications, especially those related to business network systems.
Prerequisites: Admission to the MBA program or MSIS major; and per-
sion of the MBI director or MSIS director and completion of the following:
BIS 221 or BIS 255, ACC 201 and ACC 202 or ACC 250 and ACC 255,
MTH 112 or MTH 217 and STA 228, with a minimum grade-point of 2.7 with
no course grade lower than a C.

BIS 633 Business Intelligence/Analytics 3(3-0)
A seminar on the information systems and tools used to aid intelligent
decision making in contemporary business environment. This course may be
offered in an online or hybrid format. Prerequisite: BIS 601.

BIS 634 Seminar in Information Systems Issues 3(0-0)
Overview of contemporary information systems issues. This course may be
offered in an online or hybrid format.

BIS 635 Business Systems Applications 3(3-0)
A capstone, project-oriented study of the planning, analysis, design, imple-
mentation and testing of a business system application using modeling tools
and available technology platforms. This course may be offered in an online
or hybrid format. Prerequisites: BIS 630.

BIS 638 Database Management for Business Systems 3(3-0)
A broad overview of the development and use of database systems in busi-
ness. The management of databases and their strategic implications will also
be covered. This course may be offered in an online or hybrid format.
Prerequisite: BIS 601.

BIS 647 Enterprise Systems for Management Using SAP Software 3(3-0)
Examination of the application and management of business enterprise
software using SAP. Issues include software deployment that supports trans-
action processing in the business supply chain. This course may be offered
in an online or hybrid format.

BIS 652 Business Intelligence Using SAP Software 3(3-0)
A study of business intelligence using SAP software. Enterprise data ware-
housing and business intelligence solutions are covered. The course may be
offered in an online format. Prerequisites: BIS 601 and BIS 647.

BIS 657 ABAP Programming for ES 3(3-0)
Application of ABAP programming language to implement business
processes using the SAP system as an example of contemporary enter-
pise software. This course may be offered in an online or hybrid format.
Prerequisites: BIS 628 and BIS 647.

BIS 658 Enterprise System Configuration Using SAP Software 3(3-0)
Configuration issues, concepts, and application of enterprise software
(SAP) for global business organization integration. This course may be
offered in an online or hybrid format. Prerequisites: BIS 630, 647.

BIS 660 Managerial Communication 3(3-0)
Developing and refining business communication skills for effective
transmission of technical information through oral, written, and non-ver-
bal formats. This course may be offered in an online format. Prerequisite:
Admission to MSIS program.

BIS 667 Electronic Business Systems for e-Commerce 3(3-0)
Business opportunities, challenges, and strategies to leverage the global
information infrastructure will be discussed. Students will also learn tools
and technologies needed for electronic business systems. Prerequisites:
admission to the MBA or MSIS program, or permission of the MBA or MSIS
Director.

BIS 668 Directed Work/Observation/Internship 1-6(Spec)
Work or internship experience and/or directed observation at business
sites. Prerequisite: Minimum of 9 credit hours in the MSIS program.

BIS 697 Special Studies in Business Information Systems 1-12(Spec)
Special topics of interest which are not normally included in existing
courses. Specific topic will be listed on student's transcript. Prerequisite:
Minimum of 9 credit hours in the MSIS program.

BIS 791 Independent Research 3(Spec)
Development of research skills and completion of a formal research study.
CR/NC only. Prerequisites: BIS 625; admission to the MSIS program.

BIS 798 Thesis 1-6(Spec)
Provides the student with research skills through development and com-
pletion of a research study in a specific area of business information systems.
CR/NC only. Prerequisites: BIS 625; admission to the MSIS program.

BLR - Business Law and Regulation
See the Department of Finance and Law for more information.

BLR 521 Environmental Law and Policy 3(3-0)
A survey of environmental laws and policies that affect business decision
making. Stressing major environmental considerations and major Michigan
environmental issues. Prerequisites: BLR 202 or BLR 235 or ENV 101; comple-
tion of 86 hours; admission to Professional Business Studies or listed on
signed major or minor or permission of MBA director or MBE advisor.

BLR 565 The International Legal Environment of Business 3(3-0)
Examines global legal environments that affect business and international
business relationships. Prerequisites: BLR 202 or BLR 235; 86 semester hours
completed and admission to Professional Business Studies or listed on a
signed major or minor or graduate status.

BLR 597 Special Topics 1-6(Spec)
Special topics of interest which are not normally included in existing
courses. Specific topic will be listed on the student's transcript.
Prerequisites: 56 semester hours completed; permission to Professional
Business Studies or listed on signed major or minor.

BLR 600 Legal and Social Environment of Business 3(3-0)
Basic concepts concerning the interrelationship of business and its exter-
nal environments. Managerial application in and response to public policy
issues and their resolution. Not available for credit toward the M.B.A. or
M.S.A. degree.

BLR 631 Public Policy and Regulated Industries 3(3-0)
Analysis of the procedural and substantive aspects of the regulatory envi-
ronment which affect the administration of the energy, communications,
transportation and similar industries. Prerequisite: admission to M.B.A.

BUS - Business
See the College of Business Administration for more information.

BUS 501 Project Management Fundamentals 3(3-0)
Covers foundational terms, concepts, and processes of project man-
agement, providing an opportunity to apply key elements of project
management to a simulated project. This course may be offered in an online
or hybrid format. Prerequisite: Graduate student status or 86 hours under-
graduate credits completed.

BUS 503 Business Process Improvement 3(3-0)
This course applies principles and practices of Lean Six Sigma (LSS) and
other operations improvements that have been demonstrated to bring value
to businesses. LSS builds on a business statistics foundation. Prerequisites:
STA 282 or 382; 56 semester hours completed.

BUS 505 Application of Project Management Principles 3(3-0)
Building on fundamentals, students analyze and apply project organiza-
tion, staffing, and behavioral and qualitative skills in a simulated project to
develop core project management competencies. This course may be offered
in an online or hybrid format. Prerequisite: BUS 501.

BUS 507 Advanced Project Management Methodologies 3(3-0)
Evaluate and create project management solutions appropriate for proj-
ects/programs through the complete life cycle, using key processes and
knowledge areas of project management. This course may be offered in an
online or hybrid format. Prerequisite: BUS 505.

BUS 619 Voice of the Customer 3(3-0)
Examination of the marketing research methodologies utilized to capture
the “voice of the customer” in a competitive marketplace. This course is
approved for offering in a distance learning format. Prerequisites: Permission
of the MBA director; graduate status.

BUS 629 Corporate Governance & Social Responsibility 3(3-0)
The study of corporate governance and social responsibility within the con-
temporary business world. This course is approved for offering in a
distance learning format. Prerequisites: Permission of the MBA director and
graduate status.

BUS 639 Process Improvement 3(3-0)
Process improvement as it relates to organizations within the contempo-
rary business world. Methodologies, tools and techniques used for process
improvement will be examined. This course is approved for offering in a
distance learning format. Prerequisites: Permission of the MBA director;
graduate status.

BUS 691 Management Consulting: Client Relations 2(2-0)
Development and maintenance of relationships between management
consultants and their clients. Emphasis on change management principles.
Prerequisites: Admission to Graduate Studies.

BUS 692 Management Consulting: Diagnosis 2(2-0)
Review of diagnostic techniques to assess organizational problems.
Qualitative research and analytical techniques are also studied. Prerequisites:
BUS 691; admission to Graduate Studies.

BUS 693 Management Consulting: Measurement 2(2-0)
Theory and managerial tools guiding the consultant to measure and
understand complex problems within organizations. Prerequisites: BUS 692;
admission to Graduate Studies.

BUS 694 Management Consulting: Implementation 2(2-0)
Implementation of the change strategy in the organization. Development
of a framework for the assessment of the effectiveness of the change mecha-
nism. Prerequisites: BUS 693; admission to Graduate Studies.

BUS 697 Special Topics in Business 1-12(Spec)
Special topics of interest which are not normally included in existing
courses. Specific topic will be listed on student's transcript. This course may
be offered in an online or hybrid format. Prerequisites: Admission to MBA
program, permission of the MBA director, and graduate status.
CDO - Communication Disorders

See the Department of Communication Disorders for more information.

CDO 525 Research Design in Communication Disorders 3(3-0)
Study of critical evaluation of scientific literature. Research in evidence-based practice related to clinical decision-making. Exploration of quantitative, qualitative and mixed-methods in research design procedures. Prerequisites: Admission to the CDO major; CDO 494, 493; a statistics course; or admission to the graduate program in Speech-Language Pathology or Audiology. Co-requisites: For Undergraduates Only: CDO 463, 551.

CDO 537 Special Topics in Communication Disorders 1-9(Spec)
Current topics for each semester listed in Course Search and Registration. 3 hours each; maximum credit 9 hours.

CDO 550 Communication Assessment and Intervention in Children with Autism Spectrum Disorders 3(3-0)
This course examines procedures for assessment of communication, language, and speech of students with autism spectrum disorders, and reviews strategies for enhancing communication and language. Prerequisites: SPE 530; senior or graduate status.

CDO 551 Autism Spectrum Disorders: A Clinical Focus 3(3-0)
This course examines clinical procedures and evidence-based practice for assessment and intervention of communication skills of clients with autism spectrum disorders. Prerequisites: Signed CDO major, 30 hours CDO course work; or admitted SLP or AuD.

CDO 619 Continuing Registration for Final Research Project 1(1-0)
A non-credit course intended for students who have completed all program credits but still need to use university resources to complete their degree requirements.

CDO 632 Counseling Issues in Communication Disorders 3(3-0)
Review of theory and practice of counseling methods and techniques to be used by speech-language pathologists in clinical practice. Prerequisites: Admission to the graduate program in speech-language pathology.

CDO 637 Special Topics in Communication Disorders 3(Spec)
Current topics for each semester listed in Course Search and Registration. Maximum credit 9 hours. Prerequisite: admission to the graduate program in speech-language pathology.

CDO 638 Seminar: Adult and Pediatric Swallowing and Feeding Disorders 3(3-0)
Study of direct and indirect evaluation and treatment of swallowing disorders in patients with neuromuscular disorders, oral, pharyngeal, laryngeal cancer and pediatric feeding disorders. Prerequisites: admission to the graduate program in speech-language pathology.

CDO 639 Hypopharyngeal Visualization 2(2-2)
Practice in manipulation of instrumentation used in visualizing hypopharyngeal structures. Assessment of laryngeal functions for voice and swallowing based on visual images. Prerequisite: Admission to the graduate program in speech-language pathology.

CDO 640 Cadaveric Anatomy for Communication 3(2-2)
The dissection course will cover the anatomy and neuroanatomy which pertains to the head and neck, in relation to articulation, phonation, and respiration for speech. Prerequisite: Admission to the graduate program in speech-language pathology.

CDO 643 Disorders of Hearing 3(3-0)
Disorders resulting from diseases, injury of the ear, and lesions of the nervous system from the point of view of audiometric diagnosis. Prerequisite: Admission to the Au.D. Program. This course is approved for offering in a distance learning format.

CDO 702 Infant-Toddler Communication: Assessment and Intervention 2(2-0)
Course reviews normal communication development from birth to three years, describes high-risk populations, and provides information for assessing and intervening with infants and their families. Prerequisite: Admission to the graduate program in speech-language pathology.

CDO 704 Language Disorders in Preschool Children 3(3-0)
Course includes identification, assessment of, and intervention for communicative and language delays in children, with focus on three to five year age group. Prerequisite: Admission to the graduate program in speech-language pathology.

CDO 705 Cognitive-Communicative Disorders of Traumatic Brain Injury 3(3-0)
Traumatic brain injury with emphasis on medical aspects, behavioral sequelae, and cognitive-communicative disorders related to closed head injury in children, adolescents and adults. Prerequisite: Admission to the graduate program in Speech-Language Pathology.

CDO 708 Language Disorders in School-Age Children 3(3-0)
Study of normal and disordered language and cognitive processes, as they relate to school age children. Prerequisites: CDO 704; admission to the graduate program in speech-language pathology.

CDO 711 Craniofacial Disorders 2(2-0)
Study of a variety of craniofacial anomalies including cleft lip and palate. Topics to include etiology, evaluation, and treatment from an interdisciplinary perspective. Prerequisites: admission to the graduate program in speech-language pathology.

CDO 712 Physiological Phonetics 2(2-0)
Use of basic equipment in physiological analysis of articulation, phonation, respiration, resonance, and swallowing. Discussion of relevant research and implications for clinical work. Prerequisites: admission to the graduate program in speech-language pathology.

CDO 713 Voice/Resonance Disorders/Laryngectomy Rehabilitation 3(3-0)
This course covers etiology, evaluation, and treatment of persons with voice/resonance disorders and laryngectomies. Prerequisites: Admission to the graduate program in Speech-Language Pathology.

CDO 714 Motor Speech Disorders 3(3-0)
Advanced study in the diagnosis and treatment of motor speech disorders in children and adults. Prerequisite: Admission to the graduate program in speech-language pathology.

CDO 717 Aphasia 3(3-0)
Study of assessment and treatment ofaphasia. Specific topics include neuroanatomical bases for language, neurology, clinical research design, ethical service delivery, and patient/family counseling. Prerequisites: Admission to the graduate program in Speech-Language Pathology.

CDO 720 Anatomy and Physiology Underlying Neuro-otology 3(3-0)
In-depth study of the anatomy/physiology of the auditory and vestibular systems. Prerequisites: admission to the Au.D. program.

CDO 722 Cognitive-Communicative Disorders of Dementia 3(3-0)
Management of cognitive-communicative disorders in persons with and mild cognitive impairment within the scope of practice for speech-language pathologists. Prerequisites: Admission to the graduate program in Speech-Language Pathology.

CDO 730 Experimental Studies in Communication Disorders 3(3-0)
Selection of a research topic: study of designs, scaling methods, statistics and computer analysis of research in audiology and speech-language pathology; preparation of a prospectus; and critical review of research literature in communication disorders. Prerequisite: admission to the graduate program in speech-language pathology or audiology.

CDO 731 Diagnostic Audiology 3(3-0)
Rationale and application of specialized procedures used in the assessment of hearing function. Advanced study of diagnostic methods. Prerequisite: admission to the Au.D. Program.

CDO 734 Applied Speech Science 3(3-0)
Operation and application of basic laboratory equipment used in acoustical research, and the reading and discussion of significant publications on phonetics. Prerequisite: Admission to the graduate program in speech-language pathology.

CDO 735 Augmentative and Alternative Communication 3(3-0)
Assessment and treatment of communications disorders resulting from multiple deficits originating from neurological, neuromuscular, sensory, and cognitive disorders. Verbal and nonverbal management approaches are considered. Prerequisites: admission to the graduate program in SLPA.

CDO 736 Speech Sound Disorders in Children 3(3-0)
Advanced study of the diagnosis and treatment of articulation and phonological disorders in children. Prerequisite: Admission to the graduate program in Speech-Language Pathology.

CDO 739 Stuttering 3(3-0)
Overt and covert characteristics of stuttering behavior including their prevention, etiology, and modification. Prerequisites: Admission to the graduate program in Speech-Language Pathology.

CDO 740 Neuroanatomy 3(3-0)
Comprehensive study of the central nervous system, emphasizing the structural and functional organization of the human brain underlying communication disorders. Prerequisite: Admission to the graduate program in speech-language pathology or admission to the Au.D. Program.

CDO 741 Special Topics in Audiology 1-9(Spec)
Current topics for each semester listed in Course Search and Registration. 3 hours each; maximum credit 9 hours. Prerequisites: admission to the Au.D. Program.

CDO 744 Occupational and Environmental Hearing Conservation 3(3-0)
Effects of noise as a health hazard especially related to hearing. Government regulations regarding noise levels in vocational environments. Prerequisite: admission to the Au.D. Program.

CDO 749 Clinical Practicum in Speech-Language Pathology or Audiology 1-15(Spec)
Experience in clinical practices and applicable documentation with various types of clinical profiles in different settings inclusive of educational and medical speech-language pathology. Up to 15 credits earned in this course will not count in the variable credit total. Prerequisites: Admission to the graduate program in speech-language pathology, completion of 25 hours of clinical observation under the supervision of an ASHA certified speech-language pathologist, and a grade point average (GPA) of at least 3.0 in the CDO graduate courses.
CDO 750 Advanced Hearing Science 3(3-0)
Study of principles and concepts basic to the understanding of the normal hearing process. Prerequisite: admission to the Au.D. program.

CDO 752 Amplification for Individuals with Hearing Loss 3(3-0)
Study of types and use of prosthetic amplification, including electro-acoustic characteristics, clinical measures, relationship of electro- and psycho-acoustic measures and delivery systems. Prerequisite: admission to the Au.D. Program.

CDO 754 Pediatric Audiology 3(3-0)
Study and evaluation of auditory function of neonates, infants, and young children. Prerequisite: admission to the Au.D. Program. This course is approved for offering in a distance learning format.

CDO 757 Geriatric Audiology 3(3-0)
This course teaches students about changing health conditions, health care, and the evaluation and treatment of auditory and vestibular disorders in older adults. Prerequisites: Admission to the Au.D. program.

CDO 759 Introduction to Clinical Practicum: Audiology 2-6(Spec)
An introductory experience to clinical practicum in audiology. Prerequisites: admission to the Au.D. program.

CDO 763 Audiological Rehabilitation Considerations in Education 3(3-0)
Study of management, educational placement, and remediation strategies for hearing-impaired children. Prerequisites: admission to the Au.D. program. This course is approved for offering in a distance learning format.

CDO 764 Audiology for Rehabilitation for Adults 3(3-0)
Focuses on the audiological management of hearing loss in adults. Assessment of communication function and implementation of appropriate remedial strategies are emphasized. Prerequisites: admission to the Au.D. program and CDO 763. This course is approved for offering in a distance learning format.

CDO 765 Cochlear Implants and Other Implantable Technologies 3(3-0)
Advanced study of implantable devices including clinical procedures, applications to specific clinical populations, research needs, evolving selection, evaluating strategies for treatment of the hearing impaired. Prerequisites: Admission to the Au.D. program.

CDO 769 Intermediate Clinical Practicum: Audiology 3-9(Spec)
Clinical practicum providing for the independent performance of basic audiologic procedures, including hearing aid management. Prerequisites: admission to the Au.D. program, completion of CDO 759.

CDO 771 Seminars in Audiology 3(3-0)
Study of global issues in audiology, pharmacology, and ototoxicity. Prerequisites: admission to the Au.D. program.

CDO 773 Advanced Amplification Fitting Strategies 3(2-2)
Advanced concepts in the adjustment of electroacoustic characteristics of conventional, programmable and digital hearing aid circuits for the purpose of selecting appropriate amplification. Prerequisites: admission into the Au.D. program, CDO 752, CDO 762.

CDO 781 Electrophysiological Techniques in Audiology 3(2-2)
Study of evoked responses used in diagnostic audiology. Includes ABR, AMLR, ECochg, ALR, P300, ENOG, VER and SSER. Prerequisites: CDO 771, admission to the Au.D. program.

CDO 782 Evaluation and Management of Vestibular Disorders 3(3-0)
Review of the anatomy, physiology of balance, differential diagnostic procedures such as vestibulography, posturography and rotational testing, and the rehabilitation of the balance disordered patient. Prerequisites: admission to the Au.D. program. This course may be offered in an online or hybrid format.

CDO 783 Advanced Electrophysiological and Vestibular Techniques in Audiology 3(3-0)
Study of advanced electrophysiological and vestibular techniques in audiology such as ECoG, AMLR, P300, ENOG, cVEMP, oVEMP, SV, VRT and high frequency vestibular tests. Prerequisites: admission to the Au.D. program. This course may be offered in an online or hybrid format.

CDO 785 Auditory Processing Disorders 3(3-0)
Principles underlying neuropsychiatric and neurophysiologic bases of auditory processing and auditory processing disorders, behavioral and electrophysiologic assessment strategies, and management of auditory processing disorders. Prerequisites: admission to the Au.D. program. This course is approved for offering in a distance learning format.

CDO 790 Advanced Independent Study 1-5(Spec)
Intensive study of a subject area initiated by the student and guided by faculty member or faculty committee. Prerequisites: permission of advisor and instructor and completion of CDO independent study form. Students can take no more than 3 credits at one time.

CDO 795 Internship 3-6(Spec)
Full-time clinical experience with an approved supervisor in hospital, private practice, school, or other appropriate setting. CR/NC only. Prerequisites: admission to the graduate program in speech-language pathology.

CDO 798 Thesis 1-6(Spec)
CR/NC only.

CDO 849 Advanced Clinical Practicum: Audiology 4-12(Spec)
Clinical practicum which encompasses the entire range of audiological procedures including rehabilitation. Prerequisites: admission to the Au.D. program, completion of CDO 769.

CDO 853 Psychosocial Aspects of Hearing Loss 3(3-0)
An investigation into the advising role of the audiologist with persons having hearing impairment. Psychological, social, and vocational aspects of hearing loss are emphasized. Prerequisites: admission to the Au.D. program. This course is approved for offering in a distance learning format.

CDO 863 Professional Issues in the Practice of Audiology 3(3-0)
Issues of a professional nature which impact on the practice of audiology. Topics include accreditation/certification, quality assurance, reimbursement, establishing a private practice, and professional liability. Prerequisite: admission to the Au.D. program.

CDO 898 Project 1-12(Spec)
Complete and present a doctoral level project. CR/NC only. Prerequisites: Admission to the Au.D. program.

CDO 995 Doctoral Project 1(Spec)
Complete and present a doctoral level project. CR/NC only. Prerequisites: Admission to the Au.D. program, CDO 849, CDO 898.

CED - Counselor Education and Personal Development
See the Department of Counseling and Special Education for more information.

CED 502 Student Development in Higher Education 3(3-1)
The college student personnel movement, its social, psychological, and cultural foundations. Student development functions; career program models; legal, ethical, and professional considerations; role of professionals. This course is approved for offering in a distance learning format. Prerequisites: Junior standing or graduate status.

CED 505 Orientation to the Counseling Profession 1(1-0)
Orient students to the profession by examining history, identity, and process of becoming a professional counselor in a diverse society. This course is approved for offering in a distance learning format. Prerequisites: Senior standing or graduate status.

CED 520 Personal Growth and Development 2(Spec)
Personal growth group to help participants increase awareness and acceptance of self and others. Prerequisites: Junior standing or graduate status.

CED 555 Human Relations Skills 3(3-0)
An introduction to the theories, skills, and models utilized in developing helping relationships in organizations. This course may be offered in an online format. Prerequisites: Senior standing or graduate status.

CED 566 Lifespan Development for Counselors 3(3-0)
Course will address the influence of developmental and environmental factors on human behavior, including physical, social, and psychological aspects, and implications for counselors. Prerequisites: Minimum of 56 credit hours completed or graduate status.

CED 580 Seminar: Professional Topics 1-12(Spec)
Special topics that are germane to the field of counseling. This course is approved for offering in a distance learning format. Prerequisites: Junior standing or graduate status.

CED 603 Introduction to Clinical Mental Health Counseling 3(3-0)
This course includes survey of historical, cultural, and political dimensions and trends in community mental health. This course may be offered in an online format.

CED 604 Introduction to School Counseling 3(3-0)
This course provides a history and philosophy of school counseling programs. The role and function of school counselors will be explored. This course is approved for offering in a distance learning format. Prerequisites: Junior standing or graduate status.

CED 605 Introduction to Couple and Family Counseling 3(3-0)
This course is an entry-level graduate course that provides an overview of professional identity and professionalism in marriage, family, and couples counseling. This course may be offered in an online format.

CED 608 Clinical Skills in Couple and Family Counseling 3(3-0)
This course provides an overview of relevant topics, theories, and interventions for working with couples and families that affect relationships and influence individual behavior. This course may be offered in an online format.

CED 610 Career Counseling 3(3-0)
This course provides a critical overview of theories, techniques, and trends in career counseling. This course may be offered in an online format.

CED 611 Developmental Career Counseling 3(2-1)
Critical survey of career development theories. Application of concepts and strategies of career exploration. Students participate in supervised experience in teaching career exploration techniques. Prerequisite: Graduate status. Recommended: Completion of, or concurrent enrollment in, CED 650.

CED 612 Work and Career in a Global Society 3(3-0)
Orient students to work and career in a global society by examining past, present and future issues in the workplace. This course is approved for offering in a distance learning format. Prerequisites: Graduate status.

CED 615 Postsecondary Planning for School Counselors 3(3-0)
This course is designed to prepare school counselors-in-training to assist their future students in the process of planning for postsecondary educational options. Prerequisite: CED 604.

CED 616 Basic Group Participation 1(Spec)
This course is designed as a facilitated group counseling format where students experience being in the role of client/group participant. CR/NC only.
CED 619 Continuing Registration for Final Research Project 1(1-0)  
A non-credit course intended for students who have completed all pro-
gram credits but still need to use university resources to complete their
degree requirements.

CED 620 Introduction to Multicultural Issues in Counseling 3(3-0)  
This course is an examination of research and practice issues relating to
counseling culturally specific groups with special emphasis on the client/
counselor relationship.

CED 621 Orientation to a Culturally Diverse Society 3(3-0)  
Orient students to the process of developing competence to live and
relate in a culturally diverse society. Prerequisites: Graduate status.

CED 630 Ethics & Consultation in Counseling 3(3-0)  
This course provides a supervised discussion of legal, ethical, and consulta-
tion issues that affect the profession. This course may be offered in an online
format.

CED 640 Assessment in Counseling 3(3-0)  
This course prepares trainees to assist in selection, evaluation, and inter-
pretation of various counseling assessments with emphasis on assessments
appropriate to trainee's future work settings. This course may be offered in
an online format. Prerequisite: Regular Admission to the M.A. in Counseling
Program.

CED 641 Introduction to Counseling for Addictions 3(3-0)  
This course introduces the presentation and application of basic theories,
techniques and resources for dealing with a broad range of addictive behav-
ior, in both substance related and behaviorally focused. This course may be
offered in an online format.

CED 643 Etiology of Addiction 3(3-0)  
This course introduces students to the potential causes of and reasons for
addiction. This course may be offered in an online format. Prerequisite: CED 641.

CED 645 School Counseling Seminar 3(3-0)  
This course utilizes discussion and individual investigation into topics and
critical incidents germane to schools. Recommendations and solutions by
professionals in the field are reviewed. Prerequisite: CED 604.

CED 650 Theories and Techniques of Group Counseling 3(3-0)  
The application of group theories and techniques, interpersonal com-
munication skills, and the assessment of group counseling intervention.
Prerequisite: Regular admission to the M.A. in Counseling. Pre-Co-requisite: CED 660.

CED 651 Counseling Children and Adolescents 3(3-0)  
This course provides students with specialized skills for counseling chil-
dren and adolescents. It emphasizes the modification of interventions to
meet the needs of young clients. Prerequisites: CED 665, 677.

CED 660 Counseling Techniques 3(3-0)  
This course is a systematic study of the counseling process; stages,
intervention strategies, and related issues. Both cognitive and experiential
approaches will be used. Prerequisites: CED 677; Regular Admission to the
M.A. in Counseling Program.

CED 668 Family Counseling and Therapy 3(3-0)  
This course involves the application of counseling skills and interventions
using systems and post-modern theories of marriage, couple, and family
therapy.

CED 670 Independent Study 1-12(Spec)  
Study and/or investigation of a special problem with the guidance of a staff
member. Prerequisites: Admission to the M.A. in Counseling.

CED 677 Theories of Counseling 3(3-0)  
An examination of psychological foundations with counseling theories
and approaches. Designed to aid students' development of a personal coun-
seling theory as a guide to practice.

CED 679 Crisis and Trauma Counseling 3(3-0)  
This course provides the foundation for best professional practice in crisis
counseling by facilitating critical analysis of issues and applying intervention
techniques.

CED 680 Seminar: Professional Topics 1-12(Spec)  
Special topics that are germane to the field of counseling. This course is
approved for offering in a distance learning format. Prerequisites: Graduate
status.

CED 683 Sexuality Counseling and Therapy Techniques 3(3-0)  
This course provides an introduction to the practice of various therapeutic
modalities for the treatment of sexual issues utilizing current sexuality coun-
seling and therapy approaches.

CED 684 Grief and Loss Counseling 3(3-0)  
This course is an examination of theories of grief and loss, and the
approaches appropriate for therapeutic interventions designed to mitigate
effect. This course may be offered in an online format.

CED 685 Counseling Aspects of Grief and Loss 3(3-0)  
A critical examination of grief and loss and the counseling pro-
cedures appropriate for therapeutic intervention. This course may be offered
in an online or hybrid format.

CED 686 Psychopathology 3(3-0)  
This course covers the history, theoretical approaches, and current con-
cepts in the study of psychopathology. This course may be offered in an
online format. Prerequisites: CED 677, 699.

CED 690 Counseling Practicum 3(1-3)  
Supervised counseling of individuals, families, couples and children.
Observation and critique of peer counseling sessions. CR/NC only.

CED 691 Internship in Counseling 1-6(Spec)  
On-the-scene work in selected settings under the supervision of experi-
enced practitioners. Practical experience, observation, and opportunity for
relating the theoretical and the actual. Note: application to register for this
course must be filed during the semester prior to registration for approval.
CR/NC only. Prerequisites: Regular Admission to the M.A. in Counseling.

CED 695 Research for Counseling and Special Education 3(3-0)  
Presentation and application of designs and procedures pertinent to
counseling research in human services. Includes writing a research proposal
and manuscript, implementing mini-research project. Identical to SPE 695.
Credit may not be earned in more than one of these courses. This course is
approved for offering in a distance learning format. Prerequisites: Regular
Admission to the M.A. in Counseling or Special Education; completion of 15
hours or more toward the M.A. in Counseling or Special Education.

CED 696 Independent Research 3(Spec)  
Completion of research project under the supervision of a faculty advisor.
Prerequisite: Successful completion of CED 695 or graduate research meth-
ods course.

CED 698 Thesis 1-6(Spec)  
CR/NC only. For Master's degree candidates. Prerequisites: CED 695.

CED 699 Diagnosis & Treatment Planning in Counseling 3(3-0)  
This course provides an overview of the diagnostic mental and emo-
tional disorders and appropriate intervention methods. This course may be
offered in an online format. Prerequisite: CED 677.

CED 750 Advanced Group Facilitation 3(3-1)  
Survey of different types of group facilitation. Elements in the help-
ing relationship which improve the quality of interpersonal relationships.
"Self-in-therapeutic-interaction" incorporated into a supervised experience.
Prerequisites: Regular admission to the M.A. in Counseling; CED 650; permis-
son of instructor.

CED 751 Facilitation of Play Therapy Sessions 3(3-1)  
Systematic inquiry into the use of play therapy and its relevance to the
growth and development of children. Theoretical positions compared and
appraised. Supervised experience. Prerequisites: Regular admission to the
M.A. in Counseling; permission of instructor.

CED 780 Seminar: Professional Topics 1-12(Spec)  
Special topics that are germane to the field of counseling. This course is
approved for offering in a distance learning format. Prerequisite: 15 hours of
graduate level counseling coursework.

CED 790 Advanced Counseling Practicum 3(1-3)  
A continuation of CED 690. Application to register for this course must be
filed by the posted deadline prior to registration for approval. Prerequisite:
CED 690.

CED 791 Advanced Internship in Counseling 3(Spec)  
Internship with selected professionals. Opportunity to confirm profes-
sional effectiveness in health professions. Note: Application to register must be
filed and approved during the semester prior to registration. CR/NC only.
Prerequisites: Grade of CR in CED 690; permission of instructor.

CHM - Chemistry

See the Department of Chemistry and Biochemistry for more information.

CHM 505 Teaching Chemistry and Physics in Secondary Schools 3(3-0)  
Exposes pre-service secondary chemistry and physics teachers to theory
and practice of teaching in secondary schools, design of instructional units,
and safety practices. Must be completed prior to student teaching. Identical
to PHY 505. Credit may not be earned in more than one of these

CHM 507 Field Experience in Teaching Chemistry/Physics 1(Spec)  
Supervised experience in high school chemistry and/or physics classes.
Experience will include observation, participation in instruction, and critical
analysis of the experience. Identical to PHY 507. Credit may not be earned in
more than one of these courses. CR/NC only. Prerequisites: Students must be
accepted in the Teacher Education Program and have Junior or Senior stand-
ard. Graduate students must be enrolled in a teaching master's program.
Pre/Co-requisite: CHM 505 or PHY 505.

CHM 509 Environmental Chemistry for Science Teachers 4(3-3)  
For science teachers and prospective teachers of grades 4-12. Emphasis
on environmental chemistry concepts and laboratory/field activity develop-
ment for use in middle and high school. This course may be offered in
an online or hybrid format. Prerequisites: 8 credit hours of college level
Chemistry; 6 credit hours of education coursework; Senior or Graduate
standing; admission to Teacher Education Program or valid teaching cer-
tificate. Recommended: College level Organic Chemistry and a Teaching
Methods course.
CHM 511 Advanced Analytical Chemistry 3-4(Spec)
Spectroscopic, electrochemical, and other techniques as applied to analytical chemistry. Prerequisites: CHM 211. Recommended: CHM 352 or 355.

CHM 513 Chemistry of Natural Waters 3(Spec)
Fundamentals of laboratory and field analysis of water and their application to environmental studies. Prerequisites: CHM 211.

CHM 521 Fundamentals of Biochemistry 3(Spec)
Structure, function, and metabolism of proteins, carbohydrates, lipids, and nucleic acids. Prerequisites: CHM 346.

CHM 522 Intermediate Biochemistry 3(Spec)
Continuation of CHM 521. Material covered will include in-depth exploration of metabolism of biomacromolecules and biochemical processes requiring their use. Prerequisites: CHM 521.

CHM 527 Biochemistry Laboratory 1-4(Spec)
Isolation, characterization, and analysis of proteins, carbohydrates, lipids, vitamins, and nucleic acids using chromatographic, electrophoretic, and spectroscopic techniques. Prerequisite: CHM 211, CHM 349. Pre/Co-requisite: CHM 425 or CHM 521.

CHM 528 Bioanalytical Techniques Laboratory 1-3(Spec)
Laboratory analysis of biochemical materials using volumetric, electroanalytical, spectroscopic, and chromatographic techniques. Prerequisites: CHM 425 or 521, Pre/Co-requisite: CHM 527.

CHM 531 Advanced Inorganic Chemistry 3(Spec)
Molecular structure and symmetry, acid-base and oxidation-reduction chemistry, reactivity of inorganic compounds from a thermodynamical basis, catalysis, solid state and organometallic compounds. Prerequisites: CHM 331. Recommended: CHM 352.

CHM 541 Intermediate Organic Chemistry 3(Spec)
Mechanisms of organic reactions, emphasizing methods by which these are determined, including kinetics, principles of bonding, stereochemistry, and nuclear magnetic resonance in depth. Prerequisites: CHM 346. Recommended: CHM 351 or 355.

CHM 547 Advanced Chemistry Laboratory 2-1(Spec)
Advanced synthesis, separation, and structure determination of organic and inorganic compounds. Prerequisite: CHM 349, 331.

CHM 551 Materials Chemistry: Inorganics and Nanomaterials 3(Spec)
This course will provide a detailed survey of metals, semiconductors, ceramics, and nanomaterials, with a special emphasis on structure-property relationships. Students cannot receive credit for both SAM 700 and CHM 551. Prerequisites: CHM 331 or graduate status. Recommended: CHM 346.

CHM 555 Advanced Physical Chemistry 3(Spec)
Advanced development and application of physical theories using a statistical mechanistic approach to understanding of molecular energetics and kinetics. Prerequisites: CHM 352 or 355; MTH 233.

CHM 561 Polymer Chemistry 3(Spec)
An introductory course on polymer synthesis, polymer theory, and basic characterization techniques. Prerequisites: CHM 346, 352.

CHM 562 Industrial Chemistry 3(Spec)
Treatment of the following three primary areas: 1) actual chemistry of industry, 2) the technology of industry, and 3) the industrial chemical environment. Prerequisite: CHM 346.

CHM 564 Polymer Technology 3(Spec)
A consideration of the major groups of technologically important polymers, including raw material base, the important methods of manufacture, properties, processing, compounding, uses and testing. Prerequisite: CHM 352.

CHM 566 Introduction to Biomaterials 3(Spec)
Introduction to biomaterials science, including materials properties, interactions between materials and living tissues, and materials and biological testing. Prerequisite: CHM 346 or graduate standing. Recommended: CHM 352 or 355, CHM 425 or 521, CHM 561, BIO 110.

CHM 567 Polymer Science Laboratory 2-1(Spec)
Treatment of laboratory techniques common to polymer science: synthesis of polymers and the characterization of these materials by spectroscopic, thermal, and mechanical methods. Prerequisites: CHM 349. Co-requisite: CHM 561.

CHM 568 Pharmaceutical Chemistry 3(Spec)
Interdisciplinary introduction to the science of drug formulation, delivery and efficacy. Prerequisites: CHM 346 or 342 or graduate standing. Recommended: CHM 425 or 521, CHM 355, BIO 392.

CHM 571 Topics in Chemistry 1-9(Spec)
Special topics in chemistry presented at an advanced undergraduate - beginning graduate level. Course may be taken for credit more than once; total credit not to exceed nine hours. Prerequisites: See Course Search and Registration.

CHM 572 Selected Topics in Chemistry 1-9(Spec)
Special topics in chemistry, presented in short course or workshop format. Course may be taken for credit more than once; total credit not to exceed nine hours. CR/NC only. Prerequisites: Senior level undergraduate or graduate standing in chemistry or biochemistry programs.

CHM 583 Seminar in Chemistry 1-2(Spec)
Presentation of technical material and training in the use of chemical literature. Prerequisites: 25 credit hours of chemistry courses or graduate standing.

CHM 601 Chemistry Seminar Presentations 2-3(Spec)
Exploration of methods and skills involved in scientific technical presentation of chemistry and chemically-related technical materials. Prerequisites: Admission to a graduate program in Chemistry.

CHM 602 Scientific Writing in Chemistry 1-1(Spec)
Exploration of methods and skills involved in the writing of refereed scientific papers, grant proposals, theses and dissertations. Prerequisites: Admission to a graduate program in Chemistry.

CHM 611 Advanced Topics in Analytical Chemistry 1-9(Spec)
Special topics in analytical chemistry not included in the regular courses in the chemistry graduate program. Course may be taken for credit more than once; total credit not to exceed nine hours. Prerequisites: CHM 511.

CHM 612 Techniques in Nuclear Magnetic Resonance Spectroscopy 3(Spec)
Theory and implementation of multiple-pulse and multidimensional techniques in NMR spectroscopy. Designed to support graduate coursework and research in Chemistry and Materials Science. Prerequisites: Admission to a graduate degree program in chemistry or related field.

CHM 619 Continuing Registration for Final Research Project 1(Spec)
A non-credit course intended for students who have completed all program credits but still need to use university resources to complete their degree requirements. Prerequisites: Permission of chemistry graduate advisor or department chairperson.

CHM 621 Advanced Biochemistry 3(Spec)
Advanced study of enzymatic mechanisms that regulate biological processes including cell division, signaling, and immunity. Prerequisites: CHM 521.

CHM 624 Advanced Topics in Biochemistry 1-9(Spec)
Special topics in biochemistry not included in the regular courses in the chemistry graduate program. Course may be taken for credit more than once; total credit not to exceed nine hours. Prerequisites: CHM 522.

CHM 631 Coordination Chemistry 3(Spec)
A general survey of advanced organic reactions and syntheses; examples from the research literature are emphasized. Prerequisites: CHM 341.

CHM 632 Advanced Topics in Inorganic Chemistry 1-9(Spec)
Special topics in inorganic chemistry not included in the regular courses in the chemistry graduate program. Course may be taken for credit more than once; total credit not to exceed nine hours. Prerequisites: CHM 531.

CHM 641 Advanced Topics in Organic Chemistry 1-9(Spec)
A variety of specialized topics presented by experts. May be repeated as offered to a maximum of 9 hours. Prerequisite: CHM 643.

CHM 643 Physical Organic Chemistry 3(Spec)
Mechanisms of diverse organic reactions based on reactivity of compounds, emphasizing the study of mechanisms including kinetics, free energy relationships, bonding, and stereochemistry. Prerequisites: CHM 541.

CHM 644 Organic Reactions and Synthesis 3(Spec)
A general survey of advanced organic reactions and syntheses; examples from the research literature are emphasized. Prerequisites: CHM 341.

CHM 651 Advanced Topics in Physical Chemistry 1-9(Spec)
A variety of specialized topics presented by experts. May be repeated as offered to a maximum of 9 hours. Prerequisite: CHM 352.

CHM 655 Quantum and Computational Chemistry 3(Spec)
Application of physical theories using a quantum mechanical approach and computational techniques for understanding of properties of atoms, molecules, and molecular systems. Prerequisites: CHM 352, MTH 233.

CHM 663 Polymer Synthesis 3(Spec)
Advanced methods for polymer synthesis; examples from the research literature are emphasized. Prerequisites: CHM 561 or SAM 710.

CHM 665 Advanced Topics in Polymer Chemistry 1-9(Spec)
Special topics in polymer chemistry not included in the regular courses in the chemistry graduate program. Course may be taken for credit more than once; total credit not to exceed nine hours. Prerequisites: CHM 561.

CHM 667 Polymer Additives 3(Spec)
A description of polymer additives including structure, function, and effectiveness with different polymer systems; examples from the research literature are emphasized. Prerequisites: CHM 561 or SAM 710.

CHM 669 Polymer Processing 3(Spec)
A description of polymer systems, including solution properties, rheology, degradation, and processing; examples from the research literature are emphasized. Prerequisites: CHM 561 or SAM 710.

CHM 781 Chemistry Teaching Practicum 2(Spec)
The design and delivery of instructional materials, presentations, and laboratory experiments. Emphasis placed on improving student subject matter capabilities in chemistry. CR/NC only. Prerequisites: Admission to the Master of Arts in Teaching Chemistry Program; permission of the instructor.
CHM 791 Directed Research 1-6(Spec)
Directed research supervised by a chemistry faculty member. May be repeated for a total of 6 credits. Prerequisites: Permission of Chemistry department chair. CR/NC only.

CHM 793 Chemistry Teaching Internship 1-9(Spec)
Teaching of undergraduate chemistry courses. Students carry out a teaching internship under the direction of a graduate faculty member. CR/NC only. Prerequisites: Admission to the Master of Arts in Teaching Chemistry Program; permission of instructor.

CHM 794 Experimentation in the Teaching of Chemistry 1-6(Spec)
The research and development of techniques in chemistry education. CR/NC only. Prerequisites: Admission to the Master of Arts in Teaching Chemistry Program; permission of the instructor.

CHM 798 Thesis 1-6(Spec)
A written thesis and an oral departmental seminar on the thesis research. Prerequisites: Admission to a graduate program in chemistry; permission of the chemistry department chairperson. CR/NC only.

COM - Communication

See the Department of Communication and Dramatic Arts for more information.

COM 511 Crisis Communication 3(3-0)
Current communication theories and practices in organizational crisis management and external crisis communication. Emphasis on public relations and communication. This course may be offered in an online format. Prerequisites: COM 251, 301, with a grade of C (2.0) or better and completion of 36 credit hours; or JRN 350, 369 with a grade of C (2.0) or better and completion of 56 hours; or graduate standing.

COM 523 Dark Side of Communication 3(3-0)
This course examines negative communication behaviors such as expression of jealousy, gossip and rumor, embarrassment, criticism, deception, coercion, and obsession. Prerequisites: COM 251, 301 with grades of C or better; COM 361.

COM 527 Political Communication 3(3-0)
This course considers the influence of political communication in American society. The course addresses the connections between political discourse, the American people, and the media. Prerequisites: COM 251, 301 with a grade of C or better; junior standing.

COM 555 Special Topics in Communication 3-9(Spec)
Current topics of each semester listed in Course Search and Registration. 3 hours each; maximum credit 9 hours. Prerequisites: grades of C (2.0) or better or COM 251, 301.

COM 558 Historical Backgrounds of Communication Theory 3(3-0)
Theories of rhetoric and communication from the classical, medieval, and Renaissance periods studied in a comprehensive historical philosophical survey. Prerequisite: COM 251, 301 with grades of C or better.

COM 560 Communication and Social/Organizational Change 3(3-0)
Research and methods of communicative changes in existing social systems. This course may be offered in an online or hybrid format. Prerequisite: COM 251, 301, with grades of C or better; or IPR major with junior standing; or graduate standing.

COM 561 Communication in Conflict Management 3(3-0)
Theory, research, and practical application of managing co-located or distributed communication. Focuses on conflict between people in the contexts of family, group, and organizations. Prerequisite: COM 251, 301 with grades of C or better; or IPR major with junior standing; or graduate standing.

COM 562 Family Communication 3(3-0)
The study of verbal and nonverbal communication processes, patterns, and problems in the family. The uniqueness of the family system as a communication context is emphasized. Prerequisites: COM 251, 301 with grades of C or better.

COM 563 Health Communication Campaigns 3(3-0)
Research and methods of communicating health messages for education and disease prevention. This course may be offered in an online or hybrid format. Prerequisites: COM 251, 301 each with a grade of C or better; or graduate standing.

COM 565 Communication Training in Organizations 3(3-0)
This course examines the role of training in improving communication in organizations. The course discusses the design, development, implementation, and evaluation of organizational communication training. Prerequisites: COM 251, 301 with grades of C or better; COM 264.

COM 569 Communication in the Classroom 3(3-0)
Integrates research from several fields describing communication patterns between students and teacher-to-student within school settings. Designed for students interested in teaching or administration. Prerequisite: completion of 56 hours of undergraduate credit.

COM 591 Oral Communication with Children 3(3-0)
Theory and practice of adult-child communication patterns. Course will include state objectives for speaking/listening. Designed for teachers and people working with children.

COM 594 Directing Speech Activities 3(3-0)
Designed to provide the student or the professional teacher with the skills needed to coach and administer forensic activities on the high school level. Prerequisites: COM 251, 301 with grades of C or better.

COM 600 Introduction to Research and Graduate Study in Communication 3(3-0)
Introduces students to the history of the communication discipline, primary and secondary research methods, and scholarly writing relevant to communication arts and sciences.

COM 601 Research Design in Communication 3(3-0)
Provides the student to understand the assumptions and rationale of social scientific research, and to understand and perform laboratory and field experiments.

COM 602 Qualitative Research Methods 3(3-0)
Explorations of theoretical and methodological issues in qualitative research in communication, focusing on particular research strategies including participant observation, ethnography, in-depth interviewing, and narrative. Prerequisites: COM 600.

COM 603 Professional Seminar in Communication 1-3(Spec)
This course explores topics such as: managing graduate workload, presenting/publishing professionally, conducting ethical research, choosing either comprehensive exam or thesis options, development of a prospectus. CR/NC Only. Prerequisites: Admitted into the Master of Arts in Communication program.

COM 619 Continuing Registration for Final Research Project 1(1-0)
A non-credit course intended for students who have completed all program credits but still need to use university resources to complete their degree requirements.

COM 660 Special Topics: Graduate Seminar 3-9(Spec)
This course will examine current research and theory in communication at the graduate level. Three hours each; maximum: nine credit hours.

COM 661 Contemporary Communication Theory 3(3-0)
Critical interpretation and evaluation of published social psychological research which serves as the theoretical foundation of communication.

COM 662 Seminar in Persuasion 3(3-0)
Examines and analyzes theories and principles concerned with persuasion and attitude change. Emphasis placed on theory development, application, and evaluation. Prerequisites: COM 365.

COM 664 Seminar in Organizational Communication 3(3-0)
Includes a rigorous examination of the principles governing organizational communication and how these principles may be applied in practice and research. Prerequisites: COM 600.

COM 665 Seminar in Communication and Negotiation in Employee Relations 3(3-0)
The course examines the role of communication and negotiation in the employee relations process within a work organization. This course may be offered in an online or hybrid format.

COM 667 Seminar in Intercultural Communication 3(3-0)
The course examines the theoretical and practical aspects of intercultural communication. The course requires students to complete a project that demonstrates an understanding of the principles and practices of intercultural communication. Prerequisites: COM 350, 369.

COM 668 Seminar in Interpersonal Communication 3(3-0)
Seminar focuses on interpersonal communication theories and research. Students critically evaluate current theories and examine popular research methods. Prerequisite: Admission to the Master of Arts in Communication.

COM 670 Seminar in Rhetorical Criticism 3(3-0)
Conceptual approaches to the criticism of oral communication. Criteria for criticism, description, analysis, and critical evaluation of speeches and other forms of interpersonal communication.

COM 764 Communication Internship 1-6(Spec)
Designed to apply knowledge of and skills in speech communication within a supervised organizational context. Prerequisite: Prior written approval of internship coordinator.

COM 790 Advanced Independent Study 1-4(Spec)
Intensive study of some special problem under guidance of a faculty member or faculty committee. Prerequisites: permission of advisor and instructor.

COM 795 Seminar: Teaching College Communication 3(2-2)
Workshop/seminar in philosophies, strategies, and practices of teaching basic speech courses, directing communication programs, and applying theory at the college level. Prerequisites: 15 hours in speech communication and dramatic arts.

COM 798 Thesis 1-6(Spec)
Thesis option for Graduate Students in Communication. CR/NC only.
CPS - Computer Science

See the Department of Computer Science for more information.

CPS 501 Survey of Computer Science 3(3-0)
Computer organization, low and high level computer languages, various computer applications. Does not count toward CPS major or minor or the M.S. in Computer Science except the Teaching Minor in Computer Science on the secondary education curriculum. This course is approved for offering in a distance learning format.

CPS 510 Software Systems Engineering 3(3-0)
Covers requirements analysis and techniques to develop a system from those requirements. Credit will not be given for both CPS 410 and CPS 510. Does not count for the M.S. in Computer Science. Prerequisites: CPS 340; MTH 175. This course is approved for offering in a distance learning format.

CPS 520 Software Architecture 3(3-0)
Study of software architecture styles and quality attributes; achieving software quality; designing, documenting, and restructuring software architecture evaluation; tools for architectural design. Prerequisite: CPS 410 or graduate status.

CPS 530 Simulation of Discrete Event Systems 3(3-0)
Development of computer models for discrete systems using computer simulation languages. Performance evaluation of computer, industrial and engineering systems. Prerequisite: CPS 181; STA 282 or STA 382.

CPS 531 Distributed Programming 3(3-0)
Study of design and implementation issues in distributed programming, including event model, client/server, distributed data processing, remote objects, network services, and security. Prerequisite: CPS 340 or admission into CPS graduate program. Recommended: CPS 280J.

CPS 541 Databases 3(3-0)
Physical and logical organizations of databases, database management systems, project involving a student-designed database. Prerequisites: CPS 340 and CPS 370 or ITC 441 and permission of instructor.

CPS 542 Analysis and Design of Algorithms 3(3-0)
Models of computation. Analysis of algorithms including computing time and space requirements. Efficient algorithm design techniques. Introduction to parallel algorithms. Prerequisite: CPS 340.

CPS 550 Digital Computer Design 3(3-0)
Design of basic components of a general purpose computer such as CPU, memory, I/O systems. Instruction set design. CISC versus RISC debate. Parallel Architectures. Prerequisite: CPS 360.

CPS 565 Computer Networks I 3(3-0)

CPS 575 Computer Graphics 3(3-0)
Representation of line drawings, handwritings, and three-dimensional surfaces in computers. A plotter and graphics terminal are used. Prerequisites: CPS 181 or MTH 223.

CPS 576 Digital Image Processing 3(3-0)
Digital image fundamentals. Introduction to digital image processing concepts and techniques. Image transforms, Enhancement, segmentation, representation, and description of images. Image encoding and restoration. Prerequisite: CPS 340; MTH 175, MTH 223.

CPS 585 Applied Data Engineering 3(3-0)
Study of data engineering concepts and techniques, including data preparation, storage and warehousing, analysis and mining, security, visualization, and applications. Use of data analysis tools. Prerequisites: STA 382.

CPS 596 Special Topics in Computer Science 1-6(Spec)
Selected topics in computer science not otherwise available in a course regularly offered. Topic(s) are listed in Course Search and Registration. Repeatable up to 6 credits when content does not duplicate previous special topic studies. Prerequisite: See Course Search and Registration. Determined by the specific topics presented.

CPS 597 Independent Study 1-6(Spec)
Open to students with permission of instructor. May be taken for credit more than once, total credit not to exceed 6 hours.

CPS 603 Computer Information Systems 3(3-0)
Growth stages of computer usage, information flow, role of MIS manager in providing information to an organization. Does not count on the M.S. degree in computer science. Prerequisite: CPS 501. This course is approved for offering in a distance learning format.

CPS 610 Advanced Software Design and Development 3(3-0)
Advanced topics in software engineering. Developing a large software system using modern software engineering techniques including object-oriented programming and CASE tools. Prerequisite: CPS 410.

CPS 611 Software Verification and Validation 3(3-0)
Software verification and validation techniques are introduced and their applicability discussed. In-depth study of verification and validation area. Does not count for the MS in Computer Science. Prerequisites: CPS 510 and MTH 175.

CPS 612 Software Project Management 3(3-0)
Software engineering process, software project organization and management issues, software project economics, software quality assurance, software configuration management, software operations issues. Does not count for MS in Computer Science. Prerequisites: CPS 510. This course is approved for offering in a distance learning format.

CPS 613 Specification of Software Systems 3(3-0)
Formal models and representations. Specification techniques and tools that support them. Assessment of specification for attributes such as consistency and completeness. Does not count on the MS in Computer Science. Prerequisites: CPS 510 and MTH 175.

CPS 614 Principles and Applications of Software 3(3-0)
Covers several different methods and languages for expressing designs. The process of assessment is also covered. Does not count for the MS in Computer Science. Prerequisites: CPS 510 and MTH 175.

CPS 615 Software Generation and Maintenance 3(3-0)
Techniques for performing software generation and maintenance Alternatives to coding, language concepts, the role of standards and style, the role of tools, performance analysis, regression analysis, other maintenance-specific subjects. Does not count for the MS in Computer Science. Prerequisites: CPS 510.

CPS 619 Continuing Registration for Final Research Project 1(1-0)
A non-credit course intended for students who have completed all program credits but still need to use university resources to complete their degree requirements.

CPS 641 Advanced Topics in Databases 3(3-0)
Conceptual models. Relational theory. Access methods, query optimization. Concurrency Integrity. Selected current topics, e.g., distributed, temporal, and object-oriented databases. Student projects; literature review. Prerequisite: CPS 541.

CPS 650 Theory and Practice of Compiler Construction 3(3-0)
Automata theory, context-free languages, syntax analysis and parsing techniques. Semantic processing for structured and/or object-oriented programming languages. Code generation and optimization. Prerequisite: CPS 450.

CPS 665 Computer Networks II 3(3-0)
Principles, design, implementation, performance, security issues and areas of current research in computer networks. Prerequisites: CPS 565; STA 382.

CPS 670 Operating Systems 3(3-0)
Operating systems concepts. CPU scheduling, memory management, process synchronization and communication, case studies. Prerequisites: CPS 565; MTH 175, MTH 223.

CPS 675 Advanced Topics in Computer Graphics 3(3-0)
Detailed study of selected advanced topics in computer graphics. Prerequisite: CPS 575.

CPS 680 Artificial Intelligence 3(3-0)
Introduction to search, knowledge representation, Machine learning, neural networks, evolutionary and bio-inspired computation techniques, Intelligent agents, and expert systems. Prerequisite: CPS 542.

CPS 685 Pattern Recognition and Data Mining 3(3-0)
Pattern modeling and recognition. Data mining concepts and techniques including association rules, classification, clustering, outliers, text mining, and trend analysis. Data mining applications. Prerequisites: CPS 410 or STA 584.

CPS 691 Graduate Seminar 3(3-0)
Current topics in computer science and technology. Literature study. Development, demonstration, and presentation of research and application projects. Technical writing. Prerequisites: 12 hours of graduate courses in CPS.

CPS 695 Professional Field Experience 1-6(Spec)
Professional field experience via internship or apprenticeship. Must be integral to the student’s program of study. Does not count towards a degree in Computer Science. CR/NC only. Prerequisites: permission of graduate advisor or department chairperson.

CPS 696 Special Topics in Computer Science 1-6(Spec)
Selected topics in computer science not otherwise available in a course regularly offered. Topic(s) are listed in Course Search and Registration. Repeatable up to 6 credits when content does not duplicate previous special topic studies. Pre/Co-requisite: See Course Search and Registration. Determined by the specific topics presented.

CPS 697 Independent Study 1-6(Spec)
Open to students with permission of instructor. May be taken for credit more than once, total credit not to exceed 6 hours.

CPS 710 Software Engineering Metrics, Models and Management 3(3-0)
Study of modern software design techniques, complexity metrics, testing techniques, models and projects management. Prerequisites: CPS 520, 610.

CPS 798 Thesis 1-6(Spec)
Research topic in computer science selected by the student and approved by thesis advisor. CR/NC only. Prerequisites: Written permission of advisor and department chairperson.
DAN - Dance
See the Department of Communication and Dramatic Arts for more information.

DAN 530 History of Dance 3(3-0)
This course examines the role of dance in human history, beginning with its primitivist beginning to the present. Relationships of dance forms to the societies in which they developed.

DAN 578 Special Topics In Dance 1-9(Spec)
Current topics in dance for each semester listed in Course Search and Registration. This course may be repeated for up to 9 credit hours. Prerequisite: Two undergraduate courses in Dance with a C or better.

DHA - Degrees in Health Administration
See the School of Health Sciences for more information.

DHA 700 Leadership Strategies for Healthcare Policy and Organizations 3(3-0)
This course examines the role of leaders in improving healthcare organizations, and the relationship between leading organizations and influencing and understanding health policy. This course may be offered in an online or hybrid format. Prerequisite: Admission to the Doctor of Health Administration Program.

DHA 702 Probability and Statistics for the Health Professions 3(3-0)
This course examines statistical and quantitative techniques for problem-solving and decision-making to understand, collect, conduct and evaluate managerial, biomedical and scientific research. Prerequisites: admission to the Doctor of Health Administration program. This course is approved for offering in a distance learning format.

DHA 704 Population Health 3(3-0)
This course explores applied epidemiology in relation to population and health including standardization information, marketing, community health technologies and monitoring health behaviors of target groups. Prerequisites: admission to the Doctor of Health Administration program. This course is approved for offering in a distance learning format.

DHA 705 Seminar in Public Health 1(1-0)
This seminar focuses on current issues in health promotion and disease prevention, applied epidemiology, community health concerns and how to positively impact health in communities. CR/NC only. This course is approved for offering in a distance learning format. Prerequisites: admission to the Doctor of Health Administration program.

DHA 706 Quantitative Analysis in Health Organization 3(3-0)
This course introduces statistical/quantitative techniques including general linear models, survey research methodology and research application cases, decision-making and problem-solving for health administration. Prerequisites: admission to the Doctor of Health Administration program; DHA 702. This course is approved for offering in a distance learning format.

DHA 708 Organizational Theory and Behavior for the Health Professions 3(3-0)
Integrating theory and concepts from organizational theory and behavior literature, this course provides applications to improve dynamic health care organizations throughout the continuum of care. Prerequisites: admission to the Doctor of Health Administration program. This course is approved for offering in a distance learning format.

DHA 709 Seminar in Health Dynamics: Current Issues, Trends and Change 1(1-0)
This seminar will examine current issues, trends and the change necessary to improve the health system using a variety of presentations, group interactions and discussion. CR/NC only. This course is approved for offering in a distance learning format. Prerequisites: admission to the Doctor of Health Administration program.

DHA 710 Qualitative Analysis in Health Care 3(3-0)
Theory, concepts and tools used in designing and conducting qualitative health care research, informing policy analysis and facilitating decision support within the practice of health administration. This course is approved for offering in a distance learning format. Prerequisites: admission to the Doctor of Health Administration program.

DHA 712 Research Methods and Practice for the Health Professions 3(3-0)
This course provides theoretical and applied concepts, techniques, procedures and technologies used in scientific inquiry and reporting for applied clinical, health administrative and managerial research. Prerequisites: admission to the Doctor of Health Administration program; DHA 702. Recommended: DHA 706. This course is approved for offering in a distance learning format.

DHA 713 Seminar in Health Services Research 1(1-0)
This seminar will examine research activity and reporting in the areas of healthcare financing, organization, delivery, access and outcomes of health services. CR/NC only. This course is approved for offering in a distance learning format. Prerequisites: admission to the Doctor of Health Administration program; DHA 712.

DHA 714 Health Systems Thinking and Practice 3(3-0)
This class examines systems thinking and organizational effectiveness. Students will practice using a variety of systems tools as applied to different organizational problems. Prerequisites: admission to the Doctor of Health Administration program. This course is approved for offering in a distance learning format.

DHA 716 Communication in Health Organizations 3(3-0)
This class examines the delivery and exchange of messages within health organizations. Contexts will include conflict, negotiating, networks, channel selection, knowledge management and public relations. Prerequisites: admission to the Doctor of Health Administration program. This course is approved for offering in a distance learning format.

DHA 717 Seminar in Healthcare Dynamics: Stakeholder Relations 1(1-0)
This seminar will examine the concept of leadership style and how healthcare executives can more effectively communicate with multiple stakeholders both inside and outside the organization. CR/NC only. This course is approved for offering in a distance learning format. Prerequisites: admission to the Doctor of Health Administration program.

DHA 718 Healthcare Law, Regulations and Ethics 3(3-0)
This course explores the legal and ethical issues found in the healthcare system, and investigates the healthcare administrator as decision-maker, leader and moral agent. Prerequisites: admission to the Doctor of Health Administration program. This course is approved for offering in a distance learning format.

DHA 720 Health Economics 3(3-0)
Fundational economic and specific health economic theory, trends, market issues and applications are presented to include health insurance and payment theory, practice and applications. Prerequisites: admission to the Doctor of Health Administration program.

DHA 722 Health Informatics 3(3-0)
This course focuses on the fundamental concepts and applications of managing information as a healthcare corporate asset, emphasizing converting data into information for decision support. Prerequisites: admission to the Doctor of Health Administration program. This course is approved for offering in a distance learning format.

DHA 724 Fiscal Responsibility and Accountability for Health Entities 3(3-0)
This course emphasizes financial management and financial operations theory, principles and concepts as they relate to healthcare organizational decision-making and accountability. Prerequisites: admission to the Doctor of Health Administration program. Recommended: DHA 720. This course is approved for offering in a distance learning format.

DHA 725 Seminar in Strategic Planning for Health Organizations 1(1-0)
This seminar will examine the concepts, processes and integration of management information systems, financial, human resource and marketing plans into an organizational strategic planning system. This course is approved for offering in a distance learning format. CR/NC only. Prerequisites: admission to the Doctor of Health Administration program.

DHA 726 Applied Leadership 3(3-0)
Practical application of leadership principles focused on issues such as governance, decision-making, motivation, empowerment, team building, change management, conflict resolution, accountability, credibility and ethics. Prerequisites: admission to the Doctor of Health Administration program. This course is approved for offering in a distance learning format.

DHA 728 Comparative Health Systems 3(3-0)
This is a capstone course in the Doctor of Health Administration program with a specific focus on global health challenges and comparative effectiveness of health systems. This course is approved for offering in a distance learning format. Prerequisites: Admission to the Doctor of Health Administration Program.

DHA 898 Dissertation 1-12(Spec)
The dissertation is the capstone of the academic program involving original research by student in conjunction with a committee resulting in a publishable document. CR/NC only. This course may be offered in an online or hybrid format. Prerequisites: Successful completion of the Doctor of Health Administration comprehensive examination; acceptance into Degree Candidacy by the College of Graduate Studies; and permission of the Program Director.

ECE - Early Childhood Education
See the Department of Teacher Education and Professional Development for more information.

ECE 625 Foundations of Early Childhood Education 3(3-0)
Examination of philosophical, historical, social, theoretical, and ethical factors that have shaped and continue to shape early childhood education; implications for effective professional practice.

ECE 628 Language and Literacy Development of Young Children 3(3-0)
Analysis, synthesis, and application of theories and research in language and literacy development for young learners.

ECE 629 Promoting Parent Involvement in Early Childhood Education 3(3-0)
Analysis of current research findings on how teachers can increase parent involvement in early childhood programs. Action research on improving parent-school partnership.
ECE 630  Culturally Responsive Early Childhood Programs 3(3-0)
An analysis of current research findings on multicultural education and implementation of culturally responsive practice in early childhood programs.

ECE 644  Early Childhood Concept Development and Creativity 3(3-0)
Examination of theory, research, and practice related to concept development and creativity in young children.

ECE 657  Cognitive and Psycho-Motor Development of Young Children: Theory & Practice 3(3-0)
An analysis of current research findings on cognitive and psycho-motor development of young children.

ECE 777  Seminar: Current Issues in Early Childhood Education 3(3-0)
Analysis of existing and emerging current issues in early childhood education with opportunities for in-depth study of areas of concern. Prerequisite: Elementary Teaching Certificate.

ECO - Economics
See the Department of Economics for more information.

ECO 503  Seminar in Urban Economics 3(3-0)
Economic aspects of urban regions; their growth; household location; pollution; poverty. Solutions-oriented discussion of urban problems. Complements ECO 504. Recommended: ECO 375.

ECO 508  Monetary Theory 3(3-0)
Further development of theories of money supply, money demand, the options of monetary policy, and the effects of monetary policy on the economy. Prerequisite: ECO 306 or ECO 370.

ECO 515  Collective Bargaining and Labor Law 3(3-0)
Development of various phases of labor law, especially under statutes such as the Wagner Act, Taft-Hartley Act, and Landrum-Griffin Act. Prerequisites: ECO 202 or ECO 203. Recommended: ECO 201 or ECO 204.

ECO 532  Economic Forecasting 3(3-0)
Nature and causes of economic fluctuations. Methods of predicting price levels and economic activity. Prerequisites: ECO 201 or ECO 204; ECO 202 or ECO 203.

ECO 535  Fundamentals of Mathematical Economics 3(3-0)
Application of mathematical techniques in economics. Emphasizes marginal analysis, market models, comparative static equilibrium, and maximization. Prerequisites: ECO 365; MTH 132 or MTH 217 or graduate standing in Economics.

ECO 572  International Monetary Economics 3(3-0)
International monetary and financial markets are studied. Topics include exchange rate policy, international Capital Flow and purchasing power parity theory. Prerequisites: ECO 372.

ECO 585  Econometrics 3(3-0)
Thorough treatment of statistical estimation methods and their properties for simultaneous equation systems. Also includes discussions of types of systems, solution methods and identification. Prerequisites: STA 580 and MTH 132; or graduate standing in Economics.

ECO 590  Seminar Readings 1-3(Spec)
Elective honors course for majors or minors in economics. Recommended: 12 hours of economics with B average.

ECO 591 Seminar Research Studies 1-3(Spec)
Independent study on special problems for majors and minors in economics. Prerequisite: permission of instructor. Recommended: 9 hours of 300- to 500-level economic courses.

ECO 597  Special Studies in Economics 1-3(Spec)
Thorough comparative analysis of economic methodology and research methods. Prerequisites: ECO 585.

ECO 598 Seminar in Urban Economics 3(3-0)
Thorough comparative analysis of economic methodology and research methods. Prerequisites: ECO 585.

ECO 600  Introduction to Advanced Economic Analysis 3(3-0)
Provides the analytical tools necessary for graduate study in economics; firms, households, pricing, wages, distribution, market failure, income determination, and economic growth. Not open to Economics graduate students or undergraduate majors or minors.

ECO 601  Advanced Environmental Economics 3(3-0)
The use of price theory and benefit cost analysis to understand environmental problems and policies. Examination of property rights, regulations, taxes, and subsidies.

ECO 603  Economic Effects of Urbanization and Technology 3(3-0)
Analysis of the economic effects of the urbanization process, emphasizing solutions to the problems of urbanization and side effects of policy actions.

ECO 606  Seminar in Economic History 3(3-0)
Diverse economic experiences of advanced nations since Industrial Revolution. Applies theoretical and institutional approaches to economic history.

ECO 610  Seminar in Economic Thought 3(3-0)
Evolution of economic thought during the past 25 centuries.

ECO 614  Seminar in Labor Economics 3(3-0)
Operation of labor markets in utilizing and allocating manpower. Government measure to facilitate such utilization and allocation. Influence of discrimination.

ECO 616  Advanced Microeconomic Theory 3(3-0)
Theories of consumer behavior; cost, optimum decision-making, prices, welfare economics, general equilibrium, and income distribution.

ECO 618  Seminar in Health Economics 3(3-0)
Applies microeconomic theory to study health and healthcare markets. Covers demand for health, health behaviors, physician and hospital markets, health insurance, healthcare reform. Prerequisite: Graduate standing in economics; or permission of graduate coordinator.

ECO 619  Continuing Registration for Final Research Project 1(1-0)
A non-credit course intended for students who have completed all program credits but still need to use university resources to complete their degree requirements.

ECO 620  Advanced Macroeconomic Theory 3(3-0)
Analysis of the aggregate economic framework, and application of Keynesian and post-Keynesian macroeconomic theories to the determination of income, employment, and prices.

ECO 622  Seminar in Economic Growth and Development 3(3-0)
Selected topics in growth and development. Topics may include growth and development theory, rationality, population, labor, public economics and trade.

ECO 625  Firm Behavior and Game Theory 3(3-0)
Advanced studies of the theory of the firm and modeling strategic behavior. Topics may include transactions costs, collusion, mergers, advertising, brand names, and asymmetric information. Prerequisites: Graduate standing in Economics.

ECO 626 Research in Economic History Post 1870 3(3-0)
In depth examination of specific topics in economic history, with emphasis placed on the early to mid 20th century, and instruction in economic research.

ECO 630  Comparative Economic Systems 3(3-0)
A systematic analysis of different types of economic systems with respect to the way basic economic problems of resource allocation and income distribution are solved.

ECO 646  Advanced Topics in Economic History 3(4-Spec)
A course organized by independent instructors on the basis of their specialized or experimental interests. Topics will vary from semester to semester.

ECO 655  Seminar in International Economics 3(3-0)
Recent developments in trade theories and problems in trade policy; foreign exchange market; national income and balance of payments; and international financial policies.

ECO 657  Advanced Investment Analysis 3(3-0)
Analysis of the principles, techniques, and other factors that determine the values of individual securities and investment portfolios.

ECO 660 Public Finance and Fiscal Policy 3(3-0)
Analysis of fiscal policy and theory of taxation affecting economic welfare and delivery of public goods and services. Includes economic stabilization and fiscal reform considerations. Prerequisites: Graduate admission in economics; or permission of the Graduate Coordinator is required of students who enroll in courses at the 500 or 600 level.

ECO 670 Research Methods in Economics 3(3-0)
Thorough comparative analysis of economic methodology and research methods. Prerequisites: ECO 585.

ECO 685 Econometric Applications 3(3-0)
Economic applications and empirical implementation and interpretation of econometric techniques. Prerequisites: ECO 585.

ECO 690 Independent Research 1-3(Spec)
Prerequisite: Graduate standing in Economics.

ECO 798 Thesis 1-6(Spec)
CR/NC only.

EDL - Educational Leadership
See the Department of Educational Leadership for more information.

EDL 512 Assessment in Higher Education 3(3-0)
This course will examine assessment in higher education settings. Students will conduct assessments used in evaluation and accreditation protocols. This course may be offered in an online or hybrid format. Prerequisites: LDR 200 and 80 earned semester credits or graduate standing.

EDL 516 Leadership for Social Justice 3(3-0)
Examination of social justice perspectives and their application to complex relationships found in and around institutions of learning. This course may be offered in an online or hybrid format. Prerequisites: LDR 200 or graduate standing.

EDL 557 Helping Skills in Student Affairs 3(3-0)
Examination of the role of student affairs professionals as helpers through theoretical explorations and practical simulations. This course may be offered in an online or hybrid format. Prerequisites: LDR 200 or graduate standing.

EDL 592 Professional Development in Educational Leadership 1-9(Spec)
Identification and study of emerging problems of educational leadership. This course may be offered in an online or hybrid format.
EDL 598 College Student Development 3(3-0)
Examination and application of relevant developmental theories and models for facilitating holistic student development. This course may be offered in an online or hybrid format. Prerequisites: LDR 200 and EDL 557 or graduate standing.

EDL 600 Research for Educational Leadership 3(3-0)
Research concepts focused on the needs of educational leaders. Prerequisites: graduate status. This course is approved for offering in a distance learning format.

EDL 609 Administration of Volunteer Programs 3(3-0)
Develops skills necessary to organize a volunteer program or agency. Content includes recruitment, training, supervision, evaluation of volunteers and the development of community partnership programs. This course may be offered in an online or hybrid format.

EDL 610 Grants and Fund Procurement 3(3-0)
An introduction to fund raising for public institutions. Students will explore funding sources, concept development, evaluation plans, budget preparation, proposal submission, and reviewer practices. This course may be offered in an online or hybrid format.

EDL 612 Methods and Techniques of Training and Development 3(3-0)
The course will examine the theory of training and development. Students will conduct and evaluate training and development programs. This course may be offered in an online or hybrid format.

EDL 615 Educational Technology for Administrators 3(3-0)
The development of knowledge, philosophy, skills and practical applications regarding technology for administrators. This course may be offered in an online or hybrid format.

EDL 619 Continuing Registration for Final Research Project 1(1-0)
A non-credit course intended for students who have completed all program credits but still need to use university resources to complete their degree requirements.

EDL 620 Administration Within Diverse Populations 3(3-0)
Examination of critical issues, trends, and practices relative to cultural diversity that influences the organization and administration of school and other human service organizations. This course is approved for offering in a distance learning format.

EDL 622 Adult Literacy and Society 3(3-0)
A study of the theories of language and literacy and their relationship to the practices of adult education. This course may be offered in an online or hybrid format.

EDL 624 Planning for Instruction in Nontraditional Settings 3(3-0)
A study of the theories of language and literacy and their relationship to the practices of adult education. This course may be offered in an online or hybrid format.

EDL 626 The Adult Learner 3(3-0)
A study of learning in adulthood, how to facilitate that learning, and the characteristics of adult learners. This course may be offered in an online or hybrid format.

EDL 636 Higher Education Law 3(3-0)
An introduction to legal issues in higher education institutions. This course may be offered in an online or hybrid format.

EDL 645 Charter School Leadership 3(3-0)
Application of leadership and systems theories to the administration of charter schools. This course may be offered in an online or hybrid format.

EDL 650 Professional Studies: Special Topics 1-6(Spec)
Investigation and in-depth study of new knowledge or current problem areas. This course may be offered in an online or hybrid format.

EDL 651 Program Review and Evaluation 3(3-0)
An introduction to program evaluation theory, design, development, and implementation is provided. Content will cover evaluation strategies to plan an applied research study. This course may be offered in an online or hybrid format.

EDL 652 Global Education Studies 3-12(Spec)
Study of educational systems in an international context. Trip destinations will vary. This course may be repeated up to 12 credits if course content is different. Prerequisites: Graduate status.

EDL 656 Public School Law 3(3-0)
The law as it relates to education. This course is designed for students preparing for leadership positions in K-12 schools. This course may be offered in an online or hybrid format.

EDL 658 Teacher Leadership 3(3-0)
An introduction to teacher leadership providing teacher leaders the essential tools to be knowledgeable, reflective, ethical and transformational leaders. This course may be offered in an online or hybrid format.

EDL 660 Principles of Educational Administration 3(3-0)
Philosophy and principles underlying the organization and operation of education in the United States. This course may be offered in an online or hybrid format.

EDL 661 School and Community Relations 3(3-0)
Public relations responsibilities of school board and staff members. This course may be offered in an online or hybrid format.

EDL 662 School Business Administration 3(3-0)
An exploration of school business and resource administration, personnel, and facilities management concepts, with emphasis on current factors affecting site-based administration. This course may be offered in an online or hybrid format.

EDL 663 Human Resources Administration 3(3-0)
The study of effective administration of school personnel issues. This course may be offered in an online or hybrid format.

EDL 667 Administration of Community Education 3(3-0)
Identification of community needs, and organization and management of new and ongoing programs. This course may be offered in an online or hybrid format.

EDL 669 Rural School Leadership 3(3-0)
Current and historical examination of the standards, principles, and practices of rural school leadership. This course may be offered in an online or hybrid format.

EDL 670 The Principalship 3(3-0)
Current standards, principles, and practices relative to school leadership and the Principalship. This course may be offered in an online or hybrid format.

EDL 675 Administration of Special Education 3(3-0)
Study of the organization and administration of special education programs. This course may be offered in an online format. Identical to SPE 640. Credit may not be earned in more than one of these courses.

EDL 676 Administration of Community Colleges 3(3-0)
Structure, organization, and management of the community college. This course may be offered in an online or hybrid format.

EDL 677 The American College Student 3(3-0)
An examination of American college population, how campus environments affect students' collegiate experiences, and how these cultural experiences affect students. This course may be offered in an online or hybrid format.

EDL 678 Emerging Issues and Reform Efforts in Educational Leadership 3(3-0)
This course will examine education reform initiatives and their relationship to emerging issues facing current and future educational leaders within the K-12 school system. This course may be offered in an online or hybrid format.

EDL 680 Teaching in Higher Education Settings 3(3-0)
Study of classroom teaching methods and practices in college environments. Review of active learning techniques, curriculum construction, and student-learning assessment. This course may be offered in an online or hybrid format.

EDL 681 Teaching with Technology in Higher Education Settings 3(3-0)
Learners will incorporate technology in their practice to enhance instructional effectiveness and increase student learning. This course may be offered in an online or hybrid format.

EDL 685 Introduction to Problem Solving in Educational Leadership 3(3-0)
An introductory examination of the knowledge and skills needed to communicate with organizational members to solve problems and resolve conflict in educational situations and organizations. This course may be offered in an online or hybrid format.

EDL 687 Independent Study 1-6(Spec)
Independent study. This course may be offered in an online or hybrid format. Prerequisite: permission of advisor.

EDL 688 Independent Study 1-6(Spec)
Independent study. This course may be offered in an online or hybrid format. Prerequisite: permission of advisor.

EDL 689 Independent Study 1-6(Spec)
Independent study. This course may be offered in an online or hybrid format. Prerequisite: permission of advisor.

EDL 690 Administration of School Curriculum 3(3-0)
Study, analysis, and application of administrative principles to the development, implementation, and evaluation of the school curriculum. This course may be offered in an online or hybrid format.

EDL 694 Educational Leadership Capstone 3(3-0)
Capstone seminar to synthesize master's coursework in educational leadership at the P-12 school level. Students will synthesize theory and apply practice through a professional portfolio. This course may be offered in an online or hybrid format.

EDL 695 Readings in Educational Leadership 1-3(Spec)
Independent readings on a specific topic in educational leadership. This course may be offered in an online or hybrid format. Prerequisite: Permission of advisor and instructor.

EDL 696 Higher Education Practicum 3(3-6)
An applied learning experience gained through first-hand observations and operational responsibilities under the direct supervision of a practicing higher education leader. This course may be offered in an online or hybrid format. CR/NC only. Prerequisites: Regular admission to the masters in higher education administration program in the Department of Educational Leadership. Completion of at least 9 core credits in the program. Approval of practicum application.
EDL 697 College Teaching Internship 3(3-0)
Under the direct supervision of a practicing college or university teaching mentor, student develops skills applicable to college-based teaching. CR/NC only. This course may be offered in an online or hybrid format. Prerequisites: Permission of Instructor, approval of internship application.

EDL 698 Master's Colloquium 3(3-0)
Capstone seminar to synthesize master's coursework. Students will apply theory to practice. This course may be offered in an online or hybrid format. Prerequisite: To be taken in the last semester of the MA in Higher Education Administration Program.

EDL 699 Leadership Internship 1-15(Spec)
A planned learning experience gained through first-hand observations and operational responsibilities under the direct supervision of a practicing educational leader. This course may be offered in an online or hybrid format. CR/NC only. Prerequisites: Regular admission and completion of a minimum of 9 credits in a master's or specialist program in the Department of Educational Leadership. Approval of internship application.

EDL 700 Educational Research Design 3(3-0)
Students will learn scientific research design and propose quantitative and qualitative research design. This course may be offered in an online format. Prerequisites: Admission to a doctoral program in educational leadership; EDL 890 or EDL 899.

EDL 710 Action Research 3(3-0)
The practical application of action research inquiry is examined to promote empirical decision-making in a variety of educational settings. This course may be offered in an online or hybrid format.

EDL 731 Strategic Planning 3(3-0)
Identification of planning processes to set goals, establish implementation procedures, and evaluate processes and results. This course may be offered in an online or hybrid format.

EDL 745 Administration of the School District 3(3-0)
Study of the school district leadership with special emphasis on the role of the superintendent and district level administrators. This course may be offered in an online or hybrid format.

EDL 750 Professional Studies: Special Topics 1-6(Spec)
Investigation and in-depth study of emerging knowledge or current problems. This course may be offered in an online or hybrid format.

EDL 752 Social Justice in Global Studies Education 1-12(Spec)
Study of social justice in education in an international context. Travel destinations will vary. This course may be repeated up to 12 credits if course content is different. This course may be offered in an online format.

EDL 757 Student Development Theory 3(3-0)
Introduction of student development theories regarding social identity, intellectual and moral development of college students; review of learning and personality theories for understanding student differences. This course may be offered in an online or hybrid format.

EDL 760 Leadership Theory and Practice 3(3-0)
Application of leadership and systems theories to the administration of educational programs. This course may be offered in an online or hybrid format.

EDL 761 School and Community Relations for the District Leader 3(3-0)
The role of the K-12 central office administrator in working with the community. This course may be offered in an online or hybrid format.

EDL 763 The Academic Profession 3(3-0)
Emphasizes the organization and function of academic affairs within a college or university. Topics include faculty governance, academic leadership, curriculum development, and academic socialization. This course may be offered in an online or hybrid format.

EDL 764 Financing of Higher Education 3(3-0)
An analysis of the funding of higher education and the complex relationships between finance and other aspects of higher education administration.

EDL 765 Organizational Change in Educational Institutions 3(3-0)
Fundamental concepts, processes, and procedures concerning the change process. Focus will be on leading, implementing, and sustaining change in educational organizations. This course may be offered in an online or hybrid format.

EDL 766 Advanced Educational Law 3(3-0)
In-depth study of current legal problems affecting education. This course may be offered in an online or hybrid format. Prerequisite: EDL 656.

EDL 767 Public School Finance 3(3-0)
Examine structures and considerations relating to the financing of public school systems within the United States, including taxation, budgets, millages, school facilities, and state funding. This course may be offered in an online or hybrid format.

EDL 768 Advanced Higher Education Law 3(3-0)
In-depth study of current legal problems affecting higher education. This course may be offered in an online or hybrid format. Prerequisites: Admission to a doctoral program; EDL 656.

EDL 769 Negotiations in Education 3(3-0)
Theory and practice of negotiations and collective bargaining as it relates to educational organizations. This course may be offered in an online or hybrid format.

EDL 770 Advanced Elementary School Leadership 3(3-0)
Investigation and in-depth study of advanced leadership of elementary education programs. This course may be offered in an online or hybrid format. Prerequisites: EDL 670.

EDL 772 Advanced Administration of Secondary Schools 3(3-0)
Study of current management skills and procedures necessary for operating a secondary school. This course may be offered in an online or hybrid format. Prerequisites: EDL 670 and admission to the Specialist in Educational Leadership program.

EDL 773 Instructional Supervision and Leadership 3(3-0)
Development of policies and guidelines for leadership of the instructional program in a school. This course may be offered in an online or hybrid format.

EDL 774 Women in Education 3(3-0)
Study of women's roles as students, faculty, and administrators in educational settings. Emphasis on the identification and study of current issues and gender theories. This course may be offered in an online or hybrid format.

EDL 775 Educational Policy Analysis 3(3-0)
Identification and analysis of source, function, and effect of policies affecting K-12 education. This course may be offered in an online or hybrid format.

EDL 776 Administration of Higher Education 3(3-0)
Study of the organization and management of colleges and universities. This course may be offered in an online or hybrid format.

EDL 777 Student Affairs Administration 3(3-0)
A study of the organization, structure, management, programs, and functions of student affairs administration in post-secondary education. This course may be offered in an online or hybrid format.

EDL 778 Contemporary Issues in Higher Education 3(3-0)
Study of contemporary issues confronting higher education. Emphasis is on the identification, definition, and study of issues and how educational leaders might address them. This course may be offered in an online or hybrid format.

EDL 790 Critical Issues: Elementary School Leadership 3(3-0)
Analysis of elementary school leadership issues. This course may be offered in an online or hybrid format.

EDL 792 Critical Issues: Administration of Secondary Schools 3(3-0)
Analysis of current problems, regulations, laws, and pressures confronting the secondary school principal. Course stresses conflict management and crisis intervention techniques. This course may be offered in an online or hybrid format. Prerequisites: EDL 670 or EDL 772 and admission to the Specialist in Educational Administration program.

EDL 797 Field Study 1-6(Spec)
An extensive study of a specific leadership practice, and a report of appropriate recommendations. Students cannot enroll for both EDL 797 and 798 to fulfill the requirements of a single degree. This course may be offered in an online or hybrid format. CR/NC only.

EDL 798 Thesis 1-6(Spec)
Students will study a specific leadership problem, culminating in a written research report of appropriate findings. This course may be offered in an online or hybrid format. CR/NC only. Prerequisite: EDL 600 or 700.

EDL 800 Qualitative Research in Educational Leadership 3(3-0)
This course enables students to apply qualitative research theories, methods, and data analysis procedures. Students will practice a variety of applied field-based techniques. This course may be offered in an online or hybrid format. Prerequisites: EDL 600 and EDL 700. Admission to doctoral program in Educational Leadership.

EDL 801 Quantitative Analysis in Educational Leadership 3(3-0)
Study, analysis, and application of quantitative analytical principles to the development, implementation, and evaluation of educational practices and programs. This course may be offered in an online or hybrid format. Prerequisites: EDL 600, 700; admission to doctoral program in Educational Leadership.

EDL 815 Ethical Leadership 3(3-0)
Examination of major leadership and ethical decision making theories. Emphasis is placed on moral leadership practice. This course may be offered in an online or hybrid format. Prerequisites: Admission to the doctoral program in educational leadership.

EDL 816 Social Justice in Education 3(3-0)
Students will develop an understanding of the theoretical perspectives and their application to complex relationships inherent in moral and political issues in education. This course may be offered in an online or hybrid format. Prerequisites: Admission to a doctoral program and EDL 700 or equivalent.

EDL 820 Critical Perspectives of Development Theory 3(3-0)
Educational development theory using a critical theoretical lens. Examination will include an exploration of diverse socially constructed identities of individuals and the application to practice. This course may be offered in an online or hybrid format. Prerequisites: Admission to a doctoral program in education.

EDL 825 Culture of Educational Organizations 3(3-0)
Examination of organizational culture, and the implications for leadership and organizational effectiveness. This course may be offered in an online or hybrid format.
EDU 830 Educational Foundations of Philosophy 3(3-0)
Critical analysis of the foundations and philosophies of education. This course may be offered in an online or hybrid format. Prerequisites: Regular admission to a doctoral program in education.

EDU 855 Organizational Culture and Change in Educational Institutions 3(3-0)
Examination of organizational culture and implication on behavior and educational practices. Fundamental concepts, processes, and procedures concerning the change process. This course may be offered in an online or hybrid format. Prerequisites: Admission to the doctoral program in educational leadership.

EDU 860 Organizational Theory in Educational Institutions 3(3-0)
Focus will be upon the historical development of educational institutions with an emphasis upon organizational theory, systems theory, organizational behavior, motivation, and leadership. This course may be offered in an online or hybrid format. Prerequisites: admission to the doctoral program in Educational Leadership.

EDU 864 Economics and Finance of Higher Education 3(3-0)
This course applies the concepts and methods of economic theory in the analysis and evaluation of issues, policies, and behaviors related to higher education finance. This course may be offered in an online or hybrid format. Prerequisites: EDL 764 or admission to a doctoral program.

EDU 870 Issues in Educational Leadership 3(3-0)
A study of issues confronting educational leaders. The course provides students the opportunity to relate leadership theory with an examination of current issues. This course may be offered in an online or hybrid format. Prerequisite: Admission to the doctoral program in educational leadership.

EDU 876 Higher Education Policy 3(3-0)
Examination of higher education policy practices. The integration and synthesis of organizational theory and leadership to address policy issues. This course may be offered in an online or hybrid format. Prerequisites: Admission to the doctoral program in Educational Leadership.

EDU 880 Doctoral Internship 3(6-Spec)
Real and simulated activities related to preparing for advanced positions in educational leadership under the supervision of a practicing administrator. Cr/NC only. This course may be offered in an online or hybrid format. Prerequisites: Admission to the doctoral program in Educational Leadership. Approval of internship application and permission of instructor.

EDU 886 Advanced Problem Solving in Educational Leadership 3(3-0)
An advanced seminar in problem solving skills to assist educational leaders with interaction strategies. This course may be offered in an online or hybrid format. Prerequisites: EDL 685.

EDU 890 Doctoral Proseminar: Writing and Inquiry 3(3-0)
Foundation course for doctoral students to engage in scholarly writing, theoretical foundations and the seminal literature in education. This course may be offered in an online format. Prerequisites: Admission to a doctoral program in Educational Leadership.

EDU 897 Dissertation Colloquium 3(2-0)
Development of a doctoral-level dissertation proposal. Cr/NC only. This course may be offered in an online or hybrid format. Prerequisites: EDL 800, 801.

EDU 898 Dissertation 1-15(Spec)
Design and complete the dissertation including data collection, analysis, written report, and oral defense. Cr/NC only. Prerequisites: permission of instructor.

EDU 899 Doctoral Seminar 3-6(Spec)
Orientation to doctoral studies, program procedures, and dissertation issues. Critical review of education foundations and history. This course may be offered in an online or hybrid format. Prerequisites: Admission to the doctoral program in Educational Leadership.

EDU 900 Advanced Qualitative Analysis in Educational Leadership 3(3-0)
This course provides advanced instruction in qualitative research analysis for doctoral students. Students will work with their own research data using analysis software. This course may be offered in an online or hybrid format. Prerequisite: EDL 800. Recommended: Admission to a doctoral program.

EDU 901 Advanced Quantitative Analysis in Educational Leadership 3(3-0)
Study, analysis and application of advanced quantitative analytical principles to the development, implementation, and evaluation of educational policies and programs. This course may be offered in an online or hybrid format. Prerequisite(s): EDL 801. Recommended: Admission to a doctoral program.

EDU - Teacher Education
See the Department of Teacher Education and Professional Development for more information.

EDU 505 Diagnostic Literacy Assessments & Instruction: K-3 3(3-0)
Diagnostic literacy assessments will be introduced including appropriate administration, data analysis, and related instructional practices. State literacy assessment certification: MLPP K-3. Prerequisites: EDU 330 or graduate status.

EDU 506 Principles and Techniques for Individualizing Instruction 3(3-0)
Examination of individualized instruction and its classroom implications. Prerequisite: EDU 330 or EDU 340.

EDU 508 Education Workshop 1-6(Spec)
Identification and study of educational theory, topics and/or issues in contemporary education. Prerequisites: Senior Standing or Graduate Status.

EDU 515 Managing Classrooms and Learning Environments 3(Spec)
Engages students with theories and effective practices related to effectively managing classrooms and learning environments. This course may be offered in an online or hybrid format. Prerequisite: Admission to Teacher Education Program or graduate status.

EDU 525 Early Childhood Education 3(3-0)
Content, methods, materials, and curriculum planning for teaching pre-kindergarten through primary grades. Prerequisites: Junior Standing or Graduate Status.

EDU 528 Emergent Literacy: Theory and Practice 3(3-0)
Analysis of literacy development in preschool through primary grades. Methods, materials, organization, and evaluation techniques for fostering beginning reading and language skills in the primary grades. Prerequisites: EDU 330 or graduate standing.

EDU 532 Reading in the Content Areas 3(3-0)
Emphasizes teaching of literacy strategies in the academic disciplines, focusing on grades 3-8. This course may be offered in an online format. Prerequisites: EDU 330 or graduate status.

EDU 533 Diagnosis and Treatment of Reading Difficulties 3(2-3)
Diagnostic procedures and use of remedial and developmental techniques. Exploration of the role of the specialist. This course may be offered in an online format. Prerequisites: EDU 431, 532, or Graduate status; Pre/Co-requisite: EDU 538.

EDU 538 Integrated Language Arts 3(3-0)
Integration of listening, speaking, enacting, writing, reading, viewing, and visually representing into a K-8 language arts program and instruction for diverse needs of all learners. This course may be offered in an online format. Prerequisite: EDU 330.

EDU 540 Literacy Education: Theory and Practice 3(3-0)
Emphasizes a broad view of literacy within a comprehensive approach and authentic contexts; effective literacy instruction across content, all learners, skill integration, and assessment. This course is approved for offering in a distance learning format. Prerequisites: EDU 330 or Graduate Status.

EDU 542 Interdisciplinary Processes and Strategies in Teaching Reading, Writing, Thinking, and Language 3(3-0)
Reinforces the integration of content knowledge with reading, writing, and thinking strategies and emphasizes a conceptual framework for learning through thematic or collaborative instruction. This course may be offered in an online or hybrid format. Prerequisite: EDU 330 or Graduate Standing.

EDU 550 Driver Education I: Driver Task Analysis 3(3-0)
First of four courses to prepare driver education instructors and provide them with the content knowledge and skills necessary to teach driver education. Prerequisites: Permission of instructor.

EDU 551 Driver Education II: Developing Classroom Instructional Knowledge 3(3-0)
Second of four courses to prepare driver education instructors; knowledge and skills needed to implement classroom instruction, classroom management, and appropriate student evaluation. Prerequisites: EDU 550.

EDU 552 Driver Education III: Developing Vehicle Operational Skills 3(2-1)
Third of four courses to prepare prospective driver education instructors to conduct instruction which develops vehicle operational skills for the novice driver. Prerequisites: EDU 551.

EDU 553 Driver Education IV: Practicum 3(1-2)
Fourth of four courses preparing driver education instructors; classroom and in-car instruction in approved driver education programs under mentoring of cooperating driver education teachers. Prerequisites: EDU 552.

EDU 566 Independent Study in Elementary Education 1-6(Spec)
Research or project. Prerequisites: 15 semester hours of professional education and approval of unit coordinator.

EDU 590 Advanced Technology in Education 3(2-3)
Students will study and practice the integration of technology in classroom instruction and management, with emphasis upon software evaluation and lesson design. Identical to SPE 510. Credit may not be earned in more than one of these courses. This course is approved for offering in a distance learning format. Prerequisites: EDU 290 or Graduate Status.

EDU 595 Telecommunication in Education 3(2-2)
The study and laboratory exploration of telecommunication as used in schools and classrooms: e-mail, educational and general networks, collaborative lesson. This course is approved for offering in a distance learning format. Prerequisites: EDU 555.

EDU 602 Strategies and Techniques for Teaching 3(3-0)
Examination, development, assessment, and practical usage of methods and materials in the teacher's subject area at middle school, high school, or community college level. This course is approved for offering in a distance learning format.

EDU 603 Elementary Diagnosis, Remediation and Differentiation of Reading Instruction 3(3-0)
Diagnosing reading and writing difficulties for diverse learners and implementing research-based intervention practices designed to improve literacy in the elementary classroom. This course may be offered in an online or hybrid format.
EDU 605 History and Trends in Elementary School Curriculum Development 3(3-0)
History and trends in elementary school curriculum development. This course is approved for offering in a distance learning format.

EDU 606 Secondary Advanced Reading Diagnosis and Instruction 3(3-0)
Diagnosing reading and writing difficulties for diverse learners and implementing research-based intervention practices designed to improve literacy in the secondary classroom. This course may be offered in an online or hybrid format.

EDU 608 Projects in Education 1-6(Spec)
Investigating, analyzing, and reporting on special problems, innovative programs, changing curricula, and new techniques in elementary education. Subject to credit limitations.

EDU 609 History of Education 3(3-0)
Development of modern education in Western civilization.

EDU 613 Current Educational Issues 3(3-0)
Identification and analysis of significant, persistent issues in education in the United States and the relationship to student achievement and teacher effectiveness. Identical to MLE 613. Credit may not be earned in more than one of these courses. This course has been approved for offering in a distance learning format.

EDU 614 Advanced Educational Psychology 3(3-0)
Theories of learning and application to instruction. This course may be offered in an online or hybrid format. Prerequisites: EDU 493.

EDU 615 Survey of Science Education 3(3-0)
Exploration of current issues in science teaching and learning; foundational science education literature; projects based on classroom practice; relevant science education resources. Prerequisites: Admission to the Master of Arts in Teaching Integrated Science.

EDU 618 The Nature of Science in Science Teaching 3(3-0)
The philosophy, history, and sociology of science; the methods and goals of science; implications for teaching the nature of science. Prerequisites: EDU 615.

EDU 619 Continuing Registration for Final Research Project 1(1-0) A non-credit course intended for students who have completed all program credits but still need to use university resources to complete their degree requirements.

EDU 620 Problems of Teaching Mathematics in the Elementary School 3(3-0)
Exploring cognitive issues, history, research, problem solving, technology, innovative programs, basic skills, and state and national standards in mathematics education. Prerequisite: Teaching Certificate.

EDU 622 Advanced Adolescent Psychology 3(3-0)
Advanced analysis of growth, development, and behavior during adolescence.

EDU 628 Secondary School Programs and Practices 3(3-0)
Organization, content and philosophies underlying the establishment and operation of secondary schools. This course is approved for offering in a distance learning format.

EDU 630 Organization and Implementation of School Literacy Programs 3(3-0) Design, implementation and evaluation of school reading and writing programs, staff development, and the change process. This course may be offered in an online or hybrid format. Pre-Co-requisites: EDU 632 or EDU 636.

EDU 632 Practicum in the Diagnosis and Treatment of Difficulties in Literacy 6(Spec) Diagnostic procedures and materials; supervised work with K-12 students or adolescents; development and implementation of remediation procedures. Prerequisites: teaching certificate, one year teaching experience.

EDU 633 Clinical Practice in Reading 3(1-4) Continuation of EDU 632. Prerequisites: EDU 533 and EDU 632 plus permission of instructor.

EDU 635 Advanced Language Arts Instruction 3(3-0) Examination of components of English Language Arts classroom instruction, research in teaching language arts, and meeting individual student needs. This course may be offered in an online format. Recommended: EDU 636.

EDU 636 Classroom Reading and Writing Instruction 3(3-0) Students examine the reading and writing process in classroom instruction and learn about techniques and materials appropriate for specific reading and writing approaches. This course may be offered in an online or hybrid format. Prerequisite: Admission to graduate degree program in education.

EDU 640 History and Trends in Elementary Social Studies Education 3(3-0) Analysis of history and trends in elementary social studies education. This course is approved for offering in a distance learning format.

EDU 641 Interdisciplinary Processes and Strategies for Teaching Literacy 3(3-0) This course will reinforce content teaching strategies and provide a conceptual framework for integrating reading, writing, and thinking for learning throughout the curriculum. Prerequisite: Elementary Teaching Certificate.

EDU 642 Instructional Multimedia 3(3-0) Students will study, practice, and apply how to appropriately and effectively implement multimedia technologies in classroom environments. Prerequisites: EDU 590. This course is approved for offering in a distance learning format.

EDU 643 Instructional Design 3(3-0) A study of the principles of instructional design. Designing instructional systems, processes in learning and instruction, delivery systems and evaluating instruction are considered. Prerequisites: Prerequisite: EDU 590. This course is approved for offering in a distance learning format.

EDU 645 Advanced Science Teaching Methods 3(3-0) Planning, assessment, and evaluation of K-12 science teaching and learning; evaluation of science curriculum materials; exploration of effective science teaching practices. Prerequisites: EDU 615.

EDU 651 Supervision of Student and Intern Teaching 3(3-0) Development of knowledge and skills needed for supervising and mentoring in school settings. This course is approved for offering in a distance learning format. Prerequisite: two years of teaching experience.

EDU 653 The Read/Write Web 3-1 Prerequisite: EDU 646. Development of Read/Write courses with PK-12 students in a classroom setting. This course is approved for offering in a distance learning format. Prerequisites: EDU 590, EDU 642, and EDU 643.

EDU 655 The Community College 3(3-0) History, philosophy, programs, and practices of community and junior colleges. This course is approved for offering in a distance learning format.

EDU 658 Practicum in the Community College 3-6(Spec) Opportunity to observe/teach, or work in library, counseling center or community college administrative. Arrangements made at beginning of semester prior to course registration. CR/NC only. This course is approved for offering in a distance learning format. Prerequisites: EDU 655 or current employment at a community college.

EDU 660 Methods of Educational Research 3(3-0) Interpreting research findings, planning and conducting scientific studies in education. This course may be offered in an online or hybrid format.

EDU 662 Applied Educational Measurement and Evaluation 3(3-0) Applications of measurement and evaluation principles to educational settings with emphasis on construction and use of achievement tests. This course is approved for offering in a distance learning format. Prerequisite: admission to a graduate degree program in education.

EDU 670 Reading in the Secondary School II 3(Spec) Materials and techniques of instruction employed by secondary school teachers and supervisors of reading. Prerequisites: EDU 330 and EDU 431, or EDU 450.

EDU 682 Psychology of Child Development 3(3-0) Facts and generalizations concerning the growth of children from birth to maturity. Identical to PSY 682. Credit may not be earned in more than one of these courses. This course is approved for offering in a distance learning format. Prerequisites: Graduate status.

EDU 687 Independent Study 1-3(Spec) Prerequisites: 15 hours of graduate work and permission of department chairperson. Subject to credit limitation.

EDU 688 Independent Study 1-3(Spec) Prerequisites: 15 hours of graduate work and permission of department chairperson. Subject to credit limitation.

EDU 698 Thesis 1-6(Spec) For M.A. students on Plan A. CR/NC only. Prerequisite: EDU 660.

EDU 705 Theory and Practice in Curriculum Development 3(3-0) Fundamentals of curriculum planning, development, implementation, and evaluation. This course is approved for offering in a distance learning format.

EDU 706 Theory and Practice of Instruction 3(3-0) Review, analyze, and apply theory and practice of instruction with a special emphasis on implementation strategies and for evaluating instruction. This course is approved for offering in a distance learning format.

EDU 707 Seminar: Issues in Educational Technology 3(3-0) Study of selected issues relative to the use of new learning technologies in the classroom. Emphasis upon the learning theory which supports applied technologies. Prerequisite: EDU 590. This course is approved for offering in a distance learning format.

EDU 708 Distance Education 3(3-0) Students completing this course will be equipped to use distance learning technologies to teach in instructional settings. This course is approved for offering in a distance learning format. Prerequisite: EDU 590.

EDU 709 Innovative Uses of Technology 3(3-0) A survey course of new and innovative applications of technology in educational settings. Studies students study and develop innovative instructional models utilizing technology. This course is approved for offering in a distance learning format. Prerequisite: EDU 590.
EDU 710 Seminar: Terminal Project 3(3-0)
This course requires the Master's candidate to complete a terminal project related to the applications of technology in classroom settings. This course may be offered in an online or hybrid format. Prerequisites: students must have completed 30 hours on the M.A. in Educational Technology. Courses taken concurrently count toward the 30 hours.
EDU 730 Seminar: Issues in Literacy 3(3-0)
Examination of current issues in literacy instruction. Students complete research projects appropriate to their degree programs with oral and written presentations of research findings. This course may be offered in an online or hybrid format.
EDU 755 Advanced Research Design and Interpretation 3(3-0)
Analysis of research designs, development of measurement devices, and interpretation of advanced statistical techniques. Prerequisite: EDU 660.
EDU 765 Seminar in Curriculum Problems 3(3-0)
This course will provide experience in developing curriculum for a specific content area. This course may be offered in an online or hybrid format. Prerequisite: a teaching certificate or admission to graduate school or teacher education.
EDU 776 Seminar: Issues in Education 3(3-0)
Capstone experience for the M.A. in Education program. Students conduct and report on a research project. This class may be offered in an online or hybrid format. Prerequisites: EDU 660. Successful completion of 21 hours of coursework on the MA in Education program.
EDU 780 Master of Arts Capstone Experience 3(3-0)
Students complete research projects appropriate to their degree programs that produce results applicable to their current practice. Should be last course taken in student's program. Identical to MLE 780. Credit may not be earned in more than one of these courses.
EDU 800 Educational Technology Research 3(3-0)
Introductory course for the Doctorate in Educational Technology. Students learn how to critique educational research while being introduced to its various design philosophies and methodologies. This course may be offered in an online or hybrid format.
EDU 801 Qualitative Research in Educational Technology 3(3-0)
Applications, evaluation and analysis of qualitative research concepts in writing dissertation and in various aspects of professional practice in educational technology terminal-degree careers. This course may be offered in an online or hybrid format. Prerequisite: EDU 800.
EDU 802 Quantitative Research in Educational Technology 3(3-0)
Quantitative research methodology is a key component of the knowledge and skills to be developed by candidates to study educational technology and its applications. This course may be offered in an online or hybrid format. Prerequisite: EDU 800.
EDU 807 Seminar: Learning Tools in Education Technology 3(3-0)
Study of selected issues relative to the use of new learning technologies in the classroom. Emphasis upon the learning theory which supports applied technologies. This course may be offered in an online or hybrid format. Prerequisite: EDU 800.
EDU 808 Blended and Online Learning 3(3-0)
Study of selected issues relative to the use of new learning technologies in the classroom. Emphasis upon the learning theory which supports applied technologies. This course may be offered in an online or hybrid format. Prerequisite: EDU 800.
EDU 810 Grant Writing 3(3-0)
This cognate course focuses on grant writing skills for funding educational technology initiatives. Topics include concept development, budgeting, assessment planning, proposal submission, and reviewer practices. This course may be offered in an online or hybrid format. Prerequisite: EDU 800.
EDU 811 Motivation in Online and Blended Learning 3(3-0)
Development and implementation of instructional strategies promoting student motivation and learning in online and blended learning environments. This course may be offered in an online or hybrid format. Prerequisite: EDU 800.
EDU 814 Differentiated Instruction in Online Learning 3(3-0)
Students examine the role of differentiated instruction in online/blended environments and address current efforts to meet the needs of all learners in technology-based environments. This course may be offered in an online or hybrid format. Prerequisite: EDU 800.
EDU 842 Mobile Learning 3(3-0)
Students will explore the potential mobile devices hold for learning and instruction and examine the impact of mobile learning from a national and international perspective. This course may be offered in an online or hybrid format. Prerequisite: EDU 800.
EDU 853 Evolving Internet Learning 3(3-0)
Application and implementation of evolving digital resources in educational settings. This course may be offered in an online or hybrid format. Prerequisite: EDU 800.
EDU 862 Data Driven Decision Making 3(3-0)
Learn to theoretically and methodologically understand the use of data and how it is used to guide practice. Techniques and statistical models used to analyze data. This course may be offered in an online or hybrid format. Prerequisite: EDU 800.
EDU 870 Higher Order Learning and New Literacies 3(3-0)
Students learn how new literacies, the skills and strategies needed to teach and learn successfully in a Web-mediated world, can promote higher order thinking. This course may be offered in an online or hybrid format. Prerequisite: EDU 800, 802.
EDU 898 Dissertation 1-18(Spec)
Design and completion of the dissertation phase including data collection, data analysis, written report(s), journal submission and oral defense. CR/NC only. This course may be offered in an online or hybrid format. Prerequisites: Admission to the Doctor of Educational Technology program, successful completion of the Doctor of Educational Technology Program Comprehensive Examination.

EES - Earth and Ecosystem Science
See the Ph.D. in Earth and Ecosystem Science in the Index for more information.

EES 701 Earth and Ecosystem Science Colloquium 3(3-0)
Examination and development of effective methods in professional scientific communication through the use of contemporary tools and aids. Prerequisite: Admittance to the Earth and Ecosystem Ph.D. program.

EES 703 Advances in Earth and Ecosystem Science 3(3-0)
Examination of key research concepts and advances to discovery and problem solving in Earth and Ecosystem science. Prerequisites: Admittance to the Earth and Ecosystem Ph.D. program.

EES 790 Special Topics in Earth and Ecosystem Science 1-6(Spec)
Various advanced topics in Earth and Ecosystem science are covered. Student participation is encouraged. May be repeated for a total of 6 credits. Prerequisite: Admittance to the Earth and Ecosystem Ph.D. program.

EES 796 Directed Research in Earth and Ecosystem Science 1-30(Spec)
Directed research supervised by an Earth and Ecosystem Science faculty member. May be repeated for a total of 30 credits. Prerequisite: Admittance to the Earth and Ecosystem Ph.D. program.

EES 899 Dissertation 1-12(Spec)
Completion of the doctoral dissertation. May be repeated for a total of 12 credit hours. CR/NC only. Prerequisites: Graduate standing in science, successful completion of comprehensive exam.

EGR - Engineering
See the School of Engineering and Technology for more information.

EGR 553 Mechanical Vibrations 3(3-0)
Modeling, design, and analysis of mechanical vibrations: natural frequency, damping, excitation, higher order systems, modal analysis, experimental testing, and continuous systems. Prerequisites: EGR 253; MTH 232; CPS 180; or Graduate Student in Engineering; permission of E&T advisor.

EGR 554 Mechanical Controls 3(3-0)
Design and analysis of control for mechanical systems, including modeling, transient and steady-state, root locus, frequency response, PID control, and state space. Prerequisites: EGR 253; MTH 232; CPS 180; or Graduate Student in Engineering; permission of E&T advisor.

EGR 576 Mechanics of Materials 3(3-0)
Covers composite material mechanics with emphasis on selection, analysis, and use. Stiffness and strength theories Treats composite beams and plates for static and dynamic loads. Prerequisites: EGR 255, 355; MTH 232; or Graduate Student in Engineering; permission of E&T advisor.

EGR 578 Advanced Mechanics of Materials 3(3-0)
Stress and strain in three dimensions, constitutive laws, failure theories. Advanced beam theories, curved beams, shear deformation, beams on elastic foundations, plates and shells, energy methods. Prerequisites: EGR 255, 355; MTH 232; or Graduate Student in Engineering; permission of E&T advisor.

EGR 588 Photonics 3(3-0)
A study of optical phenomena and its application to engineering problems. Topics include ray optics, beam optics, guided wave optics, lasers and applications thereof. Prerequisite: EGR 386 or Graduate Student in Engineering; permission of E&T advisor.

EGR 591 CMOS Circuit Design 3(2-2)
Design and simulation of analog integrated circuits and systems using transistor level differential amplifiers, operational amplifiers, oscillators, and data converters. Prerequisites: EGR 292, 392; or Graduate Student in Engineering; permission of E&T advisor.

EGR 594 Power Electronics 3(3-0)
Fundamentals of power electronics including switch-mode DC-DC converters, feedback controllers, rectifiers, semiconductor switches and magnetic circuit in power electronics. Prerequisites: EGR 398 or Graduate Student in Engineering; permission of E&T advisor.

EGR 595 Nanoscale Transistors 3(3-0)
Conceptual Framework that underlies the microscopic viewpoint using examples related to the emerging field of nanoscale transistors. Prerequisites: EGR 487 or 491 or graduate standing; permission of E&T advisor.
ENG 597 Special Topics in Engineering 1-6(Spec)
Intensive study of selected engineering topics not included in a regular course. Repeatable up to 6 credits when content previously studied is not duplicated. Prerequisite: Permission of instructor.

ENG 600 Advanced Engineering Experimentation 3(2-2)
Develop and conduct experiments involving advanced data acquisition and analyses in engineering. Perform uncertainty and error analysis of collected data. Prerequisite: Graduate standing in engineering.

ENG 637 Directed Research in Engineering 1-6(Spec)
Directed research supervised by an Engineering faculty member. Repeatable up to 6 credits. Prerequisite: Permission of instructor.

ENG 685 Seminar: Current Topics in Engineering 1-3(Spec)
Discussion of current research and application topics in engineering. Basic skills of oral presentation and literature search will be introduced. Prerequisite: Permission of the instructor.

ENG 697 Special Topics in Engineering 1-6(Spec)
Study of advanced engineering topics not included in regular graduate courses. Repeatable up to 6 credits. Prerequisite: Permission of instructor.

ENG 798 Thesis Research 1-6(Spec)
The thesis research supervised by an engineering faculty. May be repeated as needed. Prerequisites: ENG 600; Graduate Student in Engineering.

ENG - English Language and Literature
See the Department of English Language and Literature for more information.

ENG 503 Document Design 3(3-0)
Theories and applications of information design and visual rhetoric for print and electronic documents. This course may be offered in an online or hybrid format. Prerequisites: Graduate standing or ENG 201 with a C or better. Recommended: ENG 303.

ENG 504 Technical Editing 3(3-0)
Methods and technologies used in editing and publishing technical documents in print and electronic media; publication management and production. This course may be offered in an online or hybrid format. Prerequisites: Graduate standing or ENG 201 with a B or better and 86 credit hours completed. Recommended: ENG 303.

ENG 510WI Writing Center Practicum 1-3(Spec)
Examines key issues in writing and teaching writing and provides a mediated, instructional experience for working one-on-one with writing. Writing Intensive. Prerequisites: Permission of instructor.

ENG 513 Special Topics 1-6(Spec)
Subjects not part of regular department offerings. May not be a duplication of a previous section. This course may be offered in an online or hybrid format. Prerequisites: 86 credit hours completed; or graduate standing.

ENG 514 Language and Media Discourse 3(3-0)
Examination and application of rhetorical and discourse theory and techniques in media. This course may be offered in an online or hybrid format. May be offered as Writing Intensive. Prerequisites: Graduate standing or completion of 56 credit hours. Recommended: ENG 301.

ENG 517 Reading and the English Classroom 3-3(0)
The relationship of reading to the teaching of English through an introduction to the reading process, the needs of reluctant readers, and K-12 and ESL literacy issues.

ENG 519 Teaching of Composition 3(3-0)
Research and methodology in the teaching of composition.

ENG 520 Diachronic Linguistics and the History of English 3(3-0)
Theory and methodologies of diachronic linguistics, with a focus on the development of the English language. Prerequisite: Graduate standing or ENG 375.

ENG 535 History of Literary Criticism 3(3-0)
Review of critical attitudes and approaches of enduring significance. Prerequisite: 6 hours of literature.

ENG 539 Seminar in Major Nonfiction Writers 3-9(Spec)
Creative and critical approaches to the study of representative works by selected major nonfiction writers. May be repeated to a maximum of nine hours. May be offered in a hybrid or online format. May be offered as Writing Intensive. Prerequisites: ENG 201 with a C or better; ENG 134 or 234; or graduate standing.

ENG 545 Chaucer 3(3-0)
Middle English grammar and pronunciation. The life and works of Chaucer with emphasis on the Canterbury Tales and Troilus and Criseyde.

ENG 547 Seminar in Major British Writers 3-9(Spec)
A study of one or more British writers, selected by the instructor. May be repeated for a maximum of nine credit hours. Prerequisites: Graduate status or the following: Grade of “C” or better in ENG 101, ENG 103/193 or ELI 198; Grade of “C” or better in ENG 201; either ENG 134 or ENG 234.

ENG 549 Advanced Shakespeare 3(3-0)
Close study of a selection of Shakespearean texts. May be offered in an online or hybrid format. Prerequisites: Graduate standing or ENG 201 with a grade of C or better; ENG 234; ENG 349.

ENG 559 Seminar in Major African American Writers 3-9(Spec)
A study of one or more American writers selected by the instructor. May be repeated a maximum of nine hours. Prerequisites: Graduate status or the following: ENG 201 with a grade of C or better; ENG 134 or 234. Recommended: Six hours of American Literature.

ENG 561 European Romanticism 3(3-0)
Comparative exploration of the Romantic movement in literature and philosophy with special attention to Germany and France. Prerequisite: Graduate status or ENG 101 or 103/193 or ELI 198 with a grade of C or better; ENG 201 with a grade of C or better; either ENG 134 or ENG 234. Recommended: 6 hrs of literature courses.

ENG 566 Human Rights in Literature, Art, and Film 3(3-0)
Exploration of the history, development, and application of human rights as represented in literature, the arts, and film. Prerequisite: Admission to any of the English department’s MA programs or ENG 201 with a grade of C or better, ENG 134 or 234.

ENG 569 Seminar in Major World Writers 3-9(Spec)
A study of one or more writers, selected by the instructor, from various regions of the world. May be repeated for a maximum of nine credit hours. Prerequisites: Graduate status or the following: ENG 101 or 103/193 or ELI 198 with a grade of C or better; ENG 201 with a grade of C or better; ENG 134 or ENG 234. Recommended: 6-9 hours of ENG 300 and/or ENG 400 level courses.

ENG 570 Old English 3(3-0)
Study of the grammar and pronunciation of Old English and analysis of Old English literary texts. Prerequisites: Graduate Status or ENG 201 with a grade of C or better; ENG 134 or 234.

ENG 571 Teaching of English to Speakers of Other Languages 3(3-0)
Principles and techniques for teaching English to students whose first language is not English. Prerequisite: ENG 375.

ENG 573 Linguistics and Reading 3(3-0)
The reading process, the effects of language on reading, the relation between language and writing, and the ways people process information. Prerequisite: ENG 375 or ENG 576.

ENG 574 TESOL Materials, Assessment, Curriculum 3[3-0]
Techniques for designing curricula, teaching materials, and tests and other assessment tools for ESL/EFL or bilingual/bicultural classrooms. Prerequisites: ENG 571; Graduate status or the following: ENG 101 or 103/193 or ELI 198 with a grade of C or better; ENG 201 with a grade of C or better.

ENG 577 Introduction to Second Language Acquisition 3(3-0)

ENG 578 Applied Sociolinguistics 3(3-0)
Topics include cross cultural aspects of conversation, speech act theory, language and gender, non verbal behavior and the role of socio cultural variables in language acquisitions. Prerequisites: Graduate status or the following: ENG 201 with a grade of C or better; ENG 375.

ENG 580 Literature for Young Adults 3(3-0)
Reading interests and library materials of junior and senior high students; methods of stimulating reading. Subject grouping of books related to adolescent reading interests/needs. Identical to LMT 580. Credit may not be earned in more than one of these courses. Prerequisites: Completion of 86 hours, 201 with a grade of C or better, One of: ENG 134 or ENG 234 or ENG 381; or graduate status.

ENG 581 The History of Children's Literature in English 3(3-0)
Study of the historical development of British and American Children's Literature (including colonial, multicultural, and European Fairy Tale traditions) with attention to socio-cultural influences. Prerequisites: Graduate status or the following: ENG 201 with a grade of C or better; ENG 234 or 381.

ENG 582 Cultural Pluralism in Young Adult and Children's Literature 3(3-0)
An exploration of the literature and heritage of diverse American cultures, primarily through folk literature, fiction, and biography. Prerequisite: Graduate status or the following: ENG 101 or 103/193 or ELI 198 with a grade of C or better; ENG 201 with a grade of C or better; ENG 134 or 234 or 381.

ENG 583 The Heroic Tradition in Children's Literature 3(3-0)
A study of the hero in epic, myth, folk tale, and legend; including modern examples. Prerequisites: Graduate status or the following: ENG 101 or 103/193 or ELI 198 with a grade of C or better; ENG 201 with a grade of C or better; and ENG 134 or ENG 234 or ENG 381.

ENG 601 Graduate Composition 3(3-0)
For graduate students seeking to develop advanced nonfiction writing skills in various academic and non-academic genres. This course may be offered in an online or hybrid format.

ENG 602 Research Materials and Methods 3(3-0)
Instruction in materials and methods for research in language and literature. Prerequisites: Admission to Graduate Program in English.
ENG 603 Seminar in Technical & Professional Communication 3-6(Spec)
Advanced study of the theory and practice of professional and technical communication. May be repeated to a maximum of six hours. This course may be offered in an online or hybrid format. Recommended: ENG 303, 503, and/or 504 or previous work-related experience with a professional/technical communication focus.

ENG 614 Practicum in Teaching School Composition 3(3-0)
Study and practice of the theories, methods, and materials of teaching first-year college composition. Prerequisites: Open to English graduate assistants assigned to teach ENG 101: Freshman Composition.

ENG 615 Problems in Teaching English 3(3-0)
An analysis of the issues, methods, and techniques of teaching English.

ENG 616 The Teaching of Creative Writing 3(3-0)
Theory and practice of teaching creative writing. Prerequisite: Admission to graduate program in English.

ENG 618 Empirical Research Methods in English 3(3-0)
How to design and evaluate empirical research in English; emphasis on the teaching and learning of writing, literature, and English as a second language. Recommended: ENG 601 and/or 602.

ENG 619 Continuing Registration for Final Research Project 1(1-0)
A non-credit course intended for students who have completed all program credits but still need to use university resources to complete their degree requirements.

ENG 621 Seminar in Contemporary Poetry 3-6(3-0)
A study of selected contemporary poets in the context of major developments in the poetry of the twentieth century. Recommended: 6 hours of literature at the graduate or undergraduate level.

ENG 622 Seminar in Contemporary Fiction 3(3-0)
Study of notable fiction from 1950 to the present.

ENG 635 Seminar in English Literature 3-9(Spec)
A study of English literature from one of four historical periods: prior to 1650, from 1650-1800, from 1800-1900, or from 1900 to the present. Prerequisite: Admission to the graduate program. Recommended: Six hours of English Literature. May be repeated to a maximum of 9 hours.

ENG 636 Seminar in Critical Problems 3(3-0)
A study of the major theories and theorists in contemporary literary studies and selected critical problems generated by them. Recommended: 6 hours of literature.

ENG 637 Seminar in Rhetoric and Composition 3-6(3-0)
Theoretical issues, practices, history, texts, applications in Rhetoric and Composition. May be repeated to maximum of 6 hours.

ENG 638 Seminar in Textual Analysis and Editing 3(3-0)
A course designed to prepare students for editing responsibilities found in a variety of fields, including education and scholarly publications.

ENG 656 Seminar in American Literature 3-9(Spec)
A course in American literature of one of the following periods: A. Pre-Romantic Period; B. Romantic Period; C. Realistic and Naturalistic Periods; D. Modern Period. Recommended: 6 hours of American literature. May be repeated to a maximum of 9 hours.

ENG 665 Seminar in World Literature 3-9(Spec)
The tracing of ideas through World Literatures from one of the following periods: A. Classical literature; B. Medieval and Renaissance literature; C. 18th and 19th Century literature; D. Modern literature. Recommended: 6 hours of world literature. May be repeated to a maximum of 9 hours.

ENG 672 Applied Linguistics for Written Communication 3(3-0)
Linguistic approaches to textual analysis and the application of research findings in teaching written standard English.

ENG 673 English Phonology for Language Teachers 3(3-0)
Basic elements of English pronunciation, including segmental phonology, general articulation features, rhythm, and intonation. Involves analysis of pronunciation of native and non-native English speakers. Prerequisite: ENG 375.

ENG 674 English Grammar for Language Teachers 3(3-0)
a functional approach to English grammar, examining the uses of the major grammatical constructions. Includes analysis of language of native and non-native speakers of English. Recommended: ENG 571, ENG 574.

ENG 675 Seminar in English Linguistics 3-9(3-0)
Problems in sociolinguistics, discourse, bilingualism, historical grammar, and applications of modern linguistic theory to the teaching of English or foreign languages. May be repeated to a maximum of nine credit hours. Prerequisites: ENG 375 or equivalent and some foreign language study recommended.

ENG 680 Chippewa River Writing Project Institute 3(3-0)
Writing workshop, composition pedagogy, educational technology, and classroom research. This course may be offered in an online or hybrid format. Prerequisites: Admission by application for the institute as outlined by requirements from the Chippewa River Writing Project.

ENG 681 Seminar in Children's and Young Adult Literature 3-9(3-0)
A graduate seminar that explores issues in the studies of Children's and/or Young Adult Literature. Repeatable up to nine times when content does not duplicate previous topics.

ENG 690 Practicum in TESOL 1-3(Spec)
An examination and application of methods, materials, and classroom management techniques necessary to teach English effectively to speakers of other languages. May be repeated to a maximum of three hours. Prerequisites: Final one-credit unit requires completion of ENG 571 or 577.

ENG 691 Seminar in Writing Fiction 3-6(3-0)
Graduate workshop in fiction writing. May be repeated up to six hours. Prerequisite: Admission to M.A. Creative Writing Concentration. Recommended: Permission of instructor based on portfolio of student's fiction.

ENG 692 Seminar in Writing Poetry 3-6(3-0)
Workshop in poetry writing. May be repeated up to 6 hours. Prerequisites: Admission to M.A. Program in English Language and Literature: Creative Writing Concentration.

ENG 693 Seminar in Writing Creative Nonfiction 3-6(3-0)
Workshop in contemporary approaches to writing literary nonfiction. Course may be repeated up to six hours. May be offered in an online or hybrid format.

ENG 694 The Craft of Fiction 3(3-0)
Practice of fiction theories and techniques exemplified by the works of noted authors of short fiction, the novella, and the novel. Prerequisite: Acceptance to any of the English department’s MA programs.

ENG 695 The Craft of Poetry 3(3-0)
Poetic techniques, practices, theories, and approaches as exemplified in the works of notable poets and as examined in prosody and poetic forms. Prerequisites: Admission to the English department graduate program in Creative Writing or permission of the instructor.

ENG 696 The Craft of Creative Nonfiction 3(3-0)
Creative Nonfiction techniques, practices, theories, and approaches as exemplified in the works of noted authors and as examined in the genres of creative nonfiction. Prerequisite: Acceptance to any of the English department’s MA programs.

ENG 697 Independent Study 3-6(Spec)
Explorations of special problems in language and literature individually agreed upon by student and instructor. May be repeated a maximum of six hours. Prerequisites: Approval by instructor and department chairperson required before registration.

ENG 718 Internship: Teaching 6(Spec)
Supervised teaching experience in community college for pre-service teachers in Master of Arts in Composition and Communication Program. Prerequisites: 21 credit hours of MAECC graduate work, including the following specific courses: ENG 519, 601, 637, and 638; permission of instructor.

ENG 719 Internship: Professional Communication 6(Spec)
Supervised workplace experience in writing, editing and/or similar technical or professional communication activity for students in the Master of Arts in Composition and Communication Program. Prerequisites: 21 credit hours of MAECC graduate work, including: ENG 601, 603, 637, and 638; permission of Internship Advisor.

ENG 799 Thesis 1-6(Spec)
An in-depth, research-oriented study on a topic or a creative work completed in consultation with the thesis advisor as a capstone demonstration of the student's learning. CR/NC only.

ENS - Environmental Science
Contact the Department of Earth and Atmospheric Sciences for more information.

ENG 503 Environmental Modeling 4(2-4)
Environmental models used to understand behaviors and interactions in complex systems. Includes design and building of environmental models, calibration, verification, and validation. Prerequisites: ENS 401 with a C- or better or graduate status in a CST program.

ENS 597 Independent Study in Environmental Science 1-3(Spec)
Research in environmental science with topics agreed upon by student and instructor. May be taken only by arrangement prior to registration. Prerequisites: Three or more courses in ENS program (2 of which must be 300 level or higher) or graduate status in a CST program; permission of instructor.

ENV - Environmental Studies
Contact the College of Science and Engineering for more information.

ENG 597 Special Topics 1-6(Spec)

ESC - Earth Science
See the Department of Geography for more information.

ESC 575 Special Studies in Earth Science 1-6(Spec)
Various special topics offered at an advanced undergraduate and graduate level. Topics announced in Course Search and Registration. Prerequisites: permission of instructor.
FIN - Finance
See the Department of Finance and Law for more information.
FIN 573 International Finance 3(3-0)
Role of financial manager in international corporations. Environmental problems of foreign exchange. Techniques for making investment decisions, financing marketing operations, long-term capital structure and flow of funds. Prerequisites: FIN 302 or FIN 332; 56 semester hours completed and admission to Professional Business Studies or listed on signed major or minor.
FIN 597 Special Topics 1-3(Spec)
Selected topics of interest to students which are not formally included in existing courses. Specific topic will be listed on student's transcript. Prerequisites: 56 semester hours completed and admission to Professional Business Studies or listed on signed major or minor, or permission of MBA director.
FIN 648 Advanced Financial Statement Analysis 3(3-0)
Methods of fundamental financial analysis necessary for evaluating and forecasting firm financial and operating performance. This course may be offered in an online format. Pre/co-requisite: Admission to the MBA program.
FIN 671 Financial Derivatives 3(3-0)
Advanced treatment of futures, options, and swaps. Emphasis is on how to use derivatives to manage risk as well as more advanced derivative pricing models. Prerequisites: MBA 669, admission to MBA, or permission of MBA director.
FIN 674 Short Term Financial Management 3(3-0)
Cash budgeting, working capital management; short and intermediate term financing. Prerequisite: MBA 669, admission to MBA, or permission of MBA director.
FIN 676 Investment Strategy 3(3-0)
Analysis of various theories and techniques available to achieve superior selection and management of securities. Prerequisites: MBA 669, admission to MBA.
FIN 678 Long Term Financial Policies 3(3-0)
Factors involved in formulation of long-term financial policies; corporate goals and objectives and the applications in capital budgeting decisions and financing. Prerequisite: MBA 669, admission to MBA, or permission of MBA director.
FIN 791 Independent Studies 1-6(Spec)
Directed reading or research on an approved topic. Prerequisite: permission of instructor and department chairperson and 15 hours of graduate credit in MBA program.
FIN 797 Special Topics 3-6(Spec)
Enables students to take various topics under the same number. Specific topic will be listed on the student’s transcript. Prerequisites: graduate status and permission of instructor.
FIN 798 Thesis 1-6(Spec)
An approved thesis in finance. Thesis is directed by a committee in conformity with the Regulations and Directions for the Writing of the Master’s Thesis. CR/NC only.

FLN - Foreign Language
See the Department of Foreign Languages, Literatures, and Cultures for more information.
FLN 597 Special Topics 1-8(Spec)
The in-depth study of a topic under the direction of a faculty member who together with a student designs the format of the study. Prerequisites: permission of instructor and department chairperson; at least 6 hours on the 400 level.

FMD - Fashion Merchandising and Design
See the Department of Human Environmental Studies for more information.
FMD 510 Luxury Fashion Brand Management 3(3-0)
The course provides an in-depth understanding of the international luxury fashion industry and the unique aspects involved in managing luxury fashion brands. This course may be offered in an online or hybrid format. Prerequisite: FMD 246, 358, or graduate status.
FMD 545 Introduction to Draping 3(2-2)
Interpretation of garment designs developed through the draping on dress forms. Prerequisites: FMD 241 and FMD 345 or graduate status.
FMD 546 Experiential CAD for Fashion 3(3-0)
Creative use of CAD software as applied to standards prevalent in the design, manufacture or presentation of fashion goods. May be taken for credit more than once if different software is being used, total credit not to exceed nine hours. This course may be offered in an online format.
FMD 547 Functional Apparel Design 3(2-2)
A systematic approach to apparel design integrating knowledge of the needs and functions of the wearer, the structural properties of textiles and apparel design. Prerequisites: FMD 241, FMD 345, FMD 355.
FMD 550 Global Apparel Supply Chain Management 3(3-0)
Global textile and apparel trading systems from the perspective of their operational issues including global business process applications, apparel supply chain management and global logistics. This course may be offered in an online or hybrid format. Prerequisites: 56 semester hours with at least 12 hours in apparel merchandising and design courses including FMD 401.
FMD 556 Advanced Visual Merchandising 3(3-1)
Advanced practice of Visual Merchandising. Creative window and store interior display work. Use of 3D printing for prop and fixture design. Focus on portfolio development. This course may be offered in an online or hybrid format. Prerequisite: FMD 346, 356 or graduate standing.
FMD 560 Apparel Product Development 3(1-3)
Analysis of the apparel production process, including quality issues relative to development and production of ready-to-wear apparel. This course may be offered in an online format. Prerequisite: FMD 401; Pre/co-requisites: For Fashion Design Concentration: FMD 447; For Fashion Merchandising Concentration: FMD 332, 410, 510.
FMD 565 3D Printing and Fashion 3(1-3)
Creative exploration of 3D printing as a tool for fashion product innovation and development. Use of varied modeling software applications. This course may be offered in an online format. Prerequisite: FMD 346, or graduate standing.
FMD 570 The Business and Design of European Fashion 3(Spec)
A short term (three weeks) faculty led study abroad program examining the business and design of European fashion including haute couture. Prerequisites: FMD 141, 256, minimum GPA of 2.5, and permission of instructor. Recommended: FMD 140.
FMD 597 Special Topics in Apparel Merchandising & Design 1-15(Spec)
Topics of special interest which are not normally included in existing courses. Specific topic will be listed on student’s transcript. Prerequisite: See Course Search and Registration.
FMD 604 Scholarship in Textiles and Clothing 3(3-0)
Overview of research in textiles and clothing with emphasis on current future directions of the field. Prerequisite: Enrollment in the Apparel Product Development and Merchandising Technology graduate program.
FMD 608 Historical Fashion Studies 3(3-0)
Advanced investigation of dress history within cultural, political, and economic contexts. Historiography for dress-related scholarship. This course may be offered in an online or hybrid format. Prerequisite: FMD 250 or three credits of history or art history at the 400 level or above.
FMD 635 Advanced Internship in Textiles & Apparel 1-6(Spec)
A structured internship experience that fosters the application of advanced technology and creative skills in a textile/apparel professional setting. Prerequisites: 12 hours of graduate coursework in Apparel Product Development and Merchandising Technology.
FMD 640 Anthropometrics and Apparel 3(2-2)
Examination of human factors and their relationship to designed products. Quantification of body sizes and human variation using body scanning technology. Prerequisite: Admission to the Apparel Product Development and Merchandising Technology graduate program.
FMD 641 Apparel Presentation Technology 3(2-2)
Software applications specific to apparel presentation in retail and virtual environments. Emphasis on creation of planograms for product display. Prerequisites: FMD 246. Admission to the Apparel Product Development and Merchandising Technology graduate program.
FMD 655 Textile Product Evaluation 3(2-2)
Appropriate selection, use, and adaptation of standardized tests for textile product evaluation, familiarity with technological advances; and exploration of innovative use of textiles. Prerequisites: Admission to the Apparel Product Development and Merchandising Technology graduate program.
FMD 656 Apparel Retail Technology 3(3-0)
In-depth study of the principal apparel retail technologies and systems currently being developed and used for internal retail management and for global supply chain management. This course is approved for offering in a distance learning format. Prerequisites: Admission to the Apparel Product Development and Merchandising Technology graduate program.
FMD 697 Special Topics in Apparel Merchandising & Design 1-15(Spec)
Topics of special interest which are not normally included in existing courses. Specific topic will be listed on student’s transcript.
FMD 790 Independent Study in Apparel Merchandising & Design 2-6(Spec)
Student-initiated study in an area not covered in regular courses guided by faculty or faculty committee. Prerequisites: Permission of instructor.
FMD 797 Special Topics in Apparel Merchandising & Design 1-15(Spec)
Topics of special interest which are not normally included in existing courses. Specific topic will be listed on student’s transcript.
FMD 798 Thesis in Apparel Merchandising & Design 1-6(Spec)
Individual research or creative endeavor culminating in a written thesis and/or exhibition of work. CR/NC only. Prerequisites: Permission of instructor.
FNS - Foods and Nutrition

See the Department of Human Environmental Studies for more information.

FNS 512 Food and Nutrition in Developing Countries and in Emergencies 3(0)
- Nutritional issues of developing countries and in emergencies explored in depth, including assessment, prevention, and relief. This course may be offered in a hybrid or online format. Prerequisites: FNS 370, junior or senior status. Recommended: FNS 271.

FNS 560 Field Experience in International Nutrition 3(Spec)
- Faculty-led study abroad course to acquire hands-on experience in the assessment, prevention, and relief of nutritional and public health problems in developing countries. Prerequisite: FNS 370, minimum GPA of 2.5, age 18 years or older. Recommended: FNS 271, 512.

FNS 570 Nutritional Education 4(4-0)
- Teaching strategies, advising techniques, resources, and motivational techniques as specifically applied to patients/clients in nutrition programs and patient/clients receiving nutrition services. Pre/co-require: FNS 471.

FNS 573 Field Working: Community Nutrition 3(Spec)
- Consulting, teaching and supportive research experiences in the field with a nutritionally vulnerable group. Prerequisites: FNS 370 and FNS 570.

FNS 575 Geriatric Nutrition 3(3-0)
- Nutrition for older adults, including food selection, nutritional status, food-drug interaction and disease prevention. Prerequisite: FNS 370.

FNS 577 Advanced Topics in Nutrition: Eating Disorders 3(3-0)
- Topics of special interest which are not normally included in existing courses. Specific topic will be listed on student's transcript. This course is approved for offering in a distance learning format. Prerequisites: See Course Search and Registration.

FNS 661 Macronutrients 3(3-0)
- Advanced study of nutrition, metabolism, and function of proteins, carbohydrates and lipids as related to human health and disease. This course is approved for offering in a distance learning format. Prerequisites: Admission to Master of Science in Nutrition and Dietetics or permission of instructor.

FNS 662 Micronutrients 3(3-0)
- Advanced study of the nutrition, metabolism, and function of vitamins and minerals as related to human health and disease. This course is approved for offering in a distance learning format. Prerequisites: Admission to the Master of Science in Nutrition and Dietetics or permission of instructor.

FNS 663 Advanced Eating Disorders and Nutrition 3(3-0)
- Advanced study of the nutrition, assessment, consequences, treatment and prevention of eating disorders. This course may be offered in an online or hybrid format. Prerequisite: admission to the MS in Nutrition and Dietetics graduate program.

FNS 664 Advanced Nutrition: Pharmacology 3(3-0)
- Issues in pharmacology and drug-nutrient interactions with respect to polypharmacy, nutritional and appetitive drug effects. This course may be offered in an online delivery format. Prerequisite: Admission to the online MS in Nutrition and Dietetics Program.

FNS 667 Advanced Nutrition-End of Life Issues 3(3-0)
- Issues and controversies in nutrition and end of life care with respect to ethical, decision making, fiscal and other considerations. This course may be offered in an online format. Prerequisite: Admission to the online MS in Nutrition and Dietetics Program.

FNS 668 Advanced Nutrition-Pediatrics 3(3-0)
- Advanced concepts of diet therapy and care for normal pediatrics and clinical disorders with nutritional implications specific to pediatric patients. This course may be offered in an online format. Prerequisite: Admission to the online MS in Nutrition and Dietetics Program.

FNS 669 Advanced Nutrition-Sports 3(3-0)
- Advanced concepts of nutrition for sports with nutritional implications specific to athletics. This course may be offered in an online format. Prerequisites: Admission to the online MS in Nutrition and Dietetics Program.

FNS 670 Seminar: Nutrition 1-3(Spec)
- Student review and presentation of specific topics of current research in nutrition. This course is approved for offering in a distance learning format. Prerequisites: Admission to the Master of Science in Nutrition and Dietetics or permission of instructor.

FNS 671 Advanced Topics in Nutrition: Geriatrics 3(3-0)
- Presents key concepts in geriatric nutrition. Provides students with skills needed to evaluate and utilize information regarding nutrition in health and disease in the older adult. This course is offered in an online delivery format. Prerequisite: Admission to the online MS in Nutrition and Dietetics Program.

FNS 672 Advanced Clinical Nutrition 3(3-0)
- Advanced concepts of diet therapy and care for a variety of clinical disorders with nutritional implications. Includes coverage of enteral and parenteral nutrition. This course is approved for offering in a distance learning format. Prerequisites: Admission to the Master of Science in Nutrition and Dietetics or permission of instructor.

FNS 673 Advanced Nutritional Assessment 3(3-0)
- Presents techniques for nutritional assessment of individuals and groups: evaluation of dietary intake, anthropometry, nutritional analysis software, and biochemical and clinical indices. This course is approved for offering in a distance learning format. Prerequisites: Admission to the Master of Science in Nutrition and Dietetics or permission of instructor.

FNS 674 Dietetic Internship: Clinical Experience 5(Spec)
- Application of dietary principles to human pathophysiological status through documentation and counseling individuals, assessing, educating groups, and planning in an acute care environment. Prerequisites: registration is restricted to students accepted into the Central Michigan University Dietetic Internship and the College of Graduate Studies. In some cases, 12 credits may be earned through examination to substitute for the dietetic internship experience.

FNS 675 Dietetic Internship: Foodservice Administration Experience 5(Spec)
- Application of administrative principles (budget decisions, cost containment, personnel management, leadership) involved in the production, distribution, and service of food in hospitals and schools. Prerequisites: Registration is restricted to students accepted into the Central Michigan University Dietetic Internship and the College of Graduate Studies. In some cases, 12 credits may be earned through examination to substitute for the dietetic internship experience.

FNS 676 Dietetic Internship: Summary Experience 2(Spec)
- Integration and application of clinical, foodservice, and community nutrition experiences and their implementation in acute care settings. Prerequisites: FNS 674 and FNS 675; registration is restricted to students accepted into the Central Michigan University Dietetic Internship and the College of Graduate Studies. In some cases, 12 credits may be earned through examination to substitute for the dietetic internship experience.

FNS 677 Nutritional Epidemiology 3(3-0)
- Presents key concepts of nutritional epidemiology. Enables students to evaluate clinical research that examines the role of nutrition in disease causation and health promotion. This course is approved for offering in a distance learning format. Prerequisites: Admission to the Master of Science in Nutrition and Dietetics or permission of instructor.

FNS 678 Research Methods in Nutrition 3(3-0)
- Students will review research methods, read and analyze related literature and develop a proposal for practice-oriented nutrition research. This course is approved for offering in a distance learning format. Prerequisites: Admission to the Master of Science in Nutrition and Dietetics or permission of instructor.

FNS 679 Advanced Topics in Nutrition: Obesity 3(3-0)
- Current theories and analysis of factors contributing to overweight and obesity throughout the lifespan; intervention and weight management options presented. Prerequisites: Admission to the Master of Science in Nutrition and Dietetics or permission of instructor.

FNS 697 Special Topics in Dietetics 1-15(Spec)
- Topics of special interest which are not normally included in existing courses. Specific topic will be listed on student's transcript. This course is approved for offering in a distance learning format. Prerequisites: Admission to the Master of Science in Nutrition and Dietetics or permission of instructor.

FNS 790 Independent Study in Dietetics 2-6(Spec)
- Intended for advanced undergraduate and graduate students study abroad. Prerequisites: 6 hours of French at the 400 level; permission of instructor.

FNS 791 Practicum in French Stylistics 3(3-0)
- Study and analysis of composition and style. Recommended: FNR 315, FNR 316; 6 additional FNR credit hours in courses 310 or above.

FNS 591 Advanced Topics in French and Francophone Cultures 1-6(Spec)
- Advanced study of topics of interest in French and francophone literatures and civilizations. Credit hours vary; may be repeated for different topics. Recommended: FNS 315 or 316.

FNS 597 Independent Study 1-6(Spec)
- The in-depth study of a topic under the direction of a faculty member who together with a student develops the format of the study. Prerequisites: at least 6 FRN credit hours at the 300 level or above; permission of the instructor and department chairperson.

FRN - French

See the Department of Foreign Languages, Literatures, and Cultures for more information.

FRN 510 Study Abroad 1-12(Spec)
- Intended for advanced undergraduate and graduate students studying abroad. Prerequisites: 6 hours of French at the 400 level; permission of instructor.

FNR 531 Practicum in French Stylistics 3(3-0)
- Study and analysis of composition and style. Recommended: FRN 315, FRN 316; 6 additional FRN credit hours in courses 310 or above.

FNR 591 Advanced Topics in French and Francophone Cultures 1-6(Spec)
- Advanced study of topics of interest in French and francophone literatures and civilizations. Credit hours vary; may be repeated for different topics. Recommended: FRN 315 or 316.

FNR 597 Independent Study 1-6(Spec)
- The in-depth study of a topic under the direction of a faculty member who together with a student develops the format of the study. Prerequisites: at least 6 FRN credit hours at the 300 level or above; permission of the instructor and department chairperson.
**GEO - Geography**

See the Department of Geography for more information.

**GEO 500 Advanced Cartography 3(2-2)**
Advanced methods and theories concerning the field of cartography including: cartographic communication and visualization, digital map compilation and multivariate data representation. Prerequisites: GEO 303.

**GEO 501 Principles and Applications of Geographic Information System 3(2-2)**
Fundamentals of GIS and its applications in environmental, social and economic analysis (for non-geography majors only). This course is approved for offering in a distance learning format. Prerequisites: GEO 203 or senior standing or graduate standing.

**GEO 503 Advanced Geographic Information Systems 3(2-2)**
Use of raster spatial data models and associated methods for the collection, processing, management, analysis and visualization of geographic data. Focus: land use/environmental applications. Prerequisites: GEO 303, 305; or GEO 501.

**GEO 508 Digital Remote Sensing 3(2-2)**
Computer processing and data analysis of digital remote sensing data. Emphasis on multispectral image processing and analysis using standard image processing software. Prerequisites: GEO 303, 305. Recommended: STA 382.

**GEO 511 International Geographic Experience 3-6(Spec)**
Experience in field research techniques and knowledge of regions outside the United States. International travel is required. May be repeated one time only. Prerequisites: 6 semester hours of 300 level or higher Geography course.

**GEO 512 Quantitative Methods for Spatial Analysis 3(2-2)**
Statistical techniques for solving spatial problems. Descriptive and inferential spatial statistics. Spatial pattern analysis. Regression modeling with spatial data. Prerequisites: GEO 303, STA 382.

**GEO 513 Geographic Information Systems for Social Sciences 3(2-2)**
Spatial data visualization and analysis using Geographic Information Systems (GIS) with emphasis on application to social sciences, planning, public policy, and business research. Co-requisites: GEO 303.

**GEO 515 Geography of the Great Lakes Region 3(3-0)**
Topics include shoreline development, resource use, economic development strategies, social issues, and land use change through contemporary and historical perspectives in the Great Lakes region. Prerequisites: GEO 105 or GEO 120; GEO 350 or GEO 395.

**GEO 516 Advanced Remote Sensing Systems 3(2-2)**
Characteristics, processing, and applications based on advanced remote sensing systems including imaging radar, thermal and hyperspectral systems. Prerequisites: GEO 508 and STA 382.

**GEO 528 Environmental Modeling with GIS 3(2-2)**
GIS model design and implementation as directed towards environmental issues. Raster model data, concepts, structure, functions, examples, and modeling capabilities are explored. Prerequisites: GEO 203, 303 and 305; or GEO 501. Recommended: GEO 503.

**GEO 530 Land Use Planning 3(3-0)**
Study of land use planning history, concepts and techniques. Analysis of federal, state, and local government roles in planning. Examination of specific land use programs. Prerequisites: GEO 303; 6 additional semester hours in either or both GEO or PSC.

**GEO 531 Integrated Land Use Planning 3(3-0)**
This course provides students comprehensive understanding of land use issues, processes and solutions. The course integrates innovative planning concepts with advanced analytic tools. May be offered as Writing Intensive. Prerequisite: GEO 530.

**GEO 550 Geography for Teachers 3(3-0)**
For teachers who want to upgrade their knowledge of geography, experiment with new teaching techniques, and learn how to make professional in-service presentations to L teachers. Graduate credit only. Prerequisites: Three years teaching experience and/or permission of instructor.

**GEO 553 GIS Operations and Practices 3(3-0)**
Practices and procedures utilized by professionals in the implementation and maintenance of large-scale GIS operations. Prerequisites: GEO 503 or Graduate Status in the MS GISci Program.

**GEO 575 Special Studies in Geography 1-6(Spec)**
Various special topics offered at an advanced undergraduate and graduate level. Prerequisites: permission of instructor.

**GEO 591 Internship 1-12(Spec)**
Experiences in applying geographic techniques to environmental analysis, resource management, and business applications. Up to 3 hours of internship credit can be applied to the geography/earth science major. Identical to ESC 591. Credit may not be earned in more than one of these courses. A full-time internship position for one semester may qualify for 12 hours of credit. Prerequisite: permission of program advisor.

**GEO 597 Independent Study 1-9(Spec)**
Exploration of topics in geography agreed upon by student and instructor. Course may be taken for credit more than once, not to exceed nine hours. Prerequisites: At least 6 hours of Geography credit at the 400 level or above, permission of instructor.

**GEO 600 Dynamic Mapping and Visualization 3(2-2)**
Study of the theory and application of advanced methods of cartographic display using dynamic mapping and visualization methods. Prerequisites: GEO 500.

**GEO 603 GIS Design and Programming 3(2-2)**
Design and implementation of GIS applications using component software and high level macro languages. Prerequisites: GEO 503 or admission to the MS GIS program.

**GEO 608 Advanced Digital Remote Sensing 3(2-2)**
Advanced image processing and data analysis techniques using contemporary operational and experimental remote sensing systems. Overview of satellite instrumentation and sensor operations. Prerequisites: GEO 508; STA 382.

**GEO 615 Research Design in Geographic Information Sciences 3(3-0)**
Formulating research questions, reviewing literature, designing research methodology, and communicating research results in Geographic Information Sciences. Prerequisites: Two of the following: GEO 500, 503, 508, 513.

**GEO 619 Continuing Registration for Final Research Project 1-1(NC)**
A non-credit course intended for students who have completed all program credits but still need to use university resources to complete their degree requirements.

**GEO 701 Contemporary Spatial Data Management 3(2-2)**
Contemporary research and development trends in collection, management, processing and analysis of spatial data. Prerequisites: GEO 503, 508. Recommended: GEO 500, 512.

**GEO 797 Directed Research in Geographic Information Sciences 1-6(Spec)**
Directed research on advanced topics in Geographic Information Sciences. A prospectus of the proposed research project must be approved prior to registration. Prerequisite: Arrangements must be made with supervisor or project supervisor prior to registration. CR/NC only.

**GEO 798 Thesis 1-6(Spec)**
A written thesis and oral department seminar on the thesis research. Registration requires Plan A thesis prospectus on file in the Geography Department Office. Prerequisite: Thesis prospectus must be approved by the department chairperson prior to registration. CR/NC only.

**GER - German**

See the Department of Foreign Languages, Literatures, and Cultures for more information.

**GER 570 Advanced Grammar and Composition 3(3-0)**
Analysis of grammatical structures, vocabulary expansion, and extensive practice in written expression. May be offered as Writing Intensive. Prerequisite: GER 312.

**GER 579 Independent Study 1-6(Spec)**
The in-depth study of a topic under the direction of a faculty member. Credit may be earned in more than one of these courses. A full-time internship position for one semester may qualify for 12 hours of credit. Prerequisite: permission of program advisor.
**GRN - Gerontology**

See the Department of Human Environmental Studies for more information.

**GRN 575 Geriatric Nutrition 3(3-0)**
A detailed description of nutrition for the elderly, including special nutritional considerations, food selection patterns, nutritional status and strategies for disease prevention. Identical to FNS 575. Credit may not be earned in more than one of these courses. Prerequisites: FNS 370.

**GRN 590 Independent Study 1-4(Spec)**
Student-initiated study (reading, research, and/or project development) on a topic not normally covered in existing courses. Prerequisite: permission of instructor.

**GRN 597 Special Topics 1-4(Spec)**
Selected topics/problems of interest that are not normally included in existing courses. May include conferences, workshops, and seminars sponsored by the Interdisciplinary Gerontology Program. Prerequisite: permission of instructor.

**GRN 631 Gerontology: Theory and Practice 3(3-0)**

**GRN 632 Public Policy and Aging 3(3-0)**
Course addresses the development of social policy in the context of population aging. Emphasizes analysis of current and long-term implications on policy decisions. Prerequisite: graduate status.

**HDF - Human Development & Family Studies**

See the Department of Human Environmental Studies for more information.

**HDF 506 Practicum in Parent Involvement 3(2-2)**
Analysis of goals, trends, methods and models of parent involvement with opportunities to plan programs for parents, and to work with parents in professional settings. Prerequisites: HDF 307; one of HDF 302, HDF 303, HDF 308; or Human Development and Family Studies graduate standing.

**HDF 508 Early Childhood Program Administration and Learning Environments 3(3-0)**
The functional role of the early childhood program director: legal and administrative controls and creative learning environments will be explored. Prerequisites: HDF 302, 303 and 309; or graduate admission.

**HDF 510 Child Development Seminar: Promoting Resilience 3(3-0)**
Through integration of theory, research, and practice, this course focuses on encouraging positive developmental outcomes and resilience in children and adolescents facing stressful life circumstances. Prerequisites: Two of: HDF 302, 303, 306, 308; or Human Development and Family Studies graduate standing.

**HDF 511 Seminar in Human Sexuality 3(3-0)**
Survey of professional literature pertaining to human sexuality. Prerequisites: HDF 213 or HSC 222.

**HDF 513 Readings in the Family 3(3-0)**
Survey of professional literature related to the family. Prerequisites: HDF 211 or HDF 411 or SOC 411.

**HDF 516 Family Development: Early Adulthood/Middle Age 3(3-0)**
A study of the tasks and transitions of the periods of the family life cycle from early adulthood through middle age. Prerequisites: HDF 100 or PSY 220; HDF 211 or HDF 411 or SOC 411.

**HDF 517 Readings in Marital Counseling and Divorce 3(3-0)**
Analysis of changing philosophical conceptualizations of marriage and family, as reflected by emerging issues in marriage counseling and divorce. Prerequisites: HDF 211.

**HDF 535 Dementia Care: Diagnosis, Treatment and Prevention 3(3-0)**
This course provides a foundation in normal aging and then addresses the individual, family and institutional challenges of diagnosis, treatment and prevention of dementia illnesses. Prerequisites: HDF 247 or PSY 325 or HSC 325.

**HDF 597 Special Topics in Human Development & Family Studies 1-15(Spec)**
Topics of special interest which are not normally included in existing courses. Specific topic will be listed on student's transcript. Prerequisite: See Course Search and Registration.

**HDF 600 Professional Seminar I-Introduction to HDFS 1(1-0)**
This course introduces students to the foundational concepts and principles involved in theory, research, and practice with individuals and families across the lifespan.

**HDF 601 Human Growth and Development: 0-8 Years 3(3-0)**
Growth and development of normal children ages 0-8 years. Major developmental processes and their educational and social implications will be emphasized.

**HDF 602 Professional Seminar II - Diversity in HDFS 1(1-0)**
This course introduces students to historical and contemporary diversity and inclusion issues and models used in HDFS theorizing and practice. Prerequisite: HDF 600.

**HDF 603 Human Diversity Within and Between Families 3(3-0)**
Diverse backgrounds of families/individuals based on ethnicity, religion, sexual orientation, class, and disabilities will be studied. Models to explore the diverse nature will be applied. Identical to SOC 611. Credit may not be earned in more than one of these courses.

**HDF 604 Professional Seminar III - Grant Writing in HDFS 1(1-0)**
The course teaches students how to locate, develop, and write grants applicable to research, non-profit agencies, and programs. Prerequisites: HDF 602, 630.

**HDF 606 Human Growth and Development: Issues in Adolescent Development 3(3-0)**
Research and theory relating to the adolescent as a member of family and society. Prerequisite: HDF 306.

**HDF 609 Application of Theory and Research in Human Development 3(3-0)**
This course explores contemporary issues and theory to understand and explain human development with an emphasis on the diversity of humans across the lifespan. Pre/co-requisite: HDF 600.

**HDF 615 Application of Theory and Research in Family Studies 3(3-0)**
Study of the older adult in terms of the nutritional, social, consumer and familial aspects of development.

**HDF 619 Continuing Registration for Final Research Project 1(1-0)**
A non-credit course intended for students who have completed all program credits but still need to use university resources to complete their degree requirements.

**HDF 630 Applied Research Methods 3(3-0)**
This course introduces students to the quantitative, qualitative, and mixed methods used when conducting research within an interdisciplinary context in the human services. Prerequisite: Graduate standing. Recommended: An undergraduate course in research methods; an undergraduate course in statistics.

**HDF 635 Skill Mentorship in HDFS: Teaching 1(Spec)**
Applied directed study course in which students work closely with a faculty mentor. Mentorship focuses on the development of teaching skills. Prerequisite: Admission to the graduate program in Human Development and Family Studies.

**HDF 636 Skill Mentorship in HDFS: Research 1(Spec)**
Applied directed study course in which students work closely with a faculty mentor. Mentorship focuses on development of research skills. Prerequisite: Admission to the graduate program in Human Development and Family Studies.

**HDF 637 Skill Mentorship in HDFS: Practice 1(Spec)**
Applied directed study course in which students work closely with a faculty mentor. Mentorship focuses on the development of professional practice skills. Prerequisite: Admission to the graduate program in Human Development and Family Studies.

**HDF 640 Practice in Human Services 3(3-0)**
This course presents a review and analysis of historical and contemporary services for children, adults, and families with a particular emphasis on skills and ethics. Prerequisite: Admission to the HDFS graduate program.

**HDF 642 Program Development and Evaluation in Human Services 3(3-0)**
This course addresses advanced components of program development and evaluation in the human services field. Prerequisite: Admission to the HDFS graduate program.

**HDF 686 Practicum I in HDFS 3(Spec)**
This is an initial practicum in the HDFS Master's Program and is a human services related occupational experience with supervision by individual faculty. Prerequisites: HDF 600, completion of at least 12 credits in the HDFS graduate program.

**HDF 688 Practicum II in HDFS 3(Spec)**
This course is an advanced practicum in the HDFS Master's Program and is a human services related occupational experience with supervision by individual faculty. Prerequisite: HDF 686.

**HDF 697 Special Topics in Human Development & Family Studies 1-15(Spec)**
Topics of special interest which are not normally included in existing courses. Specific topic will be listed on student's transcript.

**HDF 786 Occupational Field Experience 3(Spec)**
Internship in one human development and family related occupation with supervision by individual faculty. CR/NC only. Prerequisite: HDF 600, 9 hours of graduate level course credit and permission of instructor.

**HDF 797 Special Topics in Human Development & Family Studies 1-15(Spec)**
Topics of special interest which are not normally included in existing courses. Specific topic will be listed on student's transcript.

**HDF 798 Thesis in Human Development & Family Studies 1-6(Spec)**
Individual research or creative endeavor culminating in a written thesis and/or exhibition of work. CR/NC only. Prerequisites: Permission of instructor.

**HDF 799 Plan B Project in Human Development and Family Studies 3(3-0)**
Individual research or creative endeavor culminating in a Plan B project. CR/NC only. Prerequisite: Admission to the graduate program in HDFS; Permission of Plan B Committee based on approval of Plan B proposal.
HPS - Health Professions
See the Herbert H. and Grace A. Dow College of Health Professions for more information.

HPS 582 Special Topics 1-3(Spec)
Exploration of special topics in the field of Athletic Training/ Sports Medicine and other health related areas. May be repeated to a maximum of 3 hours, identical to ATR 582. Credit may not be earned in more than one of these courses. This course is approved for offering in a distance learning format. Prerequisites: ATR 430 and permission of instructor.

HSA - Hospitality Services Administration
See the Department of Marketing and Hospitality Services Administration for more information.

HSA 542 International Tourism 3(3-0)
This course focuses on the strategic management of international tourism in hospitality organizations, associations, and government agencies. Prerequisites: 86 semester hours completed; admission to Professional Business Studies or listed on signed major or minor.

HSA 546 Management in the Hospitality Service Sector 3(3-0)
Management and personnel functions as they relate to the hospitality industry. Specifics may include management hotels, clubs, resorts; role of food service in these operations. Prerequisites: HSA 350, 447; 86 semester hours completed; admission to Professional Business Studies, listed on signed major or minor.

HSA 597 Special Topics 1-6(Spec)
Selected problems of interest to students which are not normally included in existing courses. Specific topic will be listed on the student's transcript. Prerequisites: admission to Professional Business Studies and senior standing; 86 hours completed.

HSA 791 Independent Studies 1-6(Spec)
Directed reading or research on an approved topic. Prerequisites: permission of instructor and departmental permission. 15 hours of graduate credit in MBA program.

HSA 797 Special Topics 3-6(Spec)
Enables students to take various topics under the same number. Specific topic will be listed on the student's transcript. Prerequisites: graduate status and permission of instructor.

HSA 798 Thesis 1-6(Spec)
CR/NC only.

HSC - Health Science
See the School of Health Sciences for more information.

HSC 500 Health Informatics 3(3-0)
Overview of the broad spectrum of healthcare informatics issues, challenges and opportunities faced by healthcare managers. Emphasis is on understanding healthcare information as a corporate asset and on the relationship of health informatics to the quality, accessibility and cost of healthcare. Prerequisites: HSC 317.

HSC 503 Health Implications of Obesity 3(3-0)
Obesity and overweight will be studied with special emphasis on diet, nutrition, and exercise. Modes of prevention and treatment will also be discussed.

HSC 504 International Health Education 3(3-0)
Examines major issues in international health education, exploring the health education opportunities and challenges of addressing specific health problems of countries throughout the world. This course is approved for offering in a distance learning format. Prerequisites: Admission to the College of Graduate Studies, or Junior or Senior undergraduate standing.

HSC 505 Work Injury Prevention 3(3-0)
The study of etiology, epidemiology, treatment, management and prevention of neuromuscular and musculoskeletal injuries in workplace settings. Prerequisites: HSC 211 or HSC 214.

HSC 506 Health and Physical Development in Late Life 3(3-0)
This course examines in depth the processes of normal aging as well as important issues affecting the health of older adults. Prerequisites: BIO 101.

HSC 507 Introduction to Health Service Organizations and Systems 3(3-0)
Macro level study of healthcare systems including delivery, integration, reimbursement mechanisms, multi-organizational and inter-organizational arrangements, health policies, and future solutions. This course may be offered in an online or hybrid format.

HSC 508 Education on Sexual Aggression for School/Community 3(Spec)
This course addresses the realities of sexual aggression, and how schools, corporations, and communities can educate their respective populations on these topics. Prerequisites: HSC 508. Credit may not be earned in more than one of these courses.

HSC 510 Independent Reading Experience 1-4(Spec)
Individual reading an experience designed for professional enrichment. 4-hour maximum. CR/NC only. Prerequisite: Permission of Instructor.

HSC 512 Special Topics in Health Education 1-12(Spec)
In-depth consideration of relevant, pertinent health issues.

HSC 514 Biostatistics and Epidemiology 3(3-0)
This course presents biostatistical and epidemiological concepts, principles and methods as they apply to problems within community and public health environments. Prerequisites: MTH 105; HSC 317.

HSC 516 Travel Course in Health Education 1-15(Spec)
Topics scheduled to study health education, private and voluntary health care programs, museums, hospitals, health clinics, city and school health programs. Prerequisite: Permission of instructor.

HSC 517 Drugs and the Elderly 2(2-0)
An introduction to medication practices and problems among the elderly, and study of selected drugs and their effects on the aging individual. Prerequisites: HSC 390.

HSC 519 Death Education and Suicide Prevention 3(3-0)
A holistic study of the cultural, spiritual, legal, ethical, psychological and controversial aspects of death. Emphasis will also be placed on suicide prevention. Prerequisites: must have completed a minimum of 60 semester hours of coursework.

HSC 520 Health Services Administration 3(3-0)
Analysis of organizational patterns, planning procedures, fiscal management, personnel management, and other administrative concerns. This course may be offered in an online or hybrid format.

HSC 522 Consumer Health Education 2(2-0)
Issues of consumer health related to the individual, the community, and society.

HSC 523 AIDS Education 1(1-0)
A concentrated study of Acquired Immune Deficiency Syndrome including the origin, prevalence, spread, disease process, psychosocial aspects and implications for society. This course may be offered in an online or hybrid format. Prerequisite: HSC 106 or teaching certificate.

HSC 524 Workshop on Health Fitness 2(Spec)
Guidelines for fitness appraisals and exercise prescription for healthy and high risk adults.

HSC 525 Sexually Transmitted Disease Workshop 1(Spec)
Concentrated study of sexually transmitted diseases, modes of transmission, and role of public health agencies and schools in coping with the problem.

HSC 526 Behavioral Health 3(3-0)
Concentrated study of mental health and illness as related to home, school, and community. This course may be offered in an online or hybrid format.

HSC 527 Sex Education Workshop 1(Spec)
Concentrated study of sex education and roles of home, school, and community. Not open to students with credit in HSC 222.

HSC 528 Smoking and Health Education Workshop 1(Spec)
Concentrated study of physiological, psychological, sociological, and educational aspects of smoking. Not open to students with credit in HSC 235.

HSC 529 Alcohol Education Workshop 1(1-0)
Concentrated study of physiological, psychological, and sociological aspects of alcohol education. Not open to students with credit in HSC 235. This course is approved for offering in a distance learning format.

HSC 530 Drug Abuse Workshop 1(Spec)
Concentrated study of the effects of drugs and narcotics. Roles of home, school, and community in drug education. Not open to students with credit in HSC 235. This course is approved for offering in a distance learning format.

HSC 532 Diversity Issues in the Health Professions 3(3-0)
Developing an understanding of diversity issues in order to become a more effective multiculturally competent health practitioner. Prerequisites: HSC 106 or HSC 317 or graduate standing.

HSC 534 Workshop in Principles of Cardiovascular Health and Disease 1(Spec)
Concentrated study of the physiological aspects of the cardiovascular system and its adaptation to stress.

HSC 536 Health Education Assessment 3(3-0)

HSC 537 Stress Reduction Workshop 1(Spec)
Systematic evaluation of stress and methods used to effectively reduce stress to promote and maintain health and wellness. Prerequisite: 50 credit hours completed or graduate standing.

HSC 538 Development of Proposals and Reports in Health Administration 3(3-0)
Emphasize format, content, and writing skills necessary for administration of health programs to prepare proposals, reports, and publications.

HSC 544 Biostatistics 3(2-1)
This class presents applied statistical concepts, principles and methods in the health services industry. Statistical procedures are applied to health, administrative, and medical data. Prerequisites: STA 282 or PSY 211 or graduate standing.

HSC 545 Health Planning 3(3-0)
Capstone course that brings together major aspects of managing healthcare organizations and programs into the strategic planning process and methodologies. This course may be offered in an online or hybrid format. Prerequisites: HSC 500, 507, 520, 544 Prerequisites: HSC 570. Recommended: MKT 300; HSC 333, 538.
HSC 546 Microcomputer Applications to the Health Sciences 3(3-0)
Microcomputer applications in school and community health, health services administration, health promotion and exercise science, application of current software utilized by the health fields. Prerequisite: CPS 100 or BIS 104.

HSC 547 Health Risk Identification and Management 3(3-0)
Health risk factors associated with cardiovascular and other chronic diseases will be identified and studied. Management, and risk to morbidity and mortality will be emphasized. This course is approved for offering in a distance learning format. Prerequisite: A signed major in one of the following: Health Fitness in Preventive and Rehabilitative Programs Major, Community Health Education Major, or Exercise Science Major (Clinical Exercise Science, Health Fitness, or Kinesiology Option).

HSC 550 Stress Test Administration 3(2-2)
Course in theory and methods of administering exercise stress tests using different modes of exercise and consideration of different populations. Includes classroom and practical experience. Prerequisite: A grade of C or higher in HSC 220 or 420, 308, 310; a signed Exercise Science Major: Clinical Exercise Science Option or a signed Health Fitness in Preventive and Rehabilitative Programs Major; or Exercise Science Graduate Status.

HSC 551 Stress Testing Interpretation 3(3-1)
Course in analysis of information gained from exercise testing, studying deviations from normal, and applications of exercise test information in adult fitness and cardiac rehabilitation programs. Prerequisites: HSC 550 with a grade of C or higher.

HSC 552 International Health Systems, Organizations and Policy 3(3-0)
This course presents an overview of health systems structure, service delivery, management, administration, finances and policy dimensions from an international perspective. Health systems, programs and initiatives from various countries and cultural settings are studied as are global health agencies involved in the coordination of health improvement efforts. This course is approved for offering in a distance learning format. Prerequisites: HSC 317.

HSC 553 Cardiac Medications 2(2-0)
An examination of classifications, mechanisms of action, indications and names of medications used in treatment of cardiovascular diseases and associated disorders (pulmonary and metabolic diseases). Prerequisites: Admission to the Exercise Science Major: Clinical Exercise Science option or graduate standing.

HSC 555 Health Education in the Elementary School 3(3-0)
Various components of the elementary school program: instruction, curriculum, services, and administration.

HSC 570 Financial Aspects of Health Services Organizations 3(3-0)
This course addresses issues surrounding financial administration of health services organizations, particularly hospitals. Prerequisite: ACC 201.

HSC 571 Legal Aspects of Health Services Organizations 3(3-0)
The issues studied are hospital liability, informed consent, medical staff appointments, tort and health services, ethical issues related to health care.

HSC 572 Quality Improvement in Health Services 3(3-0)
Basics, implementation and application of quality management and improvements specific to health care. Statistical principles and illustrative cases are presented. Recommended: HSC 520.

HSC 575 Exercise Science Clinical Internship 8(Spec)
Application of knowledge and skills in an approved, supervised exercise program internship; minimum of 480 hours required. CR/NC only. Prerequisites: Undergraduate students must have completed all courses in the Exercise Science Major: Clinical Option. Graduate students must have completed HSC 310, 417, 454, 551, 553 with grades of C or higher.

HSC 576 Exercise Science Fitness Internship 8(Spec)
Application of knowledge and skills in an approved, supervised fitness internship; minimum of 480 hours required. CR/NC only. Prerequisites: Undergraduate students must have completed all courses in the Exercise Science Major: Health Fitness Option. Graduate students must have completed HSC 219, 420, 421, 423, 425 with grades of C or higher.

HSC 580 Teaching Sexuality and Reproductive Health in Schools 2(2-0)
A workshop designed to meet PA 226 guidelines for teacher qualifications in sex education and reproductive health by providing insight into the content of K-12 sex education programs. Prerequisites: A teaching certificate or approval of the instructor.

HSC 581 Managed Care: Origins, Organizations, and Operations 3(3-0)
Covers managed care programs, including Accountable Care Organizations, structures, and practice models, role of physicians and other clinicians, capitation and forms of reimbursement. This course may be offered in an online or hybrid format. Prerequisite: HSC 507. Recommended: HSC 520.

HSC 586 Cardiovascular Disease Risk Factors in Children 3(1-4)
Course reviews cardiovascular disease risk factors of children (CVDRF). Students will be involved in 45 hours of service learning, screening CVDRF of area children. Prerequisites: HSC 214, 215, and 220.

HSC 591 Legal & Regulatory Aspects of Long-Term Care 3(3-0)
This course covers the legal and regulatory issues inherent to the long-term care industry in the United States. In addition, this course serves as preparation for individuals wishing to sit for the National Association of Board of Examiners Exam ("National Exam"), Prerequisites: undergraduate students must have completed 36 credit hours; HSC 571 recommended.

HSC 592 Administration Issues in Long-Term Care 3(3-0)
This course covers the facility management issues of long-term care administration, including aspects of business, regulation and human resources. Prerequisites: undergraduate students must have completed 56 credit hours; HSC 570 recommended.

HSC 593 Resident Care Issues in Long-Term Care Administration 3(3-0)
This course covers the residential and clinical aspects of long-term care administration. Prerequisites: undergraduate students must have completed 56 credit hours.

HSC 595 Health Administration Internship 6(6-0)
This course is the capstone professional experience conducted at a health care organization where the professional skills, knowledge and behaviors learned in the classroom are applied. CR/NC only. Prerequisites: HSC 507, 520, 545, 570, 571, and 572 and permission of internship coordinator; Recommended: HSC 333, 500, 538, 544; or Graduate Status and permission of internship coordinator.

HSC 598 Nature and Dynamics of Destructive Health Habits 3(3-0)
Etiologies and recovery strategies of substance abuse, eating and sexual disorders and the detrimental health habits which undermine healthy lifestyles. Prerequisites: HSC 235.

HSC 604 Epidemiology 3(3-0)
Factors related to the manifestation of infectious and non-infectious diseases, including tracing their sources, controlling spread, and initiating measures to prevent recurrence.

HSC 612 Individualized Learning Experiences 1-10(Spec)
An advisor or an advisory board will assign health education learning experiences based on needs, background, and projected goals. Students must have the approval of the academic advisor before registering for the course. CR/NC only. Prerequisites: Approval of the academic advisor and permission of the course advisor.

HSC 617 Community and Public Health 3(3-0)
Problems of public health, public health services available to the community, and organization of programs of local, state, and national health agencies.

HSC 619 Continuing Registration for Final Research Project 1-1(0)
A non-credit course intended for students who have completed all program credits but still need to use university resources to complete their degree requirements.

HSC 620 Adult Health Education Theory and Practice 3(3-0)
Adult learning theories and educational methods as they apply to health education and promotion, with an emphasis on theory-grounded program design, implementation, and evaluation.

HSC 630 Regional Human Anatomy 5(3-4)
A regional approach to the structure of the human body, concentrating on the interrelationships of different anatomical structures and their clinical applications. Prerequisites: HSC 214; admission to physical therapy program, physician assistant program or graduate program in exercise science.

HSC 631 Physiology of Exercise 4(3-2)
Physiological basis of human movement and its application to training and performance. Identical to PES 631. Credit may not be earned in more than one of these courses.

HSC 640 Curriculum Design in Health Education 3(3-0)
Systematic development of learning components for the health profession.

HSC 646 Methods of Instruction and Allied Health Profession 3(3-0)
A course designed to familiarize the student with the theory and application of teaching methodologies for the health professional. Not open to students with credit in HSC 240.

HSC 670 Research Methods for Health, Physical Education and Sport, Health and Recreation 3(3-0)
Basic research methods and techniques essential in performing and interpreting scientific studies. Identical to PES 670. Credit may not be earned in more than one of these courses. Recommended: 6 hours of graduate course work completed prior to enrollment.

HSC 700 Program Evaluation in the Health Fields 3(3-0)
Major concepts, issues, and methodologies concerning the evaluation of health services delivery systems will be presented. Included is design, reporting, and utilization of findings.

HSC 727 Professional Seminar 3(3-0)
The study of health education/health promotion which includes history, foundations, literature, ethics and philosophy, professional standards and practice at the state, national and international levels. Prerequisites: 20 completed hours in health education.

HSC 791 Independent Study 2-3(Spec)
Taken as credits for Substance Abuse option, Counseling Master's. Taken as 2 credits for Health Education Master's. Not for students taking HSC 798. CR/NC only. Prerequisite: HSC 670 or CED 695.

HSC 798 Thesis 1-6(Spec)
Complete a thesis directed by a committee in conformity with the university's thesis guidelines. CR/NC only. Prerequisite: HSC 670 and permission of the instructor.
HSL - Health Systems Leadership

See the School of Health Sciences for more information.

HSL 611 Healthcare Administration and Ethical Compliance 3(3-0)
This course emphasizes organizational and ethical theory, principles, and concepts as they relate to healthcare leadership decision-making and accountability. This course may be offered in the classroom, online or hybrid.

HSL 621 Healthcare Operations and Structures 3(3-0)
Examination of organizational and structural issues in healthcare organizations, concentrating on Managed Care operations and Accountable Care Organizations. This course may be offered in the classroom, online or hybrid.

HSL 623 Healthcare Law, Compliance and Information Management 3(3-0)
This course emphasizes legal, compliance and risk management theory, principles, and concepts as they relate to healthcare organizational decision-making and accountability. This course may be offered in the classroom, online or hybrid.

HSL 641 Health Economics and Policy Implication 3(3-0)
This course emphasizes the interrelationship between health economics and the development of health care policy in the United States and globally. This course may be offered in the classroom, online or hybrid. Recommended: A course in Economics such as ECO 201, 202, or 203; or a graduate course in Economics.

HSL 651 Fundamentals of Healthcare Finance 3(3-0)
This course focuses on the most important accounting and financial management principles and concepts relevant to department-level management of health services organizations. This course may be offered in the classroom, online or hybrid. Prerequisites: A course in accounting such as ACC 201 or ACC 250; or a graduate course in accounting.

HSL 661 Healthcare Planning & Marketing 3(3-0)
This course emphasizes models and methods for effectively planning for the delivery of healthcare services and the marketing of those services. This course may be offered in the classroom, online or hybrid.

HST - History

See the Department of History for more information.

HST 505 Tudor England 3(3-0)
The political, religious, and socio-economic and cultural life of England under the Tudors, focusing on the reigns of Henry VIII and Elizabeth I. May be offered as Writing Intensive. Prerequisites: One of HST 101, 102, 350, 351; or graduate status.

HST 511 Colonial British America 3(3-0)
Explores the social, political and cultural development of British America in the seventeenth and eighteenth centuries. May be offered as Writing Intensive. Prerequisite: One of the following: HST 111, 323, 324, 326, 351; or graduate status.

HST 513 Era of the Early Republic, 1789-1825 3(3-0)
An investigation of nation-building, the formation of new institutions, ideologies, decision-making, and personalities during the precarious decades following the American Revolution. May be offered as Writing Intensive. Prerequisites: One of HST 110, 111, 310; or graduate status.

HST 514 Democracy, Expansion, and Reform in America, 1824-1848 3(3-0)
America changed dramatically between 1824 and 1848. This course explores political, social, and cultural change in the United States from the Era of Andrew Jackson to the 1840s. Students may be expected to write papers based on primary and secondary sources. May be offered as Writing Intensive. Prerequisite: One of HST 111, 320; or graduate status. Recommended: While this course does not require or expect detailed knowledge of the Jacksonian Era, students should be broadly familiar with basic periods and developments in nineteenth century America.

HST 515 Civil War and Reconstruction 3(3-0)
Causes and process of secession, the conduct of war, and the reconstruction of the South to 1877. May be offered as Writing Intensive. Prerequisite: One of HST 111, 320; or graduate status. Recommended: While this course does not require or expect detailed knowledge of the Civil War, students should be broadly familiar with basic periods and developments in nineteenth century America.

HST 516 Emergence of Modern America, 1877-1920 3(3-0)
Social, political, cultural, and economic developments from the end of Reconstruction through the Progressive era. May be offered as Writing Intensive. Prerequisite: HST 112 or 321; or graduate status.

HST 517 U.S. Rise in World Leadership, 1917-1945 3(3-0)
The United States as a world power after World War I, the decade of the 1920s, the depression era, the impact of modern global war.

HST 518 African Americans and the Law: From Slavery to Civil Rights 3(3-0)
Course examines the unique relationship between African Americans and the American legal system from Colonial times to the present. May be offered as Writing Intensive. Recommended: one of HST 111, 320, 324; one of HST 311, 321, 325; or graduate standing.

HST 522 Indians of the Great Lakes Region 3(3-0)
This course focuses on the American Indian people in the Great Lakes Region, from early European contact through the nineteenth century. May be offered as Writing Intensive. Prerequisites: One of the following: HST 111, 323, or graduate standing.

HST 523 American Diplomatic History, 1775-1898 3(3-0)
The major issues in American diplomacy, beginning with the birth of the Republic and continuing to the Spanish-American War. Prerequisites: HST 110, HST 111.

HST 524 American Diplomatic History Since 1898 3(3-0)
The major issues of United States diplomacy, beginning with the Spanish-American War and continuing to the present.

HST 525 The Industrialization of America 3(3-0)
This course analyzes how industrialization transformed America and how it altered living standards, culture, lab, business, and politics. This course may be offered in an online format. May be offered as Writing Intensive. Recommended: At least 12 hours of humanities and social science.

HST 526 Modern American Political Culture, 1865-Present 3(3-0)
Using cultural texts such as films, novels, monographs and lectures, this course examines American politics and political culture from 1865 to the present. Recommended: HST 112 or PSC 105 and 9 additional hours of history or political science; or graduate standing.

HST 532 Michigan History Studies 1-3(Spec)
Individual and group studies in regional and local Michigan history.

HST 533 The Middle East in the Modern Era 3(3-0)
An examination of the history of the Middle East and its relations with Europe and the United States from the 17th century to the present day. May be offered as Writing Intensive. Prerequisites: HST 237 or graduate standing.

HST 537 The Age of Cicero 3(3-0)
Political, economic, social, and cultural history of the late Roman republic (c. 133-27 BC), emphasizing modern historiography and ancient sources in English translation. May be offered as Writing Intensive. Prerequisite: One of HST 101, 338, 339; or graduate status. Recommended: While this course does not require or expect detailed knowledge of Roman history, students should be broadly familiar with basic periods and developments in the ancient Mediterranean world.

HST 538 Athenas: Classical Period 3(3-0)
Athenian political and social change in the sixth and fifth centuries B.C. relying primarily on contemporary or near contemporary documents in translation. Recommended: HST 238.

HST 542 The Enlightenment in Europe 3(3-0)
The social, cultural, political and intellectual history of Europe in the late seventeenth and eighteenth centuries. Recommended: 6 hours of European history before 1815.

HST 543 Napoleon 3(3-0)
This course will examine the period dominated by Napoleon Bonaparte (1795-1815) and its political, social, and cultural impact on European and transnational history. May be offered as Writing Intensive. Recommended: 9 hours of history coursework or graduate standing.

HST 548 Russian Thought 3(3-0)
Currents of Russian thought. Emphasis on the nineteenth century.

HST 558 Europe, 1914-1945 3(3-0)
Political, social, and economic change in Europe from the First World War through the Second; emphasis on fascism and the failure of democracy. May be offered as Writing Intensive. Prerequisite: HST 102 or 106 or graduate status.

HST 560 Mind Games 3(3-0)
Students propose, design, and develop role-playing and other face-to-face games for use in the history classroom. Prerequisite: Advanced undergraduate or graduate standing.

HST 562 The Atlantic World in the Age of Empire 3(3-0)
Study of the political, social, cultural and economic interactions of Europe, Africa, and the Americas from the fifteenth to the nineteenth century. Recommended: One of: HST 111, HST 163, HST 176, HST 324, HST 341, HST 377, HST 511.

HST 576 Colonialism in Africa, 1880s-1960s 3(3-0)
African on the eve of European colonization, the colonization of Africa, the struggle for independence, the post-independence period, neo-colonialism, the Cold War and globalization. May be offered as Writing Intensive. Prerequisites: HST 176, 201 or 202, or graduate standing.

HST 580 Public History 3(3-0)
Discover why public historians are on the cutting edge, preserving and interpreting our heritage as writers, researchers, curators, media personalities, policy analysts, archivists, and more. May be offered as Writing Intensive. Prerequisites: HST 301 and MST 310; or graduate status.

HST 583 Archival Administration 3(3-0)
A practical introduction to archives theory, management, and issues; hands-on learning experience with primary source materials. Prerequisites: HST 301 and MST 310; or graduate standing.

HST 585 Oral History 3(3-0)
An introduction to the methodology and use of Oral History in historiographical research, interpretation, and documentation. May be offered as Writing Intensive. Prerequisites: HST 301 and MST 310; or graduate status.
HST 590 Readings in History 1-6(Spec)
Selected topics studied in special arrangement with an instructor. Prerequisites: junior or senior standing with a B average in 12 hours of history, or graduate status; and permission of the instructor and the department chairperson.

HST 595 Internship in Public History 1-6(Spec)
Enter the growing field of applied history through a supervised hands-on experience chosen to match your interests. Prerequisites: Permission of academic advisor and work supervisor.

HST 597 Special Studies 1-6(Spec)
Study of a selected historical topic at a level suitable for advanced undergraduates or graduate students. Recommended: 12 hours of HST.

HST 600 Historiography 3(3-0)
History as a discipline, studied from the works of selected historians. Recommended: 12 hours of junior, senior, or graduate-level history.

HST 601 Colloquium in Transnational and Comparative History 3(3-0)
An intensive investigation of historiographical issues in transnational and comparative history. A student may take this course twice, for three hours of credit each time, but must choose a second instructor for the second three hours. Prerequisites: Admission to one of the graduate history programs.

HST 602 Colloquium in U.S. History to 1865 3-6(3-0)
An investigation of historical interpretations and methodologies dealing with major themes in American history from 1607 to 1865. Recommended: Admission to graduate program in history. A student may take this course twice, for 3 hours of credit each time, but must choose a second instructor for the second 3 hours.

HST 603 Colloquium in U.S. History Since 1865 3-6(3-0)
An investigation of historical interpretations and methodologies dealing with major topics and themes in American history from 1865 to present. Recommended: Admission to the graduate program in history. A student may take this course twice, for 3 hours of credit each time, but must choose a second instructor for the second 3 hours.

HST 619 Continuing Registration for Final Research Project 1-10
A non-credit course intended for students who have completed all program credits but still need to use university resources to complete their degree requirements.

HST 636 Colloquium in Ancient History 3-6(3-0)
An investigation of major historical issues, interpretations, and methods in the history of the ancient Near/Middle Eastern and Mediterranean regions to 600 C.E. Recommended: Admission to the graduate program in history. A student may take this course twice, for 3 hours of credit each time, but must choose a second instructor for the second 3 hours.

HST 637 Colloquium in the Modern Middle East 3-6(3-0)
A historiographical investigation of major topics, interpretations, and methodologies in Modern Middle Eastern history, post-18th century C.E. A student may take this course twice, for 3 hours of credit each time, but must choose a second instructor for the second 3 hours. Prerequisite: Admission to the graduate program in history. Recommended: 6 hours of Middle Eastern history.

HST 650 Colloquium in European History to 1450 3(3-0)
An investigation of historians, their interpretations and methodologies of the major topics and themes in ancient and medieval history to 1450. Recommended: Admission to the graduate program in history.

HST 651 Colloquium in Early Modern European History 3-6(3-0)
An investigation of historical interpretations and methods in early modern European history (1450-1789). Recommended: Admission to the graduate program in history. A student may take this course twice, for 3 hours of credit each time, but must choose a second instructor for the second 3 hours.

HST 652 Colloquium in Modern European History 3-6(3-0)
An analytical investigation of several historical issues, topics, and themes in modern European history (1789 to the present). Recommended: Admission to the graduate program in history. A student may take this course twice, for 3 credit hours each, but must choose a second instructor for the second 3 hours.

HST 663 Colloquium in Colonial Latin American History 3-6(3-0)
A historiographical investigation of major topics, interpretations, and methodologies in Colonial Latin American history. A student may take this course twice, for 3 hours of credit each time, but only if the specific topic and literature change. Prerequisite: Admission to the graduate program in history. Recommended: 6 hours of Latin American history or two years of Spanish or Portuguese.

HST 676 Comparative History of Slavery 3-6(3-0)
A historiographic investigation of major themes, methodologies and interpretations of the history of slavery in a comparative perspective through an analysis of several courses. A student may take this course twice, for 3 hours of credit each time, but must choose a second instructor for the second 3 hours.

HST 681 Historic Preservation 3(3-0)
Why historic preservationists chain themselves to structures, pursue policy-making, and develop long-range plans. This course explores historic preservation theory, methods, and ethics. Prerequisites: 3 hours of History and 3 hours of Museum Studies; or admission to the graduate program in History. Recommended: At least 2 of the following: HST 532, 535, 600, 710, MHT 546, 550, 551.

HST 690 Advanced Readings 1-9(Spec)
Prerequisites: 12 hours of junior, senior, or graduate-level history and permission of the department chairperson and the instructor.

HST 695 Special Studies Abroad 3-15(Spec)
Courses on selected historical topics offered at partner institutions for students in the joint graduate program. Prerequisites: Admission to the joint graduate program in history.

HST 697 Special Studies Colloquium 3-6(3-0)
An investigation of historical interpretations and methodologies of a selected historical topic at a level suitable for graduate students. A student may take this course twice, for 3 hours of credit each time, but must choose a second instructor for the second three hours. Recommended: Admission to the graduate program in history.

HST 700 Practicum in College Teaching 1-6(Spec)
Training and practice in teaching history at the college level. Prerequisites: appointment as a Graduate Assistant in the Department of History.

HST 710 Seminar in Intellectual and Cultural History 3-6(3-0)
Study of a selected topic in intellectual and cultural history. Recommended: Admission to graduate program in history. A student may take this course twice, for 3 hours of credit each time, but must choose a second instructor for the second 3 hours.

HST 711 Seminar in Colonial and Revolutionary America 3-6(3-0)
A study of a selected topic in the history of colonial British and Revolutionary America. Prerequisites: A research paper based on primary sources. Recommended: HST 111, HST 212, and at least one of the following: HST 232, HST 324, HST 326, HST 330, HST 351, HST 512, HST 562, HST 602. A student may take this course twice, for 3 hours of credit each time, but must choose a second instructor for the second 3 hours.

HST 713 Seminar in the History of Nineteenth Century America 3-6(3-0)
A study of a selected topic in the history of nineteenth century America. Recommended: HST 111 plus at least one more course in this field of American history. A student may take this course twice, for 3 credit hours each time, but must choose a second instructor for the second 3 hours.

HST 715 Seminar in the Civil War and Reconstruction 3-3(0)
Primarily devoted to research training and writing techniques. This seminar will focus on a particular phase of the Civil War era. Recommended: HST 111 and HST 112, and a 500-level course in nineteenth-century American history.

HST 717 Seminar in the History of Twentieth Century America 3-6(3-0)
Study of a selected topic in the history of the United States in the twentieth century. Recommended: HST 111 plus at least one more course in this field of American history. A student may take this course twice, for 3 credit hours each time, but must choose a second instructor for the second 3 hours.

HST 723 Seminar in American Diplomatic History 3-3(0)
Primarily devoted to research training and writing techniques, each seminar will focus on a particular phase of American diplomatic history. Recommended: HST 111 and HST 112 and one course in US history.

HST 738 Seminar in Ancient History 3-6(3-0)
Study of a selected topic from the Ancient World. Development of research skills and scholarly writing appropriate to the field. Recommended: 9 hours of pre-modern history or one year of an ancient language. A student may take this course twice, for 3 credit hours each time, but must choose a second instructor for the second 3 hours.

HST 740 Seminar in Medieval West 3(3-0)
Research training based on primary sources on topics pertinent to the medieval period. Recommended: 6 hours of historical including HST 101 and one of the following: HST 200, HST 340, HST 350, HST 505, HST 650.

HST 741 Seminar in Early Modern Europe 3(3-0)
Study of a cultural, intellectual, social, political or economic issue of the period from the Renaissance in Europe through the seventeenth century. Recommended: 6 hours of history including HST 101 and one of the following: HST 340, HST 341, HST 348, HST 350, HST 351, HST 354, or HST 505.

HST 742 Seminar in Eighteenth-Century European History 3(3-0)
Study of a cultural, social, political, or economic issue of the eighteenth century. Recommended: 6 hours of modern European history, including some study of the eighteenth century.

HST 744 Seminar in Nineteenth-Century European History 3-6(3-0)
A study of a major aspect of 19th-century Europe with emphasis on historical method. Recommended: HST 102 or HST 351 plus one additional course in this general area of European History. A student may take this course twice, for 3 credit hours each time, but must choose a second instructor for the second 3 hours.

HST 756 Seminar in Eighteenth-Century European History 3-6(3-0)
Study of a major aspect of 18th-century Europe with emphasis on historical method. Recommended: 6 hours of European history (at least 3 at the 500 level) including one of the following: HST 102, HST 106, HST 558. A student may take this course twice, for 3 credit hours each time, but must choose a second instructor for the second 3 hours.

HST 763 Seminar in Latin American History 3(3-0)
A seminar in Latin American history. Recommended: HST 163 or an advanced course in the field of Latin American history.

HST 766 Seminar in Asian History 3(3-0)
Topics such as developments in education, medicine, women, child care, distribution of wealth, and decision-making in China since the Cultural Revolution (1966-1969). Recommended: HST 168.
HST 776 Seminar on African Diaspora History 3-6(3-0)
Study of a selected topic in the history of the African diaspora. Preparation of research paper based on primary sources. A student may take this course twice, for 3 hours of credit each time, but must choose a second instructor for the second 3 hours.

HST 791 Graduate Research 3-6(Spec)
Prerequisites: 12 hours of junior, senior, or graduate-level history and the permission of the department chairperson and the instructor.

HST 795 Seminar in African American History 3-15(Spec)
Seminar at partner institution for students in the joint graduate program. Student produces a substantial scholarly paper of 7,000-10,000 words based on primary sources. Prerequisites: Admission to the joint graduate program in History.

HST 798 Thesis 1-6(Spec)
CR/NC only. Prerequisite: Written permission of advisor and department chairperson.

HST 890 Doctoral Readings 1-9(Spec)
Advanced preparation for comprehensive examinations in selected historical topics directed by an individual instructor. Reading should reflect the fields of and culminate in the comprehensive examination. Prerequisites: Admission to the joint graduate program in History and permission of advisor or instructor.

HST 898 Dissertation 1-36(Spec)
CR/NC only. Prerequisites: Successful completion of comprehensive examination for Ph.D. and written approval of dissertation proposal to take more than 3 credit hours of dissertation credit.

HUM - Humanities

Contact the College of Humanities and Social & Behavioral Sciences for more information.

HUM 510 Words and Music: A Theatrical Partnership 4(4-0)
The course considers musical theater as a unique art form, combining music, literature, and stagecraft into a whole greater than the sum of its parts. Prerequisites: Junior standing or above; any 300-level course in music, English, foreign language, or theater and interpretation.

HUM 597 Special Studies in Humanities 1-12(Spec)
Prerequisite: permission of instructor.

HUM 610 Seminar in American Individualism 3(3-0)
Analysis of the varieties and values of American individualism through literary, historical and sociological sources. Prerequisite: Admission to M.A. in Humanities program.

HUM 619 Continuing Registration for Final Research Project 1(1-0)
A non-credit course intended for students who have completed all program credits but still need to use university resources to complete their degree requirements.

HUM 697 Independent Study 3-6(Spec)
Explorations of special problems in subject areas found within the Humanities individually agreed upon by student and instructor. May be repeated a maximum of six hours. Prerequisites: Approval by instructor and program director required before registration.

HUM 797 Special Topics in Humanities 1-12(Spec)
Interdisciplinary study of selected topics in the humanities. Prerequisite: Permission of instructor, will vary by topic offered.

HUM 799 Thesis 1-6(Spec)
CR/NC only. Prerequisites: 15 hours of graduate work in the humanities and written permission of advisor.

IET - Industrial and Engineering Technology

See the School of Engineering and Technology for more information.

IET 500 Production Concepts 3(3-0)
Comprehensive review of current factors which influence productivity. Emphasis is placed on the integration of people, methods, machines, materials, and management. This course may be offered in an online or hybrid format. Prerequisites: IET 327; STA 282; or graduate standing and statistics competency; permission of E&T advisor.

IET 501 Application of Industrial Management Principles 3(3-0)
A study of industrial management as a process of coordination that exhibits different patterns depending on the manager’s level in the organization and functional responsibilities. This course may be offered in an online or hybrid format. Prerequisites: STA 282 or graduate standing and statistics competency; permission of E&T advisor.

IET 502 Computer Applications in Industry 3(3-0)
General/special purpose, digital/analog computer applications in industry and automation with emphasis on input/output devices and process control. Prerequisite: 12 IET credit hours; permission of E&T advisor.

IET 524 Technology and Environment 3(3-0)
A study of the relationships between technology and environment. A systems approach is utilized to examine the optimization of technology within environmental constraints. This course may be offered in an online or hybrid format. Prerequisite: 12 IET credit hours or graduate standing; permission of E&T advisor.

IET 525 Hazardous Materials Technology 3(3-0)
The course covers hazardous materials and related health, safety, and regulatory issues for persons conducting, supervising, and managing field activities. Prerequisites: IET 327; CHM 120 or CHM 131; junior or senior standing; permission of E&T advisor.

IET 526 Industrial Ergonomics 3(2-2)
The study of human characteristics, capacities and limitations for the design of productive, safe, and comfortable work spaces, tools, equipment, tasks, and facilities. Prerequisites: IET 327; or senior/graduate standing and permission of instructor; permission of E&T advisor.

IET 527 Industrial Safety Management 3(3-0)
A comprehensive study of safety management systems and their implication on related accident cost analysis and to programs which comply with state and federal standards. Prerequisite: IET 327; permission of E&T advisor.

IET 532 Careers and Technology for Children 3(2-2)
Developing interdisciplinary instructional units, manipulatives, and pedagogy to provide K-12 students with meaningful career awareness, exploration, and preparation experiences utilizing industrial materials, tools, and processes. Prerequisite: junior, senior or graduate status in teacher education; permission of E&T advisor.

IET 534 Design and Construction of Teaching Aids 2(1-2)
Workshop for planning and constructing three-dimensional teaching aids and devices in various curriculum areas of the elementary and secondary grades. Prerequisite: senior status; permission of E&T advisor.

IET 550 Product Design and Development 3(3-0)
Product design principles, structural, aesthetic, and intellectual property considerations, and product function are discussed. Focus on concept development, evaluation, and prototyping. Prerequisites: IET 226 or Graduate Standing; permission of E&T advisor.

IET 561 Light Frame Construction Workshop 3(0-6)
A workshop on estimating, scheduling, building codes, and construction techniques for frame buildings. Recommended: IET 361; permission of E&T advisor.

IET 567 Construction Safety 3(3-0)
A comprehensive study of construction safety standards, practices, and procedures. Recommended: IET 361; permission of E&T advisor.

IET 576 Industrial Automation 3(2-2)
A study of electro mechanical devices, industrial robotics, programmable logic controllers (PLCs), and automated work cell designs. Prerequisites: IET 375; MTH 132; CPS 150 or CPS 180; permission of E&T advisor.

IET 590 Green Building and Sustainability 3(3-0)
Comprehensive study of the principles of Green Building and Sustainability. Topics include sustainability, xeriscaping, high performance building, energy efficiency, indoor air quality and environmental stewardship. This course is approved for offering in a distance learning format. Prerequisites: IET 361, 368 or graduate standing; permission of E&T advisor.

IET 591 Construction Management 3(3-0)
A comprehensive study of construction management standards, practices, and procedures with emphasis on the legal aspects of the private, federal, and state construction industries. Prerequisites: IET 361, 361; permission of E&T advisor.

IET 597 Special Studies 1-6(Spec)

IET 602 Current Concepts of Industrial Education 2(2-0)
For teachers and administrators who are interested in the role of industrial education. Problems and controversial issues are discussed.

IET 610 Advanced Quality Management 3(3-0)
Applications of quality concepts and the utilization of statistics in manufacturing and industrial settings. Includes quality concepts applied to conceptual design, detailed design, and production. Prerequisite: STA 580.

IET 619 Continuing Registration for Final Research Project 1(1-0)
A non-credit course intended for students who have completed all program credits but still need to use university resources to complete their degree requirements.

IET 620 Advanced Materials 3(2-2)
This course covers advanced topics in industrial materials. Topics include material properties, material selection, material testing and nanotechnology. This course may be offered in an online or hybrid format. Prerequisite: IET 501 or IET 550.

IET 625 Industrial Internship 2-6(Spec)
Experience in industry covering its general functions and/or specific experiences in a technical area. CR/NC only. Prerequisite: departmental permission.

IET 633 Seminar: Industrial Education 3(3-0)
Review current philosophies, concepts, and trends in industrial education programs related to career awareness, exploration, and preparation opportunities for students, including those with special needs.

IET 634 Advanced Safety Management 3(3-0)
This course covers advanced topics in occupational safety and worker's health protection. Prerequisite: IET 527.

IET 635 Curriculum Development: Industrial Education 3(3-0)
Develop curriculum and instructional materials designed to maximize teaching effectiveness, enhance cooperative teaching relationships, and individualize instruction for all students including those with special needs.
IET 636 Leadership Internship 2-6(Spec)
Supervised professional experiences in association with successful practitioners in a given area or field. CR/NC only. Prerequisite: coordinator’s permission.

IET 650 Project Management 3(3-0)
Modern project management showing basic phases of a project, conceptual and detailed design, efficient completion within budget and schedule. This course may be offered in an online or hybrid format. Prerequisite: IET 501 or Graduate Status.

IET 670 Lean Manufacturing & Six Sigma Quality 3(3-0)
Lean manufacturing and six sigma quality related to product, process, and manufacturing operations. This course may be offered in an online or hybrid format. Prerequisites: IET 500; STA 580.

IET 680 Sustainability and Green Technology 3(3-0)
Concepts of engineering and technology utilizing the framework of sustainability related to green energy technology. This course may be offered in an online or hybrid format. Prerequisite: IET 524.

IET 694 Problems in Management and Technology 1-6(Spec)
Individual investigation and research in industrial management or technology. Emphasis is placed on acquisition of knowledge and/or skills. CR/NC only. Prerequisite: departmental permission.

IET 695 Independent Study 2-6(Spec)
Individual investigation and research in an area of industrial education. CR/NC only. Prerequisite: departmental permission.

IET 697 Special Studies 1-6(Spec)
Individual investigation and research to increase one technical competency.

IET 733 Practicum: Industrial Education/Special Education 3(Spec)
Incorporative placement of industrial education and special education teachers in exploring career awareness, exploration, and preparation programs for all students, including those with special needs. Prerequisites: IET 633, IET 635, SPE elective, and permission of the professor.

IET 791 Independent Research 2-6(Spec)
CR/NC only. Prerequisites: EDU 581 or EDU 660 and departmental permission.

IET 798 Thesis 1-6(Spec)
CR/NC only. Prerequisites: EDU 581 or EDU 660 and approval of advisor.

IPR - Integrative Public Relations
Contact the Department of Journalism for more information.

IPR 555 Public Relations Internship 3-6(Spec)
Directed full-time work experience in a professional public relations environment. Prerequisites: IPR 101; BCA 210, BCA 311; COM 264, COM 357; JRN 102, JRN 202, JRN 250; completion of 36 credit hours; prior written approval of the designated internship director; open only to signed Integrative Public Relations majors.

IPS - International Program Studies
Contact the Office of International Affairs for more information.

IPS 597 International Program Studies 1-36(Spec)
Courses taken abroad under auspices of Central Michigan University. Primarily for seniors and graduate students. Prerequisite: permission of the Director of Study Abroad.

ITC - Information Technology
See the Department of Computer Science for more information.

ITC 510 Software and Data Modeling 3(3-0)
Fundamentals of systems analysis, including the essential concepts and major paradigms of software and data modeling, and cutting-edge software and data modeling methods, and techniques. Prerequisites: CPS 410, ITC 341, or graduate standing.

ITC 520 Foundations of Computer Security 3(3-0)
Computer and network security, cryptography, encryption, threat models, protocols and algorithms, confidentiality, integrity, authentication, authority, access control, operating system and software security, intrusion, detection. Prerequisites: ITC 465 or graduate standing.

ITC 530 Mobile Computing 3(3-0)
Wireless networks, mobile devices, programming environments. Current contemporary topics on mobile computing. Student projects and literature review. Prerequisite: ITC 510.

ITC 620 Information Security and Privacy 3(3-0)
In-depth analysis of security and privacy issues. Secure network design, risks and vulnerabilities, responding to security breaches, host/server and physical security, and encryption technologies. Prerequisites: ITC 520.

ITC 630 Cloud Computing 3(3-0)
Study the architecture and algorithms of state-of-art cloud computing and services such as distributed computing, virtualization, storage, IaaS, PaaS, SaaS, MapReduce and cloud software tools. Prerequisites: ITC 510.

ITC 686 Big Data Analytics 3(3-0)
Foundation of big data and data analytics lifecycle, structured and unstructured data, analytic methods, MapReduce programming model, big data analytics technologies and tools. Prerequisites: ITC 510.

ITC 691 Information Technology Project 3(3-0)
Current topics in information technology. Development, demonstration, and presentation of research and application projects. Prerequisites: 12 hours of graduate courses in ITC.

ITC 798 Thesis 1-6(Spec)
Research in information technology. CR/NC only. Prerequisites: Written permission of advisor and department chairperson.

JRN - Journalism
See the Department of Journalism for more information.

JRN 500 Current Issues in Mass Communication 3(3-0)
Examination of the role of mass communication in society through the exploration of issues, ethics, trends and decision-making processes. Prerequisite: senior standing.

JRN 516WI Public Affairs Reporting 3(3-0)
Coverage of government and other public issues. Writing Intensive. Prerequisite: JRN 203, 312.

JRN 519 Journalism Internship 1-4(Spec)
Experience at news organizations under professional and faculty supervision. May be applied toward journalism major and minor only with permission of faculty advisor. Prerequisites: junior standing; permission of instructor.

JRN 520 Independent Study in Photography 3(3-0)
Advanced experience and individual instruction in photography. Prerequisites: JRN 220, JRN 320.

JRN 521 Seminar in News Photography 3(3-0)
Field experience of the photograph as a means of communicating information, ideas and opinion. Prerequisites: JRN 221, 321, 421; completion of 56 credit hours; prior permission of instructor.

JRN 791 Independent Research 2-6(Spec)
CR/NC only. Prerequisites: EDU 581 or EDU 660 and departmental permission.

JRN 798 Thesis 1-6(Spec)
CR/NC only. Prerequisites: EDU 581 or EDU 660 and approval of advisor.

LAR - Liberal Arts
See the College of Humanities and Social & Behavioral Science for more information.

LAR 597 Special Studies in Liberal Arts 1-12(Spec)
Primarily for graduate students. Prerequisite: permission of instructor.

MAR - Marine Science
Contact the Department of Biology for more information.

MAR 590 Special Problems in Marine Science 1-6(Spec)
Prerequisites: permission of instructor.

MBA - Master of Business Administration
See the College of Business Administration for more information.

MBA 500 Spreadsheet Applications in Business 1(1-0)
Application of spreadsheet software tools to the solution of common business problems including budgeting, forecasting, and optimization for preparing information to support management decision-making. Course may not be included on any graduate degree program. Prerequisites: computer literacy as demonstrated by BIS 104, CPS 100 and prior knowledge of spreadsheet software; admission to the MBA program OR both graduate status and permission of the MBA director.
MBA 501 Presentation Graphics Applications in Business 1(1-0)
Application of presentation graphics software tools in preparing and delivering professional management briefings that provide information which supports the solution of common business problems. Course may not be included on any other degree program. Prerequisite: computer literacy as demonstrated by BUS 104, CPS 100 and prior knowledge of presentation graphics software; admission to the MBA program or both graduate status; permission of the MBA director.

MBA 502 Database Applications in Business 1(1-0)
Application of a database management program to the solution of common business problems including sales and inventory management for preparing information to support decision making. Course may not be included on any graduate degree program. Prerequisites: computer literacy as demonstrated by BUS 104, CPS 100 and prior knowledge of database management software; admission to the MBA program or both graduate status and permission of the MBA director.

MBA 503 Professional Business Communications 2(2-0)
Developing professional business communications skills within a team environment. Emphasis on both written and oral communications utilizing current technologies. Prerequisites: admission to the MBA program, or permission of the MBA director.

MBA 504 Using Financial Accounting Information 2(2-0)
Introduces use of financial accounting income statements, balance sheets, and statements of cash flow in making business decisions. Prerequisites: admission to the MBA program, or permission of the MBA director.

MBA 505 The Economic Environment of Business 2(2-0)
Provides the economic tools necessary for graduate study in business: demand and supply, elasticity, costs and production, competitive and monopolistic markets, macroeconomics, and international trade. Not open to economics or graduate students. Prerequisites: admission to the MBA program, or permission of the MBA director.

MBA 506 Legal Environment of Business 2(2-0)
Basic concepts concerning the interrelationships of business and its external environments. Managerial participation in and response to public policy issues and their resolutions. Prerequisites: admission to the MBA program, or permission of the MBA director.

MBA 507 Introduction to Marketing Management 2(2-0)
An introduction to the marketing management process including the marketing environment, buyer behavior, marketing analysis, segmentation, marketing mix, and social/ethical issues. Prerequisites: admission to the MBA program, or permission of the MBA director.

MBA 508 Management and Organization 2(2-0)
Introduction to the internal structure, processes, and control of organizations. Prerequisites: admission to the MBA program, or permission of the MBA director.

MBA 509 Production/Operations Management 2(2-0)
Concepts and applications of production and operations management in business and industry. Prerequisites: admission to the MBA program, or permission of the MBA director.

MBA 510 Financial Management and Analysis 2(2-0)
An introduction to basic finance principles and tools including the time value of money, risk analysis, capital budgeting, cost of capital, and the interpretation of financial statements. Prerequisites: admission to the MBA program, or permission of the MBA director.

MBA 511 Statistics for Managerial Decisions 2(2-0)
Introduction to descriptive and inferential statistics in a business decision context. Applications of various t-tests, ANOVA, multiple regression, and cross-tabulation are emphasized. Prerequisites: admission to the MBA program, or graduate status and permission of the MBA director.

MBA 609 Information Systems Management 2(2-0)
Examination of issues involved in managing and deploying information systems in organizations with an emphasis on technologies and human factors that support competitive strategies. This course is approved for offering in a distance learning format. Prerequisite: admission to the MBA program or permission of the MBA director.

MBA 610 Managing Information Systems in a Global Economy 3(3-0)
The management and deployment of information systems (IS) in organizations around the world, creating value from IS assets and exploring emerging technologies. This course may be offered in an online or hybrid format. Prerequisite: Admission to the MBA program or permission of the MBA director.

MBA 618 Continuing Registration for Final Research Project 1(1-0)
A non-credit course intended for students who have completed all program credits but still need to use university resources to complete their degree requirements.

MBA 619 Accounting Information for Managers 2(2-0)
Investigates the central role accounting systems play in managerial evaluation, control, and planning. This course is approved for offering in a distance learning format. Prerequisite: Admission to the MBA program or permission of the MBA director. Recommended: MBA 504, MBA 510, and BUS 600.

MBA 620 Managerial Accounting: A Management Perspective 3(3-0)
Investigates the central role accounting systems play in the planning, control, and decision making by managers. This course may be offered in an online or hybrid format. Prerequisite: Admission to the MBA program.

MBA 629 Managing Behavioral Change 1(2-0)
A study of organization culture and behavior which emphasizes the importance of and need for influencing individual and small group behavior in contemporary organizational settings. This course is approved for offering in a distance learning format. Prerequisite: Admission to the MBA program or permission of the MBA director. Recommended: MBA 508.

MBA 630 Managing and Leading Individuals and Groups in Organizations 3(3-0)
A study of the frameworks used to understand and lead individual and group behavior and the processes used to create organization change. This course may be offered in an online or hybrid format. Prerequisite: Admission to the MBA program.

MBA 639 Quantitative Applications for Managers 2(2-0)
The application of quantitative methods to managerial decisions. Applications include optimization, modeling, and simulation, and focus on using a computer to support decision making. This course is approved for offering in a distance learning format. Prerequisite: Admission to the MBA program or permission of the MBA director. Recommended: MBA 504, BUS 600, and knowledge of advanced business applications in spreadsheet software.

MBA 640 Data Analysis for Managers 3(3-0)
Understanding and applying quantitative methods of data analysis that facilitate getting information for business decisions from the raw data that business professionals have available. This course may be offered in an online or hybrid format. Prerequisite: Admission to the MBA program.

MBA 649 Marketing Management 2(2-0)
Dynamic nature and managerial aspects of marketing. Formulation of analytical decisions concerning marketing strategy. This course may be offered in an online or hybrid format. Prerequisite: Admission to the MBA program.

MBA 650 Marketing-Based Management 3(3-0)
Dynamic nature and managerial aspects of customer-centric marketing. Formulation of analytical decisions concerning marketing strategy. This course may be offered in an online or hybrid format. Prerequisite: Admission to the MBA program.

MBA 659 Managing in a Global Economy 2(2-0)
Covers challenges of globalization of product- and factor-markets, managing subsidiaries and influencing affiliates in diverse cultures, in industrialized and emerging economics. This course is approved for offering in a distance learning format. Prerequisite: Admission to the MBA program or permission of the MBA director. Recommended: MBA 503 and MBA 507.

MBA 660 Global Business and Sustainability 3(3-0)
This course is designed to enable students to discuss and apply the major international business and sustainability issues and theories facing global managers. This course may be offered in an online or hybrid format. Prerequisite: Admission to the MBA program.

MBA 669 Financial Decision-Making 2(2-0)
This course provides a framework for the analysis of the investment and financing decisions of the firm and an understanding of how to apply finance theory to practical situations. This course is approved for offering in a distance learning format. Prerequisites: MBA 504, MBA 510, and BUS 600. Admission to the MBA program or permission of the MBA director.

MBA 670 Financial Analysis and Risk Management 3(3-0)
This course provides a framework for analysis of investment and financing decisions of the firm and understanding of how to apply finance theory to practical solutions. This course may be offered in an online or hybrid format. Prerequisite: Admission to the MBA program.

MBA 679 Economic Analysis for Managers 2(2-0)
Application of economics and statistics to business decisions. Integration of theory with issues from Business Week and The Wall Street Journal. Development of business regression models. Recommended: ECO 600 and BUS 600. Prerequisite: Admission to the MBA program or permission of the MBA director. This course is approved for offering in a distance learning format.

MBA 680 Global Economic Environment 3(3-0)
The global economy and its impact on managerial decision making. Economic growth, fiscal and monetary policy, trade, exchange rate determination, capital and financial flows. This course may be offered in an online or hybrid format. Prerequisite: Admission to the MBA program.

MBA 688 Directed Work/Observation/Internship 1(1-0)
Work or internship experience relevant to the MBA program. Prerequisites: Admission to the MBA program.

MBA 689 Strategic Management 2(2-0)
Focuses on developing competitive business strategies through a process of analyzing environments, establishing and implementing strategies, and evaluating results. This course may be offered in a distance learning format. Prerequisites: completion of 14 hours of MBA program including the following courses: MBA 619, MBA 649, MBA 659, and MBA 669. Admission to the MBA program or permission of the MBA director.
MBA-MGT 195

MBA 690 Strategic Management: Integrative Experience 3(Spec)
Focuses on integrative approach in developing competitive business strategies through a process of analyzing business environments, selecting and implementing strategies, and evaluating results. This course may be offered in an online or hybrid format. Students develop cross-functional business solutions with the guidance of a faculty committee. CR/NC only. This course is approved for offering in a distance learning format. Prerequisites: completion of 20 hours of the MBA program, including at least seven MBA-designated core courses at the 600-level. Admission to the MBA program or permission of the MBA director.

MBA 699 The MBA Project 4(Spec)
The capstone experience where skills and competencies are applied to actual business problems. Students develop cross-functional business solutions with the guidance of a faculty committee. CR/NC only. This course is approved for offering in a distance learning format. Prerequisites: completion of 20 hours of the MBA program, including at least seven MBA-designated core courses at the 600-level. Admission to the MBA program or permission of the MBA director.

MED - Medicine
Contact the College of Medicine for more information.

MED 600 Society and Community Medicine 9(Spec)
Integrates population and public health concepts with individual and community health services and healthcare access, providing essential context for ethical, cultural, legal and organizational concepts. CR/NC only. Prerequisite: Admission to the College of Medicine.

MED 610 Essentials of Clinical Skills 17(Spec)
An integrated clinical, diagnostic, and therapeutic skill development course. Emphasis is placed on history-taking, physical examination, and diagnostic skills presented by body system. CR/NC only. Prerequisite: Admission to the College of Medicine.

MED 620 The Art of Medicine 9(Spec)
Explores foundational elements of professionalism, ethics, humanities and self-care in the medical profession. CR/NC only. Prerequisite: Admission to the College of Medicine.

MED 630 Foundational Sciences of Medicine: Wellness and Disease 18(Spec)
Builds a knowledge base of the basic science mechanisms underlying wellness and disease that are presented in subsequent courses. CR/NC only. Prerequisite: Admission to the College of Medicine.

MED 640 Reproductive/Human Development: Wellness and Disease 8(Spec)
Provides the basic and clinical sciences knowledge and learning experiences required to understand wellness and disease mechanisms for the human development and reproductive system. CR/NC only. Prerequisite: Admission to the College of Medicine.

MED 650 Cardiopulmonary: Wellness and Disease 10(Spec)
Develops the basic and clinical sciences knowledge base required for understanding mechanisms underlying wellness and diseases of the cardio-pulmonary system. CR/NC only. Prerequisite: Admission to the College of Medicine.

MED 660 Renal/Endocrine: Wellness and Disease 10(Spec)
Develops the basic and clinical sciences knowledge base required for understanding mechanisms underlying wellness and diseases of renal and endocrine systems. CR/NC only. Prerequisite: Admission to the College of Medicine.

MED 740 Neurosciences and Behavior: Wellness and Disease 10(Spec)
Provides instruction on the basic structure and function of the nervous system and a clinical foundation required for examination and treatment of its disorders. CR/NC only. Prerequisite: Admission to the College of Medicine.

MED 750 Musculoskeletal/Dermal: Wellness and Disease 8(Spec)
Develops the basic and clinical sciences knowledge base required for understanding mechanisms underlying wellness and diseases of the musculoskeletal and dermal systems. CR/NC only. Prerequisite: Admission to the College of Medicine.

MED 760 Gastrointestinal: Wellness and Disease 8(Spec)
Provides the basic and clinical sciences knowledge and learning experiences required to understand wellness and disease mechanisms for the gastrointestinal system. CR/NC only. Prerequisite: Admission to the College of Medicine.

MED 770 Hematology/Oncology: Wellness and Disease 8(Spec)
Develops the basic and clinical sciences knowledge base required for understanding mechanisms underlying wellness and diseases of the hematologic system. CR/NC only. Prerequisite: Admission to the College of Medicine.

MED 780 SYNAPSE 4(Spec)
A course providing a review of curriculum to date and a transition to the clinical experiences in the third and fourth years. CR/NC only. Prerequisite: Admission to the College of Medicine.

MED 797 Special Topics: Medical Clerkship Elective 1-30(Spec)
Topics of special interest to second-year medical students, in good standing, that extend their knowledge and their skills in patient care or research. CR/NC only. Prerequisites: Permission from CMED Office of Curriculum.

MED 800 Comprehensive Community Clerkship 36(Spec)
Based in primary care practices in central and northern Michigan. Teaches basic competencies of family medicine, pediatrics, internal medicine, psychiatry, obstetrics/gynecology, and surgery. CR/NC only. Prerequisites: Permission from CMED Office of Curriculum.

MED 810 Clerkship: Surgery 6(Spec)
Teaches basic competencies of Surgery pertinent to the care of patients, in a clinical setting. CR/NC only. Prerequisites: Permission from CMED Office of Curriculum. Recommended: MED 800.

MED 820 Clerkship: Hospitalist - Internal Medicine 6(Spec)
Teaches basic competencies of hospitalist medicine pertinent to hospital care of patients. CR/NC only. Prerequisites: Permission from CMED Office of Curriculum. Recommended: MED 800.

MED 830 Clerkship: Psychiatry 6(Spec)
Teaches basic competencies of Psychiatry pertinent to the care of patients, in a clinical setting. CR/NC only. Prerequisites: Permission from CMED Office of Curriculum. Recommended: MED 800.

MED 840 Clerkship: Obstetrics and Gynecology 6(Spec)
An introductory experience in the provision of comprehensive medical care and counseling services of female patients, focusing on commonly encountered obstetrical conditions and gynecological problems. CR/NC only. Prerequisites: Permission from CMED Office of Curriculum. Recommended: MED 800.

MGT - Management
See the Department of Management for more information.

MGT 500 Comparative Labor Relations Systems 3(Spec)
Comparative analysis of the history, structure, institutional arrangements, and philosophy of the labor relations systems of several countries in advanced stages of industrialization. Prerequisites: MGT 320; 56 semester hours completed; admission to Professional Business Studies or listed on signed major or minor.

MGT 516 Management and Women 3(Spec)
Enables both male and female students to understand the opportunities, challenges, and problems confronting women in their pursuit of careers in management, and to manage more effectively. Prerequisites: MGT 312; 56 semester hours completed; admission to Professional Business Studies or listed on signed major or minor.

MGT 520 Management in Health Care Facilities 3(Spec)
Management problems and practices in health care facilities. Prerequisites: MGT 312; MSA 650; 56 semester hours completed; admission to Professional Business Studies or listed on signed major or minor.

MGT 533 Purchasing Strategy 3(Spec)
Provides a managerial perspective, and understanding of the impact that purchasing and supply chain management strategies have on the success of organizations. This course may be offered in an online format. Prerequisites: MGT 333 and admission to Professional Business Studies or listed on signed major or minor, or graduate standing.

MGT 542 Inventory and Materials Management 3(Spec)
The study of the concepts, models and systems for material management and production planning. Prerequisites: MGT 303/MKT 303 or MGT 340; STA 282; 86 semester hours completed; admission to Professional Business Studies or listed on signed major or minor or graduate standing.
MGT 543 Management and Control of Quality 3(3-0)
In-depth study of management and statistical techniques employed in the analysis, design and implementation of quality assurance and control systems in manufacturing and service organizations. Prerequisites: MGT 303/ MKT 303 or MGT 340, STA 282 or STA 382; credit cannot be earned in both MGT 535 and MGT 567. This course is approved for offering in a distance learning format. Prerequisites: admission to MBA or permission of MBA director.

MGT 545 Operations Strategy 3(3-0)
The treatment of strategic planning and competitive issues in operations management in a domestic and global environment. Prerequisites: MGT 303/MKT 303 or MGT 340; STA 282 or STA 382; 86 semester hours completed; admission to Professional Business Studies or listed on signed major or minor or graduate standing.

MGT 597 Special Topics 1-6(Spec)
Selected problems of interest to students which are not normally included in existing courses. Specific topic will be listed on the student's transcript. Prerequisites: 56 semester hours completed; admission to Professional Business Studies or listed on signed major or minor.

MGT 600 Principles of Management Science/Management Information Systems 3(3-0)
Quantitative techniques in production and operations management and resource planning. Basic concepts of management information systems and decision support systems. Prerequisites: admission to MBA or permission of MBA director and STA 282.

MGT 643 Human Resource Management 3(3-0)
Theories, systems, practices, policies, problems, and solutions of human resource management in organizations. Credit cannot be earned in both MGT 633 and 643. This course is approved for offering in a distance learning format. Prerequisites: Admission to graduate program or permission of the Department Chairperson.

MGT 645 Personnel Compensation Practice and Process 3(3-0)
Procedures and methods for developing and delivering employee compensation programs. Credit cannot be earned in both MGT 635 and MGT 645. This course is approved for offering in a distance learning format. Prerequisites: MGT 643, or 633; STA 282 or 382 or statistics competency; admission to graduate program.

MGT 646 Labor Relations Issues 3(3-0)
Exploration of the public sector, private sector, and international issues in labor relations. Credit cannot be earned in both MGT 636 and MGT 646. Prerequisite: MGT 320, admission to graduate program.

MGT 647 Employee Selection and Evaluation 3(3-0)
In-depth analysis of the functions of employee selection and performance appraisal in organizational settings, with emphasis on quantitative techniques. This course is approved for offering in a distance learning format. Credit cannot be earned in both MGT 647 and MGT 637. Prerequisites: STA 282 or 382 or statistics competency; MGT 320 or 633 or 643; admission to graduate program.

MGT 649 Seminar in Organizational Development 3(3-0)
The processes, tools and techniques of organization change. Organization Development (OD) is the study of planned change in order to improve firms' effectiveness and efficiency. This course is approved for offering in a distance learning format. Prerequisites: admission to MBA or permission of MBA director.

MGT 657 International Management 2(2-0)
From a contemporary perspective, the course deals with managing subsidiaries and affiliates in different countries-and-cultural-context. Credit cannot be earned in both MGT 657 and MGT 667. Prerequisites: admission to the MBA Program or permission of the MBA director.

MGT 667 International Business 3(3-0)
This course deals with operating subsidiaries and affiliates in different countries and-cultural-contexts. Credit cannot be earned in both MGT 667 and MGT 657. Prerequisites: admission to graduate program.

MGT 791 Independent Studies 1-6(Spec)
Directed reading or research on an approved topic. Prerequisites: permission of instructor and department chairperson and 15 hours of graduate credit in MBA program.

MGT 797 Special Topics 3-6(Spec)
Enables students to take various topics under the same number. Specific topic will be listed on the student's transcript. Prerequisite: graduate status and permission of instructor.

MGT 798 Thesis 1-6(Spec)
An acceptable thesis in business administration. The thesis is directed by a committee in conformity with the 'Thesis, Field Study, or Dissertation Proposal' credit (CR/NC) only.

MHA - Master of Health Administration
See the School of Health Sciences for more information.

MHA 601 Statistics for Health Professionals 3(3-0)
Statistical concepts for evidence-based management in health organizations. Application of concepts to the analysis of administrative data. Introduction to SPSS. This course may be offered in an online or hybrid format. Recommended: Undergraduate statistics course.

MHA 602 Managerial Epidemiology 3(3-0)
Application of managerial epidemiological principles to the practice of healthcare organization and community health. This course may be offered in an online or hybrid format.

MHA 603 Health Information and Quality Improvement 3(3-0)
Management of information and knowledge as a healthcare asset with focus on leveraging information for quality improvement. This course may be offered in an online or hybrid format.

MHA 604 Quantitative Decision-Making for Health Administration 3(3-0)
Application of advanced parametric and non-parametric statistical techniques to health administration cases, managerial decision-making and problem solving. This course may be offered in an online or hybrid format. Prerequisite: MHA 601.

MHA 605 International Health Systems, Policy and Administration 3(3-0)
The study of a range of health systems around the world with a focus on administration and policy, health system effectiveness, sustainability, and innovation. This course may be offered in an online or hybrid format.

MHA 697 Health Administration Field Experience 6(Spec)
Organisation project based experience. This course assumes the student has experience in the field and will be conducting a field project. CR/NC only. This course may be offered in an online or hybrid format. Prerequisite: Successful completion of all required courses in the Master of Health Administration Program.

MHA 698 Health Administration Graduate Thesis 1-6(Spec)
The course involves the student doing an applied research thesis in a health administration area. CR/NC only. This course may be offered in an online or hybrid format. Prerequisite: Successful completion of all required courses in the Master of Health Administration Program.

MKT - Marketing
See the Department of Marketing and Hospitality Services Administration for more information.

MKT 555 Market and Sales Forecasting 3(3-0)
Develops familiarity with methods most commonly used in market and sales forecasting. Both qualitative and quantitative methods are included with emphasis on integrating managerial dimensions with related economic principles. Prerequisites: MKT 300 or MKT 304; admission to Professional Business Studies; senior standing; 86 semester hours completed.

MKT 560 International Marketing 3(3-0)
Policies and practices employed in international business. Considers problems of international payments, trade and investment with special emphasis on integrating managerial dimensions with related economic principles. Prerequisites: MKT 300 or MKT 304; admission to Professional Business Studies; senior standing; 86 semester hours completed. This course is approved for offering in a distance learning format.

MKT 597 Special Topics 1-6(Spec)
Selected problems of interest to students which are not normally included in existing courses. Specific topic will be listed on the student's transcripts. Prerequisites: MKT 300 or MKT 304; admission to Professional Business Studies; senior standing; 86 semester hours completed.

MKT 599 Humanitarian Logistics Project 3(Spec)
Provide students the opportunity to work on a large-scale service-learning humanitarian logistics project supervised by a faculty member. Prerequisites: Completion of 86 credit hours. Recommended: MKT 300 or 304.

MKT 631 Lean Logistics Operations 3(3-0)
Understanding and applying lean principles to logistics operations by examining and improving the order fulfillment process including; order, inventory, warehousing and transport operations. This course is approved for offering in a distance learning format. Prerequisite: Admission to the MBA program or permission of MBA director.

MKT 632 Integrated Logistics Strategy 3(3-0)
Selected problems of interest to students which are not normally included in existing courses. Specific topic will be listed on the student's transcript. Prerequisites: MKT 300 or MKT 304; admission to Professional Business Studies; senior standing; 86 semester hours completed.

MKT 633 Risk-based Logistics Networks 3(3-0)
Current best practices and strategies for assessing and designing risk-based logistics networks with emphasis on risk management including logistics network security and green initiatives. This course is approved for offering in a distance learning format.

MKT 650 Marketing Research: Managerial Applications 2(2-0)
Survey of what managers need to know about marketing research. Includes questionnaire design, evaluation; sampling and sample size issues, and basic methods of data analysis. Prerequisites: MKT 300 and admission to the MBA program or graduate status and permission of the MBA director.
MKT 663 Product Management 2(2-0)
Development and introduction of new products and services in a dynamic environment. Prerequisites: regular admission to the MBA program or permission of the MBA Director.

MKT 664 Promotional Strategy 2(2-0)
Promotional strategy is designed to present the relevant concepts of the marketing communication process and their applications within a managerial framework. Prerequisite: regular admission to the MBA program or permission of the MBA Director.

MKT 698 The Logistics Project 4(4-0)
The capstone experience where skills and competencies are applied to real logistics management problems. Students develop logistics solutions with the guidance of a faculty advisor. This course may be offered in an online or hybrid format. Prerequisites: Completion of two of the following: MKT 555, 631, 632, 633. Admission to the MBA program or permission of the MBA Director.

MKT 791 Independent Studies 1-6(Spec)
Directed reading or research on an approved topic. Prerequisites: permission of instructor and department chairperson and 15 hours of graduate credit in M.B.A. program.

MKT 797 Special Topics 3-6(Spec)
Enables students to take various topics under the same number. Specific topic will be listed on the student's transcript. Prerequisites: graduate status and permission of instructor.

MKT 798 Thesis 1-6(Spec)
An opportunity for students to undertake specialized study in middle level education which focuses on the middle level school concept, structures, and programs. Prerequisite or Co-requisite: MLE 641.

MKT-MPH

See the Department of Teacher Education and Professional Development for more information.

MLE - Middle Level Education
See the Department of Teacher Education and Professional Development for more information.

MLE 570 Issues in Middle Level Education 1-3(Spec)
A focus on current issues in middle level education. Students will help select specific topics for in-depth study. Prerequisites: MLE 383 or 643.

MLE 613 Current Educational Issues 3(3-0)
Identification and analysis of significant, persistent issues in education in the United States and the relationship to student achievement and teacher effectiveness. Identical to EDU 613. Credit may not be earned in more than one of these courses. This course has been approved for offering in a distance learning format.

MLE 641 Young Adolescent Needs and Characteristics 3(3-0)
An orientation to the unique developmental needs and characteristics of young adolescents.

MLE 642 Concepts, Structures, and Programs for Middle Level Schools 3(3-0)
An orientation to middle level education which focuses on the middle level school concept, structures, and programs. Prerequisite or Co-requisite: MLE 641.

MLE 643 Student Diversity Issues in the Middle Level Classroom 3(3-0)
An orientation to the multiple aspects of human diversity in the middle level classroom. Prerequisite or Co-requisite: MLE 641.

MLE 644 Issues in Meeting the Diverse Needs of Middle Level Learners 3(3-0)
Instructional strategies and assessment/evaluation methods and materials for middle level classroom teachers appropriate for the unique developmental needs and characteristics of young adolescents. Prerequisites: MLE 641, 642, 643.

MLE 645 Middle School Curriculum 3(3-0)
Curriculum for middle level classroom teachers to meet the unique developmental needs and characteristics of young adolescents. Prerequisites: MLE 641, MLE 642, and MLE 643.

MLE 646 Middle Level Field Experience 3(3-0)
Students develop and implement action plans for their classrooms in the field-based culminating activity of their Michigan Middle Level Endorsement. Prerequisites: MLE 644, 645.

MLE 687 Independent Study in Middle Level Education 1-6(Spec)
An opportunity for students to undertake specialized study in middle level education. Prerequisites: approval of Program Advisor and Department Chairperson.

MLE 780 Master of Arts Capstone Experience 3(3-0)
Students complete research projects appropriate to their degree programs that produce results applicable to their current practice. Should be last course taken in student's program. Identical to EDU 780. Credit may not be earned in more than one of these courses.

MKT-MPH

MKT 642 Health Education Theories 3(3-0)
The course evaluates theories in health promotion and health education and illustrates how divergent theoretical perspectives are integrated into practice models. This course may be offered in an online or hybrid format. Prerequisite: Admission to the MPH Program.

MKT 644 Rural Health 3(3-0)
This class analyzes the unique healthcare needs of rural, underserved and marginalized populations across the State of Michigan and in the United States. This course may be offered in an online or hybrid format. Prerequisites: MKT 640, 646, 650, 652; admission to the MPH Program.

MKT 646 Epidemiology 4(3-1)
Epidemiology is the study of distribution and determinants of health or diseases in human populations and application of this knowledge to improve population health outcomes. This course may be offered in an online or hybrid format. Prerequisites: Admission to the MPH Program; MKT 640.

MKT 648 Health Policy and Management 3(3-0)
This course is concerned with the structure and administration of public health organizations and policies that impact health programs delivery, quality and costs of healthcare. This course may be offered in an online or hybrid format. Prerequisite: Admission to the MPH Program.

MKT 650 Biological Basis of Public Health 3(3-0)
Examines modern understanding of how psychosocial factors and pathogens from the environment get under the skin to cause diseases and illness in human populations. This course may be offered in an online or hybrid format. Prerequisite: Admission to the MPH Program.

MKT 652 Public Health Environmental Science 3(3-0)
This course is designed to interpret environmental factors and conditions affecting health, and assess the role of communities in mitigating risks associated with environmental exposures. This course may be offered in an online or hybrid format. Prerequisite: Admission to the MPH Program; MKT 640.

MKT 654 Public Health Leadership 3(3-0)
This course introduces students to practical principles of leadership and systems thinking necessary for improving the health of underserved communities or populations. This course may be offered in an online or hybrid format. Prerequisites: MKT 646, 648, 652; admission to the MPH Program.

MKT 658 Health Planning and Assessment 3(3-0)
This course prepares graduate students with skills to assess and plan health education/public health programs and policies within the context of various health settings. This course may be offered in an online or hybrid format. Prerequisite: Admission to the MPH Program.

MKT 660 Program Evaluation 3(3-0)
This course prepares graduate students with skills necessary to evaluate health education/public health programs and policies within the context of various health settings. This course may be offered in an online or hybrid format. Prerequisite: Admission to the MPH Program.

MKT 664 Public Health Communication and Informatics 3(3-0)
The class explores effectiveness of communication tools in changing health behaviors and application of technology infrastructure for data gathering and analysis for improving health outcomes. This course may be offered in an online or hybrid format. Prerequisite: Admission to the MPH Program.

MKT 666 Substance Abuse Services 3(3-0)
The course examines substance abuse agency service integration for clients, family and community interventions. This course may be offered in an online or hybrid format. Prerequisite: Admission to the MPH Program.

MKT 668 Ethics in Public Health 3(3-0)
This course applies skills to ethical choices, values and public health professionalism in decisions regarding health equity, social justice, accountability and a commitment to personal integrity and institutional development. This course may be offered in an online or hybrid format. Prerequisite: Admission to the MPH program.

MKT 670 Methods in Public Health Research 3(3-0)
This course builds competencies necessary to apply systematic methods of investigating population-based health problems and challenges in a manner that translates findings to benefit population groups. This course may be offered in an online or hybrid format. Prerequisite: Admission to the MPH program.

MKT 796 Capstone Project 1-6(Spec)
This course is a culminating experience for the MPH candidate to synthesize knowledge and skills from different coursework and other experiential learning related to public health challenges at the community level. Not open to students completing a thesis. CR/NC Only. This course may be offered in an online or hybrid format. Prerequisite: Admission to the MPH Program; MKT 640, 646, 648, 660, 668, 670.

MKT 798 Thesis 1-6(Spec)
Write a thesis directed by a committee in conformity with the university's thesis guidelines. CR/NC Only. This course may be offered in an online or hybrid format. Prerequisite: Admission to the MPH Program; MKT 640, 646, 648, 650, 652, 654, 658, 660, 668, 670.
MSA - Master of Science in Administration

See the MSA degree for more information.

MSA 501 Managing Change with Emotional Intelligence 3(3-0)
An examination of organizational leadership utilizing emotional intelligence as a foundation for managing change. This course is approved for offering in a distance learning format. Prerequisites: LDR 200 and 86 semester hours completed; or graduate standing.

MSA 502 Workforce Improvement Strategies in Corporate/Non-profit Organizations 3(3-0)
Examines the process of preparing objectives, defining content, and selecting learning activities used by administrators to train, develop, and evaluate employees throughout the career continuum. This course may be offered in an online or hybrid format. Prerequisites: 86 semester hours completed or admission into a graduate program.

MSA 503 Gender and Generational Supervision 3(3-0)
The course analyzes how gender and generational differences manifest themselves on the workplace, and how to effectively work within and manage those differences. This course may be offered in an online or hybrid format. Prerequisites: 86 semester hours completed or admission into a graduate program.

MSA 504 Strategies and Proposals in Government Acquisitions 3(3-0)
Provides a framework for formulating strategies used in federal acquisitions. Examines the request for proposal (RFP) process, and the preparation of proposals, reviews, and follow-up. This course may be offered in an online or hybrid format. Prerequisite: MSA 503.

MSA 505 Global Leadership Perspectives 3(3-0)
An examination of established and emerging perspectives on global leadership. The student will focus on geo-leadership models which impact administration across borders and cultures. This course may be offered in an online or hybrid format. Prerequisites: LDR 200 and 86 semester hours completed; or Graduate Standing.

MSA 540 Legal Considerations of Contract Administration 3(3-0)
Examines legal and regulatory aspects associated with federal acquisition and contracts including: standards of conduct, governmental liability, dispute processes, and administrative and judicial resolution methods. This course may be offered in an online or hybrid format. Prerequisite: MSA 501.

MSA 600 Foundations of Research Methods in Administration 3(3-0)
An introduction to research methods designed to build the skills and knowledge necessary to conduct and interpret primary research in the field of administration. This course may be offered in an online or hybrid format. Prerequisite: LDR 200 or graduate program.

MSA 601 Organizational Dynamics and Human Behavior 3(3-0)
Students examine and apply organizational theories aimed at understanding and analyzing human behavior in complex organizations. This course may be offered in an online or hybrid format. Prerequisites: LDR 200 or graduate program.

MSA 602 Financial Analysis, Planning and Control 3(3-0)
Study of financial analysis, planning, and control techniques/methods emphasizing mechanisms used to determine the overall financial health of private, public, and non-profit organizations. This course may be offered in an online or hybrid format. Prerequisites: Accounting competency.

MSA 603 Strategic Planning for the Administrator 3(3-0)
An examination of strategic approaches and techniques used by administrators to analyze internal and external environments to establish and accomplish long-term strategic organizational goals. This course may be offered in an online or hybrid format. Prerequisite: MSA 601.

MSA 604 Administration, Globalization and Multiculturalism 3(3-0)
Focuses on theoretical and applied concepts and skills essential to successfully managing an environment of workplace diversity and multiculturalism within domestic and global organizations. This course may be offered in an online or hybrid format.

MSA 609 Ethical and Legal Dimensions of Private Sector Organizations 3(3-0)
Examines private sector legal environment including, ethical, regulatory and legal issues, and the role of non-profit organizations in dealing with frequently encountered issues in decision making. This course may be offered in an online or hybrid format.

MSA 610 Environments in Administration 3(3-0)
Studies the impact of the economic, legal, political, technical, international, and social environments on administration. Presents the relevant concepts from these areas and analyzes their interrelationships. This course is approved for offering in a distance learning format.

MSA 611 Contract Administration 3(3-0)
Analysis of theories and applied concepts of federal and commercial contracts, planning contracts, budgeting and negotiating contracts and best practices in contracts. This course may be offered in an online or hybrid format.

MSA 612 Grants Fiscal Administration 3(3-0)
Study of and practical applications of grants accounting/financial-related tasks on federal, foundation, institutional and private awards. This course may be offered in an online or hybrid format. Prerequisites: MSA 602 or the permission of MSA Director.

MSA 613 Project Administration 3(3-0)
Intensive coverage of project administration and applications from concept through operations. Course focuses on planning, scheduling, controlling, economic analysis, evaluation/control and customer satisfaction. This course may be offered in an online or hybrid format.

MSA 614 Ethics in Research Administration 3(3-0)
Covers the ethical, legal, social issues and best practices involved in the administration and conduct of research and the application of products from research. This course may be offered in an online or hybrid format.

MSA 615 Sponsored Project Administration 3(3-0)
Examination of core aspects of sponsored project administration: institutional compliance, proposal creation, review and submission, contract negotiations, sub-award resolution, and post award financial administration. This course may be offered in an online or hybrid format.

MSA 616 The Practice of Research Administration 3(3-0)
Examines the theory and foundations of research administration in the context of departmental administration, tools for successful department administration, and the role of Research Administrator. This course may be offered in an online or hybrid format.

MSA 617 Clinical Research Administration 3(3-0)
This course examines clinical research as science as well as the administration of clinical research processes and programs. Covers protocol, budgets, ethics and funding. This course may be offered in an online or hybrid format.

MSA 619 Continuing Registration for Final Research Project 1(1-0)
A non-credit course intended for students who have completed all program credits but still need to use university resources to complete their degree requirements.

MSA 620 Effective Administration and Organizational Behavior 3(3-0)
Focuses on theoretical and applied concepts and skills which help or hinder successful task completion. To improve interpersonal and diagnostic skills as well as theoretical knowledge. This course is approved for offering in a distance learning format.

MSA 622 Research Facilities Administration and Cost 3(3-0)
Study of the planning, operation, and costs associated with managing physical plants specific to research facilities. This course may be offered in an online or hybrid format.

MSA 634 Managerial Accounting Concepts 3(3-0)
Study of how accounting information can be used in planning, coordinat- ing, and controlling the activities of an organization. Prerequisite: Accounting competency. This course is approved for offering in a distance learning format.

MSA 635 Financial Management 3(3-0)
Study of financial management and financial management techniques for administrators of private and public organizations. Emphasis is on financial planning and control. Prerequisite: Accounting competency. This course is approved for offering in a distance learning format.

MSA 640 Quantitative Applications in Decision Making 3(3-0)
This course studies stochastic and quantitative analytical tools and concepts which can be used to make optimal decisions in the pursuit of such organizational goals as cost efficiency, service delivery, and profit. Concepts include probability theory, statistics, decision theory, inventory control, linear models, linear programming, network analysis, and simulation. Prerequisite: Statistics competency. This course is approved for offering in a distance learning format.

MSA 641 Historical and Cultural Perspectives on Philanthropy 3(3-0)
Explores the historical issues and values surrounding philanthropy and nonprofit organizations that shape contemporary formal study of philanthropy. Examines philanthropy across geographic and cultural perspectives. This course may be offered in an online or hybrid format.

MSA 642 Principles, Theory and Ethical Practices in Fundraising and Grant Making 3(3-0)
Focuses on principles, theory, and ethics in fundraising. Examines values, ethical issues raised in philanthropy and the role of boards of trustees. This course may be offered in an online or hybrid format.

MSA 643 Administration of Annual, Capital Campaigns and Major Gifts 3(3-0)
Focuses on the development of fundraising skills and techniques to build annual giving and major gift programs, assess capital campaign readiness, and implement capital campaigns. This course may be offered in an online or hybrid format.

MSA 644 Philanthropy: The Role of Foundations, Non Profit Organizations in Society 3(3-0)
This course covers theories of philanthropy and the role of nonprofit organizations in society to clarify the meaning of philanthropy. This course may be offered in an online or hybrid format.

MSA 645 Strategic Philanthropy: Corporations, Foundations, Individuals and Bequests 3(3-0)
Introduces the philanthropic road map, allowing donors to identify motivations, goals, strategies, grants, and benchmarks to solve problems. Provides tools to effectively manage philanthropic programs. This course may be offered in an online or hybrid format.
MSA 646 Foundations of Philanthropic Organizations 3(3-0)
Central theories, principles, and practices of nonprofits including sector history, culture, and scope. Covers financial, ethical, strategic, governance, and collaborative aspects of philanthropic organizations. This course may be offered in an online or hybrid format.

MSA 647 People and Project Administration 3(3-0)
Course addresses the people side of project management and defines key mechanisms, process flows, tools, and measurement criteria for improving stakeholder performance. This course may be offered in an online format.

MSA 650 Organization Theory: Strategy and Structure 3(3-0)
A systems approach to studying the design and administration of complex organizations. Diverse organizational settings require the capacity to develop appropriate decision making and planning strategies to promote the desired organizational goals, given the organization's environment. This course is approved for offering in a distance learning format.

MSA 660 Marketing Administration 3(3-0)
Intensive writing course integrating MSA core and concentration courses with appropriate marketing concepts and techniques to the private sector business and nonprofit organizations' marketing and communication activities. This course is approved for offering in a distance learning format.

MSA 661 Diversity and Multiculturalism in the Workplace 3(3-0)
An examination of the skills needed to successfully administer an environment that facilitates workplace diversity and multiculturalism within the contexts of domestic, national, and global organizations.

MSA 675 Strategic Policy Administration 3(3-0)
Applies decision-making models for policy analysis and implementation in the private and public sector environments. A case study course covering organizational analysis and operational programming. Prerequisite: Minimum of 9 semester credit hours of MSA core courses, including MSA 634 or MSA 635. This course is approved for offering in a distance learning format.

MSA 681 Administrative Practicum 1-3(Spec)
Provide students with an introductory professional experience of an administrative/supervisory nature in an administrative setting. For students with limited or no administrative experience. Prerequisite: Permission of MSA Director.

MSA 685 Integrative Analysis of Administration 3(Spec)
MSA 685 builds upon the information and skills learned in the core and concentration course work, and the student's employment experiences. The course trains the student in application of administrative theory and research to practical issues and problems found in occupational situations. In these senses of joining theory, research and practice with the practical world, the course is truly integrative of the student's knowledge, skills, and professional life. This course is approved for offering in a distance learning format. Prerequisites: MSA 600, MSA 602 or MSA 634 or MSA 635, MSA 640 all with a grade of C or better; 21 hours of graduate credit.

MSA 690 Internship 1-3(Spec)
Provides a supervised, practical, in-depth administrative experience in an organization related to the MSA student's concentration area. Prerequisites: 18 hours completed in the MSA program and permission of the MSA Director.

MSA 691 Independent Study 1-2(Spec)
Directed reading or research on an approved topic in administration. Prerequisite: permission of instructor and director of MSA program.

MSA 696 Special Topics 3(3-0)
Selected topics of interest to students which are not included in existing courses. Specific topic will be listed on the student's transcript. This course may be offered in an online or hybrid format.

MSA 698 Directed Administrative Portfolio 3(3-0)
Intensive writing course integrating MSA core and concentration courses by developing a series of applied research projects or significant papers germane to current administrative issues. This course may be offered in an online or hybrid format. Prerequisites: MSA 600; MSA 601; MSA 602; MSA 603; MSA 604 all with a grade of C or better; 30 hours of graduate credit.

MSA 699 Applied Research Project in Administration 3(Spec)
Research project on a practical organizational administrative issue and/or problem integrating theoretical, methodological, and applied knowledge from core and concentration coursework with student's professional experience. This course is approved for offering in a distance learning format. Prerequisites: MSA 600; MSA 602 or MSA 635; MSA 603 or MSA 640 all with a grade of C or better; 24 hours of graduate credit.

MST - Museum Studies
Contact the College of Humanities and Social and Behavioral Sciences for more information.

MST 546 Introduction to Museum Work 3(3-0)
Exploration of the duties and responsibilities encountered in museum work. Collection care and development, exhibition preparation, and educational program development. Prerequisite: 56 hours of course credit.

MST 547 Museum Science Laboratory 3(0-6)
Experimentation with materials and techniques utilized within the museum profession. Primary emphasis is on exhibit preparation, model-building, and replica-making for educational use. Prerequisites: MST 546; 56 semester hours of credit.

MST 550 Museum Collections Management and Care 3(3-0)
Curatorial techniques in museums including acquisition, cataloging, legal requirements, preservation, computerization and proper handling. Prerequisites: MST 546; 56 hours of course credit.

MST 551 Museum Education and Interpretation Techniques 3(3-0)
Interpretive methods used by museums including development and implementation of programs and enhancement of interpretive skills. Prerequisites: MST 546; 56 hours of course credit.

MST 575 Independent Study in Museum Studies 3(3-0)
Study of specific selected topics in museum theory or practice at a level suitable for advanced undergraduates or graduate students. Prerequisites: MST 310.

MST 588 Museum Internship 6(Spec)
Supervised work experience applying classroom concepts and skills in the operation and programming of a museum, historic site or other informal learning center. Prerequisites: Obtain permission of the Director of the Museum Studies Program.

MST 610 International Cultural Laws and Ethics 3(3-0)
Explore the laws that protect our cultural heritage using case studies that investigate current trends at the state, national, and international level. Prerequisites: ANT 645, HST 580, MST 550.

MST 620 Museum Management 3(3-0)
Discover the dynamic world of museum management where leadership and creativity in a fast-paced environment is the norm.

MST 740 Seminar in Emergency Preparedness 3(3-0)
Cultural institutions frequently face recovery from natural and civil disasters. Prepare a recovery action plan under experienced leadership. Prerequisites: MST 550.

MST 750 Seminar in Advanced Exhibit Design and Construction 3(3-0)
Museums primarily communicate their message through exhibits. Learning the theory and method of exhibit design and fabrication.

MST 798 Creative Endeavors in Museum Studies 3(3-0)
Museum professionals use creative tools to educate and entertain. This supervised hands-on experience allows students to explore their own creativity in the museum context. Prerequisites: MST 610, MST 620.

MTH - Mathematics
See the Department of Mathematics for more information.

MTH 520 Optimization Theory 3(3-0)
An introduction to the theory, practical applications and algorithms of nonlinear programming. Prerequisites: MST 540, MTH 233.

MTH 521 Theory of Numbers 3(3-0)
Properties of integers, congruences, greatest common divisors and prime factorization, applications of number theory to computer science and/or cryptology. Prerequisite: MTH 332.

MTH 522 Math of Cryptology 3(3-0)
The mathematics and algorithms of classical and computer-age cryptology. Substitution, transposition, stream and block ciphers; DES, Rijndael and public key cryptology; cryptanalysis of cipher systems. Prerequisites: CPS 340 or MTH 332.

MTH 523 Modern Algebra I 3(3-0)
Groups, rings, integral domains, fields, and fundamental homomorphism theorems. Prerequisite: MTH 332 or graduate status.

MTH 525 Modern Algebra II 3(3-0)
Vector spaces, subspaces, bases and dimensions; linear transformations, their algebra, their representation by matrices, and linear functionals; eigenvalues, triangularizable and diagonalizable transformations; inner product spaces. Prerequisite: MTH 523.

MTH 527 Representation Theory of the Symmetric Group 3(3-0)
Representation theory of finite groups, Specht modules, combinatorics of Young tableaux, and symmetric functions. Prerequisite: MTH 525.

MTH 532 Advanced Calculus I 3(3-0)
Rigorous development of calculus for functions of one variable. Sequences, limits, continuity, differentiation, integration, exponential and logarithmic functions, arc length, series. Credits will not count towards M.A. or Ph.D. degree requirements in mathematics. Prerequisites: MTH 233 and MTH 332, or graduate status.

MTH 533 Advanced Calculus II 3(3-0)
Continuation of MTH 532. Rigorous development of calculus for functions of several variables. Limits, continuity, differentiation, and integration. Prerequisite: MTH 532.

MTH 534 Applied Mathematics and Differential Equations 3(3-0)
Initial-boundary value problems, nonlinear functions, differential operators, numerical techniques, introduction to partial differential equations, applications to biology, chemistry, engineering, medicine, and physics. Prerequisites: MTH 233, 334.
MTH 545 Introduction to Point-Set Topology 3(3-0)
Development of elementary point-set topology. Sets, functions, metric spaces, topological spaces, quotient surfaces, compactness, and connectedness. Prerequisite: MTH 332 or graduate status.

MTH 551 Mathematics for K-8 Mathematics Teachers 3(3-0)
Problem-solving, set theory, logic, number theory, algebra, consumer mathematics and mathematical systems. Credit will not apply toward a master's degree in mathematics. Prerequisites: MTH 254 and 351.

MTH 553 History of Elementary Mathematics for K-8 Teachers 3(3-0)
History of mathematical development of western and non-western cultures for use in grades K-8. Credit can only be earned in one of the following: MTH 253 or MTH 553 and will not apply toward master's degree in mathematics. Prerequisites: MTH 254 and MTH 351.

MTH 556 Microcomputers for Elementary Mathematics Teachers 3(3-0)
Develops the use of microcomputers in elementary education with particular emphasis on mathematical applications. Computer literacy and BASIC programming are included. Open only to those students pursuing a B.S. in Elementary Emphasis. Prerequisites: MTH 107, MTH 251.

MTH 558 Mathematics in Popular Culture 3(3-0)
This course explores how popular culture (such as television, comics, movies, music and books) portrays mathematicians and mathematics as a discipline. This course is intended for elementary education mathematics majors and minors or in-service teachers. Prerequisite: MTH 256.

MTH 565 Using Graphics Calculators in Mathematics Education 1(1-0)
Course is designed for secondary mathematics education majors and minors. Emphasis will be on the classroom use of graphics calculators to teach mathematics. Prerequisites: MTH 132; with MTH 223 as a co-requisite.

MTH 566 Microcomputers for Secondary Mathematics Teachers 3(3-0)
Examines microcomputer use in secondary education with particular emphasis on mathematical applications. Open only to those students pursuing a B.S. in Ed., Secondary Emphasis. Prerequisite: MTH 223.

MTH 573 History of Mathematics 3(3-0)
History of arithmetic, algebra, geometry, calculus. Prerequisites: MTH 332 or MTH 341, or graduate status.

MTH 578 Combinatorics I 3(3-0)
Introduction to the basic principles of combinatorics and graph theory with applications to problems of nonmathematical origin. Prerequisite: MTH 523.

MTH 586 Operations Research I 3(3-0)
Mathematical theory and applications of mathematical programming. Linear programming duality, integer programming, mixed integer programming, and dynamic programming. Prerequisites: MTH 133.

MTH 587 Operations Research II 3(3-0)
Continuation of MTH 586. Theory and application of stochastic models in operations research. Inventory models, queuing theory, Markov chains, stochastic programming. Prerequisites: STA 382, MTH 586.

MTH 591 Seminar in the Solution of Putnam Problems 1-3(Spec)
Problem-solving techniques demonstrated through solutions of the Putnam Examination problems. Designed particularly for those students interested in participating in the Putnam Examination. Prerequisite: MTH 233; permission of instructor.

MTH 594 Seminar in Higher Mathematics 3(3-0)
Class presentations of results of independent study, and final comprehensive written report in an approved subject. Prerequisite: one year of calculus; permission of instructor.

MTH 595 Special Topics in Mathematics Education 1-6(Spec)
Subject matter not included in regular mathematics education courses. May be taken for credit more than once, total credit not to exceed 6 hours. Specific topics and pre/co-requisites will be announced in Course Search and Registration. May not be counted toward a major or minor in mathematics except for students pursuing a B.S. in Ed. degree. Pre/co-requisites: See Course Search and Registration.

MTH 596 Special Topics in Mathematics 1-6(Spec)
Subject matter not included in regular course. May be taken for credit more than once, total credit not to exceed 6 hours. Pre/co-requisites: See Course Search and Registration.

MTH 597 Independent Study 1-5(Spec)
Open to students with permission of instructor. May be taken for credit more than once, total credit not to exceed 6 hours.

MTH 619 Continuing Registration for Final Research Project 1(1-0)
A non-credit course intended for students who have completed all program credits but still need to use university resources to complete their degree requirements.

MTH 623 The Theory of Groups 3(3-0)
First graduate level course in algebra. Isomorphism theorems for group, Sylow theorems, nilpotent and solvable groups, modules over principal ideal domains/abelian groups. Prerequisites: MTH 523.

MTH 625 Theory of Associative Rings 3(3-0)
Second graduate level course in algebra. Ring theory, module theory, categories and functors, tensor products. Prerequisites: MTH 623.

MTH 627 Representation Theory of Lie Algebras 3(3-0)
Lie algebras, semisimplicity, representation of Lie algebras, weights and roots, universal enveloping algebras, character and dimension formulas. Prerequisite: MTH 625. Recommended: MTH 527.

MTH 632 Introduction to Real Analysis and Its Applications 3(3-0)
Development of integration theory with introduction to Lebesgue measure and integral on the real line. Elementary theory of normed spaces, bounded linear operators and linear functionals with applications. Prerequisite: MTH 532.

MTH 633 Real Variables 3(3-0)

MTH 634 Fourier Analysis 3(3-0)

MTH 636 Introduction to Complex Variables 3(3-0)
Complex numbers, analytic functions, elementary functions, Cauchy's theorem, Integral formula, Taylor and Laurent series, residue theorem and its applications, Rouche's theorem. Prerequisite: MTH 532.

MTH 637 Complex Variable Theory 3(3-0)
Conformal mapping, Mobius transformations, harmonic functions, Deichlet problem, entire and meromorphic functions, analytic continuation, Riemann surfaces, applications of complex analysis. Prerequisite: MTH 636.

MTH 638 Theoretical Numerical Analysis 3(3-0)
Numerical linear algebra with applications in linear and nonlinear systems. Interpolation and approximation and their applications to numerical differentiation, numerical integration and differential equations. Prerequisite: MTH 532. Co-requisite: MTH 533.

MTH 641 Topics in Geometry 3(3-0)
Advanced topics in geometry; foundations, non-Euclidean geometry. Prerequisite: MTH 541.

MTH 644 Differential Geometry 3(3-0)
Differential geometry of curves and surfaces. Curvature, maps between surfaces, vector fields and differential forms, Stokes' Theorem, Euler Characteristic, Gauss-Bonnet Theorem, manifolds, Riemannian metrics. Prerequisites: MTH 532 or 545.

MTH 645 Topology 3(3-0)
A continuation of MTH 545. Topics include fundamental groups, product spaces, covering spaces, and homology. Prerequisite: MTH 523, MTH 545.

MTH 651 Basic Ideas and Procedures in Elementary School Arithmetic 3(3-0)
Mathematical concepts, fundamental processes, and measurement formulas. Prerequisite: successful completion of the Elementary Teachers Proficiency Tests.

MTH 652 The Teaching of Measurement 3(3-0)
The history, concepts, and learning of measurement systems. The metric system and laboratory activities are emphasized. Prerequisite: teaching experience.

MTH 656 Teaching & Learning Mathematics with Technology 3(3-0)
Use of instructional technology for teaching and learning mathematics, and an introduction to related research literature in mathematics and mathematics education. Prerequisite: MTH 566.

MTH 658 Workshop in Teaching Mathematics 1-6(Spec)
Preparing materials and investigating methods for teaching mathematics in grades K-12. May be repeated, total credit not to exceed 6 hours. Prerequisite: permission of the instructor.

MTH 661 The Teaching of Middle School Mathematics 3(3-0)
Objectives of mathematics instruction in the middle school. Prerequisite: minor in mathematics or teaching experience in middle or senior high school mathematics.

MTH 673 History of Advanced Mathematics 3(3-0)
History of the development of modern mathematics from 1700 into the 20th century. Prerequisites: MTH 525, 532.

MTH 678 Combinatorics II 3(3-0)
Rigorous study of graph theory, connectivity, coloring, flows, and Ramsey theory. Prerequisite: MTH 578. Pre/co-requisite: MTH 525.

MTH 692 Graduate Seminar in Mathematics Education 1-4(Spec)
Seminars focused on current issues in mathematics education. May be taken for credit more than once, total credit not to exceed 4 hours. Three credits needed before it counts as an elective on any graduate degree in mathematics. Prerequisite: Permission of an instructor.

MTH 693 Graduate Seminar in Mathematics and Its Applications 1-4(Spec)
One hour seminars in subfields of mathematics and its applications; 3 credits needed before it counts as elective on graduate degrees in mathematics. Prerequisites: Graduate standing in mathematics and permission of instructor.
MTH 694 Practicum in Mathematics 3(3-0)
Taken during last semester in the M.A. program. Introduces concepts of mathematical modeling using deterministic and probabilistic methods. When possible, supervised consulting work in industry. Prerequisites: MTH 623 and permission of instructor.

MTH 695 Special Topics in Mathematics Education 1-6(Spec)
Consideration of subject matter not included in regular course. May be taken for credit more than once, total credit not to exceed 6 hours. Prerequisite: permission of instructor.

MTH 696 Special Topics in Mathematics 1-6(Spec)
Consideration of subject matter not included in regular courses. May be taken for credit more than once; total credit not to exceed six hours. Pre/Co-requisites: See Course Search and Registration.

MTH 697 Independent Study 1-9(Spec)
Open to graduate students in mathematics. May be taken for credit more than once; total credit not to exceed 9 hours. Prerequisite: permission of the instructor.

MTH 698 Plan B Project 1-2(Spec)
Plan B paper is normally an expository paper or research project on an area or problem related to but in addition to material covered in a course, written under the direction of graduate faculty. Each Plan B project is 1 credit hour. May be taken for credit more than once. Total credit not to exceed 2 hours. CR/NC only. Prerequisites: permission of advisor.

MTH 725 Topics in Algebra 3-9(Spec)
Introduces topics in the area of algebra that are not covered in the regularly offered courses. To be taken as a three credit course and may be repeated for a maximum of nine credit hours. Prerequisite: MTH 623; permission of instructor. Recommended: MTH 525, 625.

MTH 730 Topics in Applied Mathematics 3-9(Spec)
Advanced topics in the area of applied mathematics that are not covered in the regularly offered courses. Specific topics are determined by the instructor. To be taken as a three credit course and may be repeated for a maximum of nine credit hours. Prerequisites: MTH 534 or 632 or 634; permission of instructor. Recommended: MTH 534, 632, 634, 638.

MTH 732 Functional Analysis 3(3-0)
Fundamentals of topological vector spaces, normed spaces, Banach and Hilbert spaces, functionals on such spaces, operators on Banach and Hilbert spaces, spectral theorems, Banach algebras. Prerequisites: MTH 632, 636.

MTH 734 Partial Differential Equations and Applications 3(3-0)
Solutions of partial differential equations by analytic and numerical techniques using standard methods, including Fourier series and Laplace transforms, perturbation, finite elements and finite differences. Prerequisites: MTH 334 and MTH 636.

MTH 737 Topics in Analysis 3-9(Spec)
Topics in the area of analysis that are not covered in the regularly offered courses. To be taken as a three credit course and may be repeated for a maximum of nine credit hours. Prerequisites: MTH 632 or 636; permission of instructor. Recommended: MTH 534, 632, 634, 638.

MTH 761 Methods for Teaching College Mathematics 3(3-0)
Methods in teaching undergraduate mathematics including technology use, cooperative learning, inquiry, and guided discovery. Students will create activities and discuss issues surrounding undergraduate instruction. Prerequisite: Completion of 12 hours of graduate level mathematics at CMU and admission to one of the graduate programs in the Department of Mathematics.

MTH 762 A Survey of Research in Collegiate Mathematics Education 3(3-0)
Introduction to understanding and interpreting mathematics education research, trends, and evaluation at the undergraduate level. Prerequisites: MTH 761.

MTH 763 Advanced Perspectives in Collegiate Mathematics Education 3(3-0)
Advanced perspectives in collegiate mathematics education as it relates to the areas of teaching, learning, and curriculum. Prerequisites: MTH 762 and EDU 614.

MTH 764 Qualitative Research Methods in Mathematics Education 3(3-0)
Introduction to the qualitative research in mathematics education including research design, development of protocols, fieldwork, collecting and analyzing data and techniques for interviewing. Prerequisite: MTH 763.

MTH 766 Internship: College Teaching 3-6(Spec)
Teaching of approved undergraduate mathematics or statistics courses. Students will conduct their teaching internship under the supervision of a graduate faculty member. CR/NC only. Prerequisites: MTH 761; successful completion of all qualifying examinations.

MTH 767 Seminar in Collegiate Mathematics Education 3(3-0)
Use of a review of literature to focus research questions and to develop a research proposal. Each student develops a proposal for his/her dissertation research. Prerequisites: MTH 764.

MTH 768 Seminar in Collegiate Mathematics Education II 3(3-0)
Conduct a pilot study to collect and analyze data. The students will then develop conclusions and implications of the study. Prerequisites: MTH 767. Pre/Co-requisite: PSY 611.

MTH 778 Topics in Combinatorics 3-9(Spec)
Advanced topics in the area of combinatorics that are not covered in the regularly offered courses. To be taken as a three credit course and may be repeated for a maximum of nine credit hours. Prerequisite: MTH 578; permission of instructor. Recommended: MTH 525, 623, 678.

MTH 795 Advanced Practicum/Internship 3-6(Spec)
In-depth doctoral practicum project supervised by a faculty member or internship experience in an external agency supervised by a faculty member and professional supervisor. CR/NC only. Prerequisites: Successful completion of all Ph.D. qualifying examinations; permission of the faculty supervisor.

MTH 796 Special Topics in Mathematics 1-6(Spec)
Consideration of subject matter not included in regular courses. May be taken for credit more than once; total credit not to exceed 6 hours. Prerequisite: completion of 30 hours of coursework required for the Doctoral program.

MTH 797 Independent Study 1-9(Spec)
Open to doctoral students in mathematics. May be taken for credit more than once; total credit not to exceed 9 hours. Prerequisites: 30 hours of coursework toward the doctoral program; permission of the instructor.

MTH 798 Thesis 1-6(Spec)
Master's thesis research. CR/NC only. Prerequisites: Graduate status and permission of thesis advisor.

MTH 898 Dissertation 1-30(Spec)
Doctoral dissertation research. CR/NC only. Prerequisites: Doctoral status and permission of dissertation advisor.

MUS - Music
See the School of Music for more information.

School of Music Course Numbering
Course numbers are coded according to content. The middle digit of the number indicates content as follows:

Course Content
Theory and Composition
Music History and Literature
Pedagogy
Class Applied Instruction
Private Applied Instruction
Ensembles
Research and Special Studies

MUS 503 Advanced Counterpoint 2(2-0)
Advanced contrapuntal techniques and writing assignments in 18th century style. Prerequisites: MUS 302; Music candidacy; or admission to the graduate music program.

MUS 504 Modern Compositional Styles/Techniques 2(2-0)
Exploration and application of significant trends in compositional techniques from 1900 to the present. Prerequisites: MUS 202 and Music candidacy; or admission to the graduate music program.

MUS 505 Seminar in Contemporary Music Analysis 2(2-0)
Analysis of selected contemporary compositions. Prerequisites: Music Candidacy, MUS 202; or admission to the graduate music program.

MUS 506 Advanced Scoring 2(2-0)
Scoring for large ensembles. Prerequisite: MUS 304 and admission to Music candidacy; or graduate standing in Music program.

MUS 511 Choral Literature I 2(2-0)
Detailed study of choral forms of the Renaissance and Baroque eras. Prerequisites: Admission to Music Candidacy or Admission to the Graduate Music Program.

MUS 512 Choral Literature II (Since 1750) 2(2-0)
Representative small choral forms suitable for secondary school. Special attention to style characteristics which contribute to interpretive techniques. Prerequisites: Admission to Music Candidacy or Admission to the Graduate Music Program.

MUS 514 Survey of Piano Literature 3(3-0)
Survey of piano literature from the Baroque period to modern times. Prerequisites: Music Candidacy or admission to the graduate music program.

MUS 515 History of Opera 3(3-0)
A survey of operatic literature from the Baroque to modern era. Prerequisite: Admission to Music Candidacy or admission to the graduate music program.

MUS 516 Seminar in Piano Music 3(3-0)
Critical examination of the piano works of a selected composer, focusing on stylistic contributions to musical forms and genres. Repeatable up to nine hours when content previously studied is not duplicated. Prerequisites: Music Candidacy or admission to the graduate music program; MUS 514.

MUS 518 Song Repertoire 2(1-2)
A survey of art song repertoire. Prerequisites: Music Candidacy or admission to the graduate music program.
MUS 520 Jazz Arranging 3(3-0)
The study of basic arranging techniques used in writing music for small and large jazz ensembles. Prerequisite: Admission to Music candidacy or admission to the graduate music program.

MUS 521 Advanced Jazz Arranging 3(3-0)
The study of modern advanced arranging techniques used in writing music for large jazz ensembles. Prerequisite: Admission to Music candidacy or admission to the graduate music program; MUS 520.

MUS 531 Orff Techniques 2(1-2)
Philosophy, techniques, and pedagogy of the Orff-Schulwerk approach to music education. Prerequisite: Admission to Music Candidacy or admission to the graduate music program.

MUS 532 Dalcroze Eurhythmics 2(1-2)
Introduction to the music education philosophy and approach of Emile Jacques-Dalcroze. Prerequisite: Admission to Music Candidacy or admission to the graduate music program.

MUS 533 Kodály Pedagogy 2(1-2)
Philosophy, materials, and pedagogy of the Kodály method of music education. Prerequisite: Admission to Music Candidacy or admission to the graduate music program.

MUS 534 Music for Pre-School Children 2(2-0)
Musical activities for the preschool child designed to nurture musical potential and promote musical awareness. Prerequisite: Junior status or above; or graduate status.

MUS 535 Workshop in Music Education 1-4(Spec)
Practical applications of selected music education trends, techniques, or methodologies. Repeatable up to four hours when content previously studied is not duplicated. Prerequisites: Music Candidacy or admission to the graduate music program.

MUS 540 Organ Pedagogy Practicum 2(Spec)
Supervised experience in teaching the organ. Prerequisites: Admission to Music Candidacy, MUS 351; or admission to the graduate music program.

MUS 552 Jazz Piano Laboratory 1-8(Spec)
Individual instruction in jazz piano performance. May be taken more than once, for 1-2 credits per enrollment, not to exceed eight credits. Prerequisites: Music Candidacy or admission to the graduate music program.

MUS 581 Jazz Improvisation Laboratory 2(1-2)
Advanced improvisation and ensemble leadership skills in a laboratory setting. This course is repeatable up to 4 credits. Prerequisites: Music Candidacy; or Admission to the Graduate Music Program.

MUS 597 Special Topics 1-6(Spec)
This course is repeatable. Prerequisite: Admission to Music Candidacy or admission to the graduate music program.

MUS 607 Music Technology Seminar 3(3-0)
Practical application of music-related technology equipment and software as they relate to the needs of music educators and professional musicians. Prerequisite: Admission to the graduate music program.

MUS 619 Continuing Registration for Final Research Project 1(1-0)
A non-credit course intended for students who have completed all program requirements but still need to use university resources to complete their degree requirements. Prerequisite: Admission to the graduate music program.

MUS 620 Jazz Harmony and Analysis 3(3-0)
Advanced study of jazz harmony focusing on tonal and modal music. Prerequisite: Admission to the graduate music program.

MUS 621 Jazz Improvisation Pedagogy and Practicum 2(1-2)
develop the skills, methods, and materials necessary to teach jazz improvisation. Prerequisite: Admission to the graduate music program; MUS 620.

MUS 622 Modern Jazz History 3(3-0)
A course in modern jazz history designed for graduate music students that covers important styles and figures in the history of jazz since 1940. Prerequisite: Admission to the graduate music program.

MUS 624 Jazz Pedagogy 3(2-2)
A course designed to enhance skills in the teaching of jazz as a performing art and as a historically significant cultural event. Prerequisite: Admission to the graduate music program.

MUS 631 Advanced Piano Pedagogy I 3(3-0)
Elementary through early intermediate teaching materials, methods, and technology for the independent teacher. Prerequisite: Admission to the graduate music program.

MUS 632 Advanced Piano Pedagogy II 3(3-0)
Intermediate to advanced piano teaching methods and materials. Prerequisite: Admission to the graduate music program; MUS 631.

MUS 633 Class Piano Pedagogy 3(3-0)
Materials and teaching techniques for group piano teaching at the pre-college and college levels. Prerequisite: Admission to the graduate music program.

MUS 634 Piano Pedagogy Practicum 3(2-2)
Supervised experience in teaching piano at the pre-college and college levels. Prerequisites: Admission to the graduate music program; MUS 631 or 632 or 635.

MUS 701 Composition 2-8(Spec)
Graduate applied study of music composition. Prerequisite: Admission to the graduate music program.

MUS 707 Analytical Styles I: Medieval - Classical 3(3-0)
Detailed analysis of selected representative works from the Medieval era through the Classical period. Prerequisite: admission to the graduate music program.

MUS 708 Analytical Styles II: 19-21st Century 3(3-0)
Detailed analysis of selected representative works from the 19th century through the modern day. Prerequisites: admission to the graduate music program.

MUS 711 Choral Masterworks 3(3-0)
A survey of masterworks of the choral/orchestral repertoire. In-depth examination of major works and exploration of minor choral works written by the masters. Prerequisites: Admission to the graduate music program.

MUS 713 Early Jazz and American Culture through 1945 3(3-0)
A jazz course taught with emphasis on early jazz chronology as it relates to American culture. Prerequisite: admission to graduate program.

MUS 714 Wind Band Literature 3(3-0)
A survey of band literature and its evolution from 1500 to present. Prerequisite: admission to the graduate music program.

MUS 715 Rock 'n' Roll Seminar 3(3-0)
Traces the roots of rock, surveys the various types of rock, and provides indepth analysis of the music. This course may be offered in an online or hybrid format. Prerequisite: admission to graduate music program (music major status not required).

MUS 717 Historical Topics I: Medieval - Classical 3(3-0)
Examination of selected topics in the history of music from the Medieval era through the Classical period. Prerequisite: admission to the graduate music program.

MUS 718 Historical Topics II: 19-20th Century 3(3-0)
Examination of selected topics in the history of music from the Romantic period through the twentieth century. Prerequisite: admission to the graduate music program.

MUS 719 Seminar in World Music 3(3-0)
A survey of selected musical cultures from around the world, with an emphasis on the study of music in its broader cultural context. Music major status not required.

MUS 720 Seminar in the Music of a Selected Composer 3-9(Spec)
Critical examination of the works of a selected composer, focusing on stylistic contributions to musical forms and genres. Repeatable up to nine hours when content previously studied is not duplicated. Prerequisite: MUS 717 or 718.

MUS 731 Curriculum Design in Music Education 3(3-0)
Examination of contemporary practices, methods, and resources for developing standards-based curricula for K-12 music programs. Prerequisite: admission to the graduate music program.

MUS 732 History and Philosophy of Music Education 3(3-0)
Examines the history of music education in the United States and philosophical bases for teaching music. Provides a rationale for a comprehensive music education program. Prerequisite: admission to the graduate music program.

MUS 733 Woodwind Pedagogy 3(3-0)
Advanced study of pedagogical methodologies and materials for woodwind instruments. Prerequisite: Admission to the graduate music program.

MUS 734 Brass Pedagogy 3(3-0)
Advanced study of pedagogical methodologies and materials for brass instruments. Prerequisite: Admission to the graduate music program.

MUS 735 Percussion Pedagogy 3(3-0)
Advanced study of pedagogical methodologies and materials for percussion instruments. Prerequisite: Admission to the graduate music program.

MUS 736 String Pedagogy 3(3-0)
Advanced study of pedagogical methodologies and materials for string instruments. Prerequisite: admission to the graduate music program.

MUS 750 Voice 1-8(Spec)
Individualized program of applied studio instruction in voice performance focusing on technique, musicianship, literature, and performance practice at the professional artist level. This course is repeatable. Prerequisites: Admission to the Graduate Music Program; Successful completion of a music audition.

MUS 751 Organ 1-8(Spec)
Individualized program of applied studio instruction in organ performance focusing on technique, musicianship, literature, and performance practice at the professional artist level. The course is repeatable. Prerequisites: Admission to the Graduate Music Program; successful completion of music audition.

MUS 752 Piano 1-8(Spec)
Individualized program of applied studio instruction in piano performance focusing on technique, musicianship, literature, and performance practice at the professional artist level. This course is repeatable. Prerequisites: Admission to the graduate music program; successful completion of music audition.
MUS 753 Violin and Viola 1-8(Spec)
Individualized program of applied studio instruction in violin performance focusing on technique, musicianship, literature, and performance practice at the professional artist level. The course is repeatable. Prerequisites: Admission to the graduate music program; successful completion of music audition.

MUS 754 Viola 1-8(Spec)
Individualized program of applied studio instruction in viola performance focusing on technique, musicianship, literature, and performance practice at the professional artist level. This course is repeatable. Prerequisites: Admission to the Graduate Music Program; Successful completion of music audition.

MUS 755 Violoncello 1-8(Spec)
Individualized program of applied studio instruction in violoncello performance focusing on technique, musicianship, literature, and performance practice at the professional artist level. The course is repeatable. Prerequisite: Admission to the Graduate Music Program; successful completion of music audition.

MUS 757 String Bass 1-8(Spec)
Individualized program of applied studio instruction in string bass performance focusing on technique, musicianship, literature, and performance practice at the professional artist level. This course is repeatable. Prerequisites: Admission to the Graduate music program; successful completion of music audition.

MUS 760 Harpsichord 1-8(Spec)
Individualized program of applied studio instruction in harpsichord performance focusing on advanced technique, musicianship, literature, and performance practice at the professional artist level. The course is repeatable. Prerequisite: Admission to the graduate music program.

MUS 761 Flute 1-8(Spec)
Individualized program of applied studio instruction in flute performance focusing on technique, musicianship, literature, and performance practice at the professional artist level. The course is repeatable. Prerequisites: Admission to the Graduate Music Program; successful completion of music audition.

MUS 763 Oboe 1-8(Spec)
Individualized program of applied studio instruction in oboe performance focusing on technique, musicianship, literature, and performance practice at the professional artist level. The course is repeatable. Prerequisites: Admission to the Graduate Music Program; successful completion of music audition.

MUS 765 Clarinet 1-8(Spec)
Individualized program of applied studio instruction in clarinet performance focusing on technique, musicianship, literature, and performance practice at the professional artist level. The course is repeatable. Prerequisites: Admission to the Graduate Music Program; successful completion of music audition.

MUS 767 Bassoon 1-8(Spec)
Individualized program of applied studio instruction in bassoon performance focusing on technique, musicianship, literature, and performance practice at the professional artist level. The course is repeatable. Prerequisites: Admission to the Graduate Music Program; successful completion of music audition.

MUS 769 Saxophone 1-8(Spec)
Individualized program of applied studio instruction in saxophone performance focusing on technique, musicianship, literature, and performance practice at the professional artist level. The course is repeatable. Prerequisites: Admission to the Graduate Music Program; successful completion of music audition.

MUS 771 Trumpet 1-8(Spec)
Individualized program of applied studio instruction in trumpet performance focusing on technique, musicianship, literature, and performance practice at the professional artist level. The course is repeatable. Prerequisites: Admission to the Graduate Music Program; successful completion of music audition.

MUS 775 Trombone 1-8(Spec)
Individualized program of applied studio instruction in trombone performance focusing on technique, musicianship, literature, and performance practice at the professional artist level. The course is repeatable. Prerequisites: Admission to the Graduate Music Program; successful completion of music audition.

MUS 777 Euphonium 1-8(Spec)
Individualized program of applied studio instruction in euphonium performance focusing on technique, musicianship, literature, and performance practice at the professional artist level. The course is repeatable. Prerequisites: Admission to the Graduate Music Program; successful completion of music audition.

MUS 778 Tuba 1-8(Spec)
Individualized program of applied studio instruction in tuba performance focusing on technique, musicianship, literature, and performance practice at the professional artist level. The course is repeatable. Prerequisites: Admission to the Graduate Music Program; successful completion of music audition.

MUS 779 Percussion 1-8(Spec)
Individualized program of applied studio instruction in percussion performance focusing on technique, musicianship, literature, and performance practice at the professional artist level. The course is repeatable. Prerequisites: Admission to the Graduate Music Program; successful completion of music audition.

MUS 780 Performance Ensembles 1-8(Spec)
Preparation and performance of music repertoire in an ensemble setting. Open by audition to any graduate student in the university. Cr/NC only.

MUS 781 Advanced Choral Conducting 3-6(Spec)
Advanced score preparation, rehearsal and conducting techniques for the choral music educator/conductor. Prerequisite: Admission to the graduate music program.

MUS 782 Advanced Instrumental Conducting 3-6(Spec)
Advanced score preparation and conducting techniques for instrumental music educators and conductors. Prerequisites: Admission to the Graduate Music Program; Successful completion of music audition.

MUS 784 Instrumental Rehearsal Techniques 3(3-0)
Pedagogical techniques for the musical preparation of instrumental ensembles. Prerequisite: admission to the graduate music program.

MUS 791 Introduction to Music Research 3(0)
An overview of scholarly research techniques in music. Prerequisite: admission to the graduate music program.

MUS 793 Research Project in Music Education 2(Spec)
Qualitative, quantitative, or action research coordinated with a music education faculty member. Prerequisites: Admission to the graduate music program.

MUS 795 Psychology of Music Teaching and Learning 3(3-0)
Psychological foundations of music instruction, perception, response, and learning. Prerequisite: admission to the graduate music program.

MUS 797 Special Topics 1-6(Spec)
This course is repeatable. Prerequisite: Admission to the graduate music program.

MUS 798 Thesis 1-6(Spec)
A capstone research study completed in consultation with a thesis advisor. Cr/NC only. Prerequisite: Admission to the graduate music program.

MUS 799 Recital 4(Spec)
Preparation and performance of a juried public recital. Prerequisites: Admission to the graduate music program.

NSC - Neuroscience
See the M.S. and Ph.D. in Neuroscience for more information.

NSC 501 Principles of Neuroscience I 4(4-0)
First of two core courses for advanced (grad-prep) undergraduates and graduates providing comprehensive neuroscience fundamentals such as history, key cells and molecules, and sensation mechanisms. Prerequisites: A signed major in Neuroscience Grad-Prep (Opt. B); PSY 387 (3) or BIO 392 (4); or graduate standing in the Neuroscience Graduate Program.

NSC 502 Principles of Neuroscience II 4(4-0)
Second of two core courses for advanced (grad-prep) undergraduates and graduates providing comprehensive neuroscience fundamentals. Prerequisites: NSC 501.

NSC 600 Special Issues in Neuroscience 1-12(Spec)
Subjects of contemporary neuroscience not covered by regular curriculum. May be repeated to a maximum of twelve hours. Prerequisites: Permission of instructor.

NSC 690 Research Seminar Neuroscience 1-4(Spec)
Seminar emphasizing review of the primary literature in several areas of neuroscience. May be repeated for a maximum of four credits. Prerequisites: Graduate standing in the Neuroscience Program.

NSC 696 Directed Research 1-12(Spec)
For students who desire to investigate some research problem in neuroscience. Prerequisites: Graduate standing.

NSC 697 Independent Study 1-8(Spec)
For students who accept the responsibility of studying a specific area of neuroscience with minimal supervision. Prerequisites: Graduate standing.

NSC 789 Graduate Seminar in Neuroscience 1-12(Spec)
In-depth exploration of a specific area in neuroscience through the review of the primary literature. May be repeated up to a maximum of 12 hours. Prerequisites: Permission of instructor.
NSC 798 Thesis: Design 1-3(Spec)
Design of a Master's thesis. CR/NC only. Prerequisites: Graduate standing in the Neuroscience Program.

NSC 799 Thesis: Implementation 1-3(Spec)
Completion of a Master's thesis designed in NSC 798. CR/NC only. Prerequisites: NSC 798.

NSC 800 Neuroscience Research for Doctoral Candidacy 1-12(Spec)
Major research course in which students work in close collaboration with instructor in preparing significant research project in a specific area of neuroscience. Prerequisites: NSC 799 and permission of instructor.

NSC 898 Doctoral Dissertation: Design 1-12(Spec)
Design of a doctoral dissertation. CR/NC only. Prerequisites: NSC 800.

NSC 899 Doctoral Dissertation: Implementation 1-12(Spec)
Completion of the doctoral dissertation designed in NSC 898; data collection, analysis, and write-up. CR/NC only. Prerequisites: Completion of NSC 898.

**PAD - Public Administration**

*See the Department of Political Science and Public Administration for more information.*

**PAD 523W Fundamentals of Grant Writing and Management 3(3-0)**
This course is designed to introduce students to the fundamentals of grant writing and management, evaluation in public and nonprofit organizations. Writing Intensive. This course may be offered in an online format. Prerequisite: Graduate standing or completion of 56 credit hours.

**PAD 585 Public Sector Information Technology Management 3(3-0)**
Study of the administrative strategies used to successfully implement information technology in public sector organizations. Prerequisite: 56 credit hours completed or graduate standing.

**PAD 610 Foundations of Public Administration 3(3-0)**
Overview of major themes of modern public administration, including administrative theories and processes, democratic environments, administrative functions and activities, and analytical tools and concepts.

**PAD 620 Nonprofit Management 3(3-0)**
Introduction to the fundamentals of managing organizations in the nonprofit sector.

**PAD 621 Board Governance and Executive Leadership 3(3-0)**
This course is designed to introduce students to the fundamentals of governance, trusteeship, and executive leadership in nonprofit sector organizations. This course may be offered in an online or hybrid format.

**PAD 622 Strategic Planning for Public/Non-Profit Organizations 3(3-0)**
Study of strategic planning processes and documents in public and nonprofit organizations.

**PAD 623 Public Policy Processes and Evaluation 3(3-0)**
This course provides an introduction to the professional practice of policy analysis.

**PAD 655 Managing Modern Local Government 3(3-0)**
Overview of major themes and issues confronting the management of local government.

**PAD 661 Administration and Policy in American State Government 3(3-0)**
Political, legislative, executive, judicial, and administrative processes of American state government with emphasis on the way they influence public policies.

**PAD 711 Public Personnel Management 3(3-0)**
This course is designed to provide an overview of personnel management in the public sector. This course may be offered in an online or hybrid format.

**PAD 712 Implementation and Reform of Public Programs 3(3-0)**
Examination of the major administrative reforms in the public sector and their consequent impact on the implementation of programs and projects.

**PAD 713 Public Budgeting and Finance 3(3-0)**
Advanced study of public budgets and processes. Emphasizes the political nature of budget preparation, adoption, administration and evaluation at various levels of government.

**PAD 714 Program Analysis and Evaluation 3(3-0)**
Methodology of analyzing and evaluating public programs. Design and use of quantitative and qualitative techniques for predicting and measuring performance.

**PAD 730 Public Service Competencies 1(Spec)**
Overview of the competencies needed to be an effective administrator in the public sector. CR/NC only. Prerequisite: A minimum of 21 hours of required MPA courses completed.

**PAD 773 Administration and Ethics in Public Service 3(3-0)**
This course examines ethical problems faced by participants in a modern administrative system with a focus on their sources and on methods for resolving them.

**PAD 775 Organization Theory and Behavior 3(3-0)**
The study of the appropriate design structures for administering complex organizations in the public sector with an emphasis on management, decision-making, and planning.

**PAD 780 Public Sector Research Methods 3(3-0)**
Exploration of research methods used in governmental and public sector organizations.

**PAD 785 Strategic Leadership 3(3-0)**
Course focuses on the study of leadership within public or nonprofit organizations with specific explorations of how to lead and manage. This course may be offered in an online or hybrid format.

**PAD 795 Internship in Public Administration 1-6(Spec)**
Practicum experience where students apply public administration concepts to work experience in the public sector. CR/NC only. Prerequisite: Permission of Director of Master of Public Administration program.

**PAD 796 Applied Research in Public Administration 3(3-0)**
Completion of an applied research project that integrates practical experiences and theoretical contributions. Prerequisite: Permission of the MPA Director.

**PES - Physical Education Professional**

*See the Department of Physical Education and Sport for more information.*

**PES 508 Education on Sexual Aggression for School/Community 3(Spec)**
This course addresses the realities of sexual aggression, and how schools, corporations, and communities can educate their respective populations on these topics. Identical to HSC 508. Credit may not be earned in more than one of these courses.

**PES 525 International Travel Course in Sport 3(3-0)**
A study abroad course that investigates the components of sport management from an international perspective, including historical and cultural influences on sport. Prerequisites: Permission of instructor.

**PES 530 Sport Fundraising 3(3-0)**
Provides theoretical and practical applications of fundraising in the sport industry. This course may be offered in an online or hybrid format. Prerequisites: Minimum 86 credit hours (senior status); or graduate status.

**PES 564 Sport Governance: Ethics, Morals, & Values 3(3-0)**
Investigation of law and values influencing the interpretation of laws and adherence to rules governing sport competition by athletes, coaches, and administrators. Prerequisites: PES 318, 360 and 380 all with a C or better; PES 393 with a B- or better; minimum of 86 credits (senior status); or graduate status.

**PES 570 Advanced Coaching in Basketball 2(2-0)**
Study of most recent basketball trends and new techniques, methods, and philosophies in the coaching of basketball.

**PES 572 Advanced Coaching in Baseball 2(2-0)**
Coaching philosophy, new techniques and drills, practice organization, coaching duties, and strategy. Prerequisite: PES 372.

**PES 574 Advanced Coaching of Football 2(2-0)**
Study of recent changes and new trends in coaching of football.

**PES 592 Independent Reading 1(Spec)**
Exploration of one or more aspects of the field of physical education by individual study. Prerequisite: Permission of the department chairperson and instructor required.

**PES 595 Issues in Physical Education and Sport 1-6(Spec)**
Investigation of major issues in physical education and sport. Prerequisite: permission of the instructor.

**PES 602 Sport Event Management: Theory & Application 3(Spec)**
An introduction to the strategic and operational management of sport events. This course may be offered in an online format. Credit may not be earned in both PES 602 and PES 690. Prerequisite: Admission to the MA in Sport Administration.

**PES 603 Administration of Sport and Athletics 3(3-0)**
A study of administrative techniques and administrative problems related to sport. This course may be offered in an online format. Prerequisite: Admission to the MA in Sport Administration.

**PES 606 Motor Learning and Human Performance 3(3-0)**
Factors that make for successful motor performance, including learning theory, distribution and type of practice, development factors, and physiological factors.

**PES 607 Physical Education Curriculum Analysis 3(3-0)**
Students will be provided a framework for improving and analyzing K-12 programs. Planning, implementing, improving, and redesigning curricula will be emphasized.

**PES 610 Philosophical & Ethical Issues in Athletics 3(3-0)**
Philosophical foundations underling ethical issues surrounding athletics with emphasis upon development of a consistent and rational professional philosophy. This course may be offered in an online format. Prerequisite: Admission to the MA in Sport Administration.

**PES 611 Psychology of Sport 3(3-0)**
The psychological dimension in sport as it pertains to the athlete, the coach, and the spectator; the latest psychological findings dealing with the relationship between individuals and sport.

**PES 615 Analysis of Teaching in Physical Education 3(3-0)**
A comprehensive review and analysis of teaching functions and processes with a particular emphasis on how to improve the instructional behaviors of physical educators.
PES 619  Continuing Registration for Final Research Project 1(1-0)  
A non-credit course intended for students who have completed all pro-
gram credits but still need to use university resources to complete their 
degree requirements.

PES 620  Sport - An Interdisciplinary Study 3(3-0)  
An interdisciplinary study in sport in America through an examination of 
the historical, sociological, and philosophical principles of play, sport, games, 
and athletics.

PES 625  Athletic Facility Design and Management 3(3-0)  
An analysis of athletic facility design and the processes of facility manage-
ment. This course may be offered in an online format. Prerequisite: Admission 
to the MA in Sport Administration.

PES 631  Physiology of Exercise 4(3-2)  
Physiological basis of human movement and its application to physical 
training and performance. Identical to HSC 631. Credit may not be earned in 
more than one of these courses.

PES 635  Quantitative Applications & Data Based Decision Making in 
Sport 3(3-0)  
Provides students with skills and perspectives on quantitative methodolo-
gies used for effective decision-making within the sport industry. This course 
can be offered in an online format. Prerequisite: Admission to the MA in 
Sport Administration.

PES 640  Sport and the Law 3(3-0)  
This course is designed to provide the entering professional with a practi-
cial and theoretical application of US law to the sport industry. This course 
can be offered in an online format. Prerequisite: Admission to the MA in 
Sport Administration.

PES 645  Financial Management of Sport 3(3-0)  
Provides a practical and theoretical application of marketing science to all 
realms of the sport industry. This course may be offered in an online format. 
Prerequisite: Admission to the MA in Sport Administration.

PES 650  Sport Marketing 3(3-0)  
Study of biological and mechanical aspects of biomechanics including the 
techniques of visual and cinematographic analysis.

PES 665  Applied Research in Sport Management 3(3-0)  
Students develop knowledge and expertise in research to create a project 
embedded within a sport organization. This course may be offered in an 
online format. Prerequisite: Admission to the MA in Sport Administration.

PES 670  Research Methods for Physical Education and Sport, Health 
and Recreation 3(3-0)  
Application of the fundamental concepts and theories of finance to the 
field of sport management. This course may be offered in an online format. 
Prerequisite: Admission to the MA in Sport Administration.

PES 660  Biomechanics 3(3-0)  
Study of the historical, sociological, and philosophical principles of play, 
sport, games, and athletics.

PES 685  Integrated Capstone Project in Sport Management 3(Spec)  
A capstone project including event management, human resources, research, 
marketing and communication strategies. This course may be offered in an 
online format. Prerequisite: a minimum of 24 credits in the MA in Sport Admini-
stration.

PES 690  Practicum 1-4(Spec)  
To give the student professional experience of a supervisory or administra-
tive nature in a public school, educational institution, or community agency. 
Prerequisite: Master's degree candidates only. CR/NC only.

PES 691  Independent Study 3(Spec)  
A topic is selected, researched and a scholarly paper prepared in consulta-
tion with an advisor. CR/NC only. Prerequisite: PES 670.

PES 693  Field Study in Physical Education and Sport 1-6(Spec)  
An approved investigation, survey, study, or descriptive observation in 
some area of physical education or sport, performed off campus. CR/NC only.

PES 696  Seminar in Physical Education 2(2-0)  
Individual and group study of problems in physical education. Systematic 
analysis of individual and committee reports and research contributions on 
current problems.

PES 698  Thesis 1-6(Spec)  
The student develops and completes a research study in a specific area of 
physical education. CR/NC only. Prerequisite: PES 670 or PES 672. 2 hours 
may be taken concurrently with PES 670.

PES 699  Internship in Sport Management 3-6(Spec)  
An internship experience applying theoretical and practical knowledge in a 
sport management setting. Prerequisite: Completion of at least 18 credit 
hours in the MA in Sport Administration; 3.0 overall GPA or better; and per-
mission of the sport management internship supervisor.

PES 703  Advanced Independent Reading 1-2(Spec)  
An in-depth, scholarly study of a selected phase of physical education or 
sport through individualized reading.

PES 791  Independent Study 2(Spec)  
A topic is selected, researched, and a scholarly paper prepared, in consul-
tation with an advisor. CR/NC only. Prerequisite: PES 670 and permission of 
instructor.

PHA - Physician Assistant  
See the School of Rehabilitation and Medical Sciences for more information.

PHA 608  Clinical Medicine I 4(4-0)  
A comprehensive survey course that studies prioritized medical topics 
within organ systems. The systems covered are gastrointestinal, hepatobiliary, 
and pancreatic. Prerequisites: admission to the physician assistant program.

PHA 609  Clinical Medicine II 4(4-0)  
A comprehensive survey course that studies prioritized medical topics 
within organ systems. The systems covered are the immunologic, musculoskel-
etal and neurologic systems and geriatrics. Prerequisites: admittance to the 
Pharmacist program and PHA 608.

PHA 610  Clinical Medicine III 3(3-0)  
A comprehensive survey course that studies prioritized medical topics 
within organ systems. The topics covered are the immunologic, musculoskel-
etal and neurologic systems and geriatrics. Prerequisites: admittance to the 
Pharmacist program.

PHA 612  Obstetrics/Gynecology 3(3-0)  
A non-credit course intended for students who have completed all pro-
gram credits but still need to use university resources to complete their 
degree requirements.

PHA 614  Pediatrics 3(3-0)  
A survey course of growth, development and diseases from birth to 
adolescence. It prepares students for the primary care clinical setting. 
Prerequisites: admittance to the Physician Assistant program.

PHA 616  Surgery 2(2-0)  
A survey course that focuses on pre-, peri- and postoperative care and medi-
cal considerations of the surgical patient and prepares the student for the 
clinical setting. Prerequisites: admittance to the Physician Assistant program.

PHA 618  Emergency Medicine 2(2-0)  
A survey course that familiarizes the student with common emergency 
medicine problems and injuries utilizing a priority system. Prerequisites: Admis-
tance to the Physician Assistant program.

PHA 619  Continuing Registration for Final Research Project 1(1-0)  
A non-credit course intended for students who have completed all pro-
gram credits but need additional research experience. Identical to HSC 631. 
Credit may not be earned in more than one of these courses.

PHA 620  Infectious Diseases 3(3-0)  
A comprehensive survey course on the diagnosis and treatment of infec-
tious diseases seen in primary care medicine and organized by organ system. 
Prerequisites: admittance to the Physician Assistant program.

PHA 624  Issues in Practice 2(2-0)  
A non-credit course intended for students who have completed all pro-
gram credits but still need to use university resources to complete their 
degree requirements.

PHA 625  Clinical Pharmacology I 3(3-0)  
A comprehensive survey course on the diagnosis and treatment of infec-
tious diseases seen in primary care medicine and organized by organ system. 
Prerequisites: admittance to the Physician Assistant program.

PHA 626  Clinical Pharmacology II 3(3-0)  
A comprehensive survey course on the diagnosis and treatment of infec-
tious diseases seen in primary care medicine and organized by organ system. 
Prerequisites: admittance to the Physician Assistant program.

PHA 630  Clinical Procedures I 3(2-2)  
A two module course consisting of Advanced Cardiac Life Support and 
Pediatric Advanced Life Support. CR/NC only. Prerequisite: Admission to the 
Physician Assistant program.

PHA 631  Clinical Procedures II 3(0-6)  
An in-depth review of the normal and abnormal physiologic processes 
associated with diseases of the cardiac and pulmonary organ systems. 
Prerequisites: Admission to the Physician Assistant program.
PH 634 Scientific Basis of Medicine II 2(2-0)
An in-depth review of the normal and abnormal physiologic processes associated with diseases of the renal, neurological, and endocrine system. Prerequisites: Admission to the Physician Assistant Program.

PH 635 Scientific Basis of Medicine III 2(2-0)
An in-depth review of the normal and abnormal physiologic processes associated with diseases of the gastrointestinal system, immune system, heritable conditions, and spontaneous genetic abnormalities. Prerequisites: Admission to the Physician Assistant Program.

PH 640 Clinical Problem Solving I 3(1-2)
Interactive lecture and small group problem solving sessions in preparation for integrated clinical experience. Develops clinical diagnostic reasoning by focusing on a clinical presentation based model. Prerequisite: Admission to the Physician Assistant Program.

PH 641 Clinical Problem Solving II 3(0-11)
Onsite interactive problem solving sessions and offsite patient/student/preceptor clinical interactions. Both modes develop clinical diagnostic reasoning by focusing on a hypothetic-deductive approach. Prerequisites: admission to the Physician Assistant program; successful completion of PHA 640.

PH 642 Clinical Problem Solving III 3(0-11)
Onsite interactive problem solving sessions and offsite patient/student/preceptor clinical interactions. Both modes develop clinical diagnostic reasoning by focusing on a hypothetic-deductive approach. Prerequisites: admission to the Physician Assistant program; successful completion of PHA 641.

PH 645 Critical Appraisal of Medical Literature and Evidence-Based Medicine 2(0-2)
Students will develop the ability to critically analyze current and past medical research and publications, and apply those concepts to the practice of Evidence-Based Medicine. Prerequisites: Admission into the Physician Assistant Program.

PH 650 Diagnostic Tests I 2(1-2)
An introduction to the indications for and interpretation of the chest radiograph and electrocardiogram. Prerequisites: Admission into the Physician Assistant Program.

PH 651 Diagnostic Tests II 2(2-0)
Indications for and interpretation of laboratory, pulmonary function, and neurophysiologic testing. Prerequisites: PHA 650.

PH 652 Diagnostic Tests III 2(1-2)
Indications for and interpretation of imaging of the central nervous system, vascular system, abdomen and extremities. Principles of nuclear medicine, magnetic resonance, and computed tomography. Prerequisites: PHA 651.

PH 660 History and Physical Examination I 3(2-2)
Integrated didactic/laboratory course. This course teaches assessment via the medical history with focus on interviewing skill and technique. It prepares students for the clinical setting. Prerequisites: admission to the Physician Assistant program.

PH 661 History and Physical Examination II 3(2-2)
Integrated didactic/laboratory series that teaches patient assessment through the complete medical history and physical examination. It prepares students for the clinical setting. Prerequisites: admission to the Physician Assistant program; successful completion of PHA 660.

PH 662 History and Physical Examination III 4(2-4)
Integrated didactic/laboratory series that teaches patient assessment through the complete medical history and physical examination. It prepares students for the clinical setting. Prerequisites: admission to the Physician Assistant program; successful completion of PHA 661.

PH 671 Preventive Medicine 1(1-0)
This course introduces the principles of preventive medicine and methods for their incorporation into primary care on an individual, family and community basis. Prerequisites: Admission to the Physician Assistant program.

PH 672 Applied Ethics for Physician Assistants 2(2-0)
This course enables the student to examine the principles of medical ethics, develop an organized process to resolve clinical dilemmas, and to explore future professional roles. Prerequisites: Admission to the Physician Assistant program.

PH 673 Psychiatry 3(3-0)
The course includes the identification and management of psychiatric disorders, with an emphasis on the pharmacological management of mood disorders. Prerequisites: admission to the Physician Assistant program.

PH 690 Clinical Education I 16(0-40)
This course consists of a full-time clinical internship. CR/NC only. Prerequisites: admission to the Physician Assistant program; successful completion of didactic course work for Physician Assistant program.

PH 691 Clinical Education II 16(0-40)
This course consists of a full-time clinical internship. CR/NC only. Prerequisites: admission to the Physician Assistant program; PHA 690.

PH 692 Clinical Education III 16(0-40)
This course consists of a full-time clinical internship. CR/NC only. Prerequisites: admission to the Physician Assistant program; PHA 691.

PH 694 Clinical Clerkship Remediation 3-9(Spec)
A structured course of remedial education for students who do not show adequate progress during their clinical clerkship year. CR/NC only. May be taken no more than three times. Prerequisites: PHA 692.

PH 697 Special Topics for Physician Assistants 1-9(Spec)
Presentation and examination of special topics in medicine, health, and biosciences. May be taken up to a maximum of 9 hours. Prerequisites: Entry into the Physician Assistant Program.

PHL - Philosophy
See the Department of Philosophy and Religion for more information.

PHL 518 Professional Ethics 3(3-0)
An examination of the theories and methods used in ethical decision-making: with application to common issues in law, journalism, technology, research, education, and the health professions. This course may be offered in an online or hybrid format. Prerequisite: junior status.

PHL 525 Philosophical Problems of the Self 3(3-0)
Advanced study of central philosophical questions about persons, such as mind-body problem, the nature of personal identity, and the freedom of the will. Prerequisites: PHL 100.

PHL 597 Special Topics In Philosophy 1-12(Spec)
Study of areas in philosophy not included in courses currently listed in catalog. Prerequisite: permission of instructor.

PHL 598 Readings in Philosophy 1-6(Spec)
Selected studies of one or more philosophic works. Prerequisite: permission of instructor.

PHS - Physical Science
See the Department of Physics for more information.

PHS 563 Physical Science Practicum 2(Spec)
Practical experience in all aspects of teaching a physics class with a laboratory component. Prerequisite: permission of instructor.

PHS 565 Selected Topics in Physical Science 1-6(Spec)
Topics not ordinarily covered in regular courses.

PHS 590 Independent Study 1-6(Spec)
Individual study in an area not covered by regular courses. Prerequisite: Prior permission of the instructor must be obtained.

PHY - Physics
See the Department of Physics for more information.

PHY 505 Teaching Chemistry and Physics in the Secondary School 3(3-0)
Exposes pre-service secondary chemistry and physics teachers to theory and practice of teaching in secondary schools, design of instructional units and safety practices. Must be completed prior to student teaching. Identical to CHM 505. Credit may not be earned in more than one of these courses. Prerequisites: CHM 132 or CHM 161; PHY 131 or PHY 146; admission into the Teacher Education Program; signed major or minor in chemistry, physics, or chemistry-physics (secondary education); Junior standing. Graduate students must be enrolled in a teaching master's program.

PHY 507 Field Experience in Teaching Chemistry/Physics 1(Spec)
Supervised experience in high school chemistry and/or physics classes. Experience will include observation and participation in instruction, and critical analysis of the experience. Identical to CHM 507. Credit may not be earned in more than one of these courses. CR/NC only. Prerequisites: Students must be accepted into the Teacher Education Program and have Junior or Senior standing. Graduate students must be enrolled in a teaching master's program. Pre/Co-requisite: CHM 505 or PHY 505.

PHY 517 Computational Physics 3(3-0)
Introduction to standard numerical techniques applied to problems in physics, including numerical differentiation and integration, systems of differential equations, eigenvalues and eigenvectors, and Monte-Carlo simulations. Prerequisites: PHY 312, PHY 322, and PHY 332. Pre/Co-requisite: PHY 442. Recommended: A basic knowledge of a programming language such as FORTRAN.

PHY 552 Nuclear Physics 3(3-0)
Radioactive transformations, detection of radiation, methods of producing high-speed particles, nuclear structure, fission, cosmic radiation and applications of radioactivity. Prerequisite: PHY 442.

PHY 554 Optics 3(3-0)
Geometrical and physical optics, electromagnetic theory of light, interference and diffraction from standpoint of Huygens' principle, Fourier formalism, polarized light, principles and applications of lasers. Prerequisites: PHY 332.

PHY 556 Solid State Physics 3(3-0)
Atomic, molecular and crystal structure, energy levels of electrons, and binding energies in molecules and solids. Prerequisites: PHY 442 Co-requisites: PHY 450.

PHY 578 Experimental Physics 2(0-6)
Selected experiments utilizing the techniques of modern experimental physics. Prerequisite: PHY 277.
PHY 580 Special Topics 1-9(Spec)
Topics not ordinarily covered in regular courses. Prerequisite: permission of instructor.

PHY 614 Methods of Theoretical Physics 3(3-0)
Application of advanced mathematical techniques to physical theory. Prerequisite: PHY 313.

PHY 619 Continuing Registration for Final Research Project 1-10
A non-credit course intended for students who have completed all program credits but still need to use university resources to complete their degree requirements.

PHY 624 Advanced Mechanics 3(3-0)
Special relativity, kinematics, and dynamics of rotational motion, coupled oscillations, canonical transformation, Hamilton-Jacobi theory, classical fields. Prerequisite: PHY 322.

PHY 634 Advanced Electricity and Magnetism 3(3-0)
Boundary value problems, time-varying fields and the initial value problem. Covariant description of electrodynamics and radiation by point charges. Prerequisite: PHY 332.

PHY 643 Quantum Mechanics I 3(3-0)
The scattering matrix formulation of quantum mechanics, symmetry groups in quantum mechanics, perturbation theory. Prerequisite: PHY 442.

PHY 790 Independent Study 1-3(Spec)
Individual study in an area not covered by regular courses. Prerequisite: Prior permission of instructor must be obtained.

PHY 798 Thesis 1-6(Spec)
Individual research, with thesis. Directed by a committee. CR/NC only.

PSC - Political Science

See the Department of Political Science and Public Administration for more information.

PSC 501 Bullets not Ballots: Revolution, Insurgency and Civil War 3(3-0)
This course examines the theory and literature on the causes of violent conflicts such as revolution, insurgency and civil war.

PSC 513 Citizen Engagement in Public Life 3(3-0)
This course examines trends in Americans' participation in public life, as well as various approaches intended to increase their civic and political engagement. Prerequisite: PSC 105 or graduate status.

PSC 514 American Public Policy Making 3(3-0)
This course serves to integrate political institutions and levels of government in terms of policy development and implementation. Prerequisites: PSC 105 or graduate standing. This course is approved for offering in a distance learning format.

PSC 515 Comparative Public Policy 3(3-0)
Techniques of cross-national and other comparative policy analysis applied to social and economic policies of industrialized nations, especially Western Europe. This course may be offered in an online or hybrid format. May be offered as Writing Intensive.

PSC 516 Environmental Politics and Policy 3(3-0)
Analysis of relationships between politics and public policy in the environmental arena. Emphasis upon policy making process, political strategies, and alternative decision modes. Prerequisites: minimum of 36 credit hours of university coursework.

PSC 520 American National Government and Politics 3(3-0)
This course will examine the major theoretical frameworks used in the study of American national government and politics and survey current research in the area. Prerequisites: a minimum of 9 hours of political science coursework, including PSC 105.

PSC 522 Regulatory Processes and Administrative Law 3(3-0)
Survey of the principles of administrative law and the politics of the U.S. regulatory processes. This course is approved for offering in a distance learning format.

PSC 540 Cultural Heritage and Politics of Eastern Europe 3(3-0)
Comparative study of political systems of Soviet bloc countries and Yugoslavia.

PSC 551 Seminar in International Relations 3(3-0)
Significant aspects of international relations on the basis of timeliness and importance. This course is approved for offering in a distance learning format.

PSC 555 International Law I 3(3-0)
Processes of international law; role in international relations and organizations; effects on individual rights in peacetime through cases, treaties, customs, and legal rules. This course is approved for offering in a distance learning format.

PSC 556 International Law II 3(3-0)
This course supplements the study of the international legal regime examined in International Law I by focusing upon the newly established international criminal law regime. Recommended: PSC 555.

PSC 557 War and Peace Studies 3(3-0)
This course examines the theory and literature on the causes and consequences of violent conflicts and the uses of non-violent means to conflict resolution.

PSC 563 Politics and Policy in Urban Communities 3(3-0)
Examination of large and small city governments. Their political process, behavior and citizen participation. Emerging public policies and intergovernmental cooperation.

PSC 566 Intergovernmental Relations in the United States 3(3-0)
An analysis of the administrative and fiscal relationships between the national, state, and local governments, with emphasis on grants-in-aid and revenue sharing.

PSC 571WI The Military and Politics 3(3-0)
This course examines the role of the armed forces in politics. Theories about civil-military relations, coups d‘ états, and transitions to democracy will be analyzed. Writing Intensive. Recommended: PSC 242 or graduate status.

PSC 583 Survey Research 3(3-0)
Development and utilization of quantitative data, with emphasis on behavioral research, public opinion polling, and statistical analysis.

PSC 590 Independent Study 1-6(Spec)
Open to majors or minors who have completed at least 12 hours of political science with a B average; arrange with department chairperson and instructor.

PSC 598 Special Topics in Political Science 1-12(Spec)
Subject matter not included in courses currently listed in Bulletin.

PSC 615 Politics and Regulation of Health Care Policy 3(3-0)
Explore external environments in which health care systems operate, political determinants of health care policy, politics of bureaucracy, social and economic demands placed upon the system.

PSC 619 Continuing Registration for Final Research Project 1(1-0)
A non-credit course intended for students who have completed all program credits but still need to use university resources to complete their degree requirements.

PSC 640 Seminar in Comparative Politics 3(3-0)
Examination of the specific approaches and methods of studying comparative politics. Focus is on democratization, political culture, and political conflict.

PSC 642 Problems and Processes of International Development 3(3-0)
Impact of modernization and industrialization upon emerging countries and nation-building processes.

PSC 651 Comparative Political & Economic Systems 3(3-0)
An introduction to comparative political and economic systems. How politics and economics interact in a theory, as well as in concrete political-economics. Intereconomics. Prerequisite: PSC 351.

PSC 670 Justice, Freedom, Equality: Essential Political Ideas 3(3-0)
The history of political ideas in the Western world, with a focus on justice, freedom, and equality. Authors include Plato, Aristotle, Machiavelli, Locke, and Marx. This course may be offered in an online or hybrid format.

PSC 675 Public Sector Emergency and Crisis Organizational Theory 3(3-0)
Analysis of organizational theory as applied to public sector emergency and crisis management. Emphasis on structure, behavior, networks, and leadership. Prerequisites: Admission to the MPA program.

PSC 676 Emergency and Crisis Prevention, Preparedness and Response 3(3-0)
Analysis of public sector capacity in the four operational phases of emergency and crisis management: prevention, preparedness, response and recovery. Prerequisites: Admission to the MPA program.

PSC 677 The Public Sector Role in Post-Disaster Recovery 3(3-0)
Analysis of the emergency and crisis management considerations necessary to restoration of public services following a disaster. Prerequisites: Admission to the MPA program.

PSC 680 Methodology of Political Research 3(3-0)
This course focuses on the advanced study of the logic and methods of scientific research in political science. Recommended: PSC 280; or SOC 200 and SOC 350.

PSC 681 Qualitative Research in Political Science and Public Administration 3(3-0)
Overview of theoretical approaches to qualitative research in political science and public administration. Prerequisite: PSC 680.

PSC 682 Techniques of Political Research 3(3-0)
This course focuses on regression analysis in political science and how to apply such methods to scholarly research. Prerequisites: PSC 680.
PSY 500 Special Issues 1-12(Spec)
Subjects of contemporary psychology not covered by regular curriculum. Prerequisites: See Course Search and Registration.

PSY 501 Workshop 1-18(Spec)
Study of problem-oriented subjects for persons already working in psychological services with the intent of continuing their professional growth. Prerequisite: See Course Search and Registration.

PSY 502 Teaching Assistant in Psychology 1-3(Spec)
Development of practical skills for effective teaching of psychology. No more than 3 hours of PSY 502 may be applied to a student's psychology major or minor. Prerequisite: permission of instructor.

PSY 503 Principles and Applications of Sign Language and Manual Systems 3(3-0)
Focused study in the principles of the application of signed and manual communication with Deaf and other populations for educational, clinical, and human service settings.

PSY 509 Behavioral Pharmacology 3(3-0)
This course covers basic principles of pharmacology, receptor theory, drug classes, methods in basic pharmacology and behavioral pharmacology, and research and theory in behavioral pharmacology. Prerequisites: PSY 100; PSY 383 or 384 or 387 or graduate status.

PSY 510 Principles of Psychological Measurement 3(3-0)
Problems and procedures in scaling and in correlational methods related to testing reliability, validity, and measurement error. Prerequisite: PSY 310, PSY 211.

PSY 511 Statistics in Psychology 3(3-1)
An extension of topics introduced in PSY 211, with emphasis upon hypothesis testing and statistical inference. Prerequisite: PSY 211.

PSY 531 Group Dynamics 3(3-0)
Conceptual and empirical background in the dynamics of face-to-face groups and related interpersonal areas. Emphasis is cognitive-theoretical rather than experiential. Prerequisite: PSY 330 or graduate standing.

PSY 533 Psychology of Racism 3(3-0)
This course explores racism from a psychological viewpoint. The processes involved in the development, maintenance, and change of racist attitudes are considered. Prerequisites: Junior or higher standing; PSY 330 or SOC 201, a Social Science methods class.

PSY 534 Psychology and the Courtroom 3(3-0)
The application of psychological principles and theories to the courtroom. Prerequisites: coursework in basic statistics (e.g., PSY 211) and research methods (e.g., PSY 285); or graduate standing.

PSY 535 Organizational Psychology 3(3-0)
The study of organizations as complex social systems with analyses of individual and group behavior in organizations and responses of organizations to their environment. Prerequisite: PSY 336 or graduate standing.

PSY 536 Personnel Psychology 3(3-0)
This course examines the identification, measurement, and development of individual differences. Topics include job analysis, criterion development, personnel selection, training, and performance evaluation. Prerequisites: PSY 211, 336; or Graduate Standing. Recommended: PSY 310.

PSY 537 Organizational Behavior Management 3(3-0)
Behavior analysis in business, industry, and human service settings. Applied research in organizations is emphasized. Empirical rather than theoretical approach. Prerequisites: PSY 336 or PSY 370 or PSY 384 or graduate standing.

PSY 538 Occupational Health Psychology 3(3-0)
The study of health and stress in organizations as a complex process, with analyses of resources, stressors, coping, stress responses, and consequences. Prerequisites: PSY 336 and 379, or graduate standing.

PSY 544 Theories of Personality 3(3-0)
Theories regarding the structure and functions of personality. Prerequisite: PSY 340.

PSY 545 Psychopathology of Children 3(3-0)
Problems of children deviating from the norm in behavior and adjustment. Prerequisites: PSY 220, PSY 250.

PSY 559 Rehabilitation Psychology 3(3-0)
Psychological concepts in understanding and controlling disability from the perspectives of the individual, family and society will be emphasized. Designed for advanced students in health professions. Prerequisites: PSY 100, 220; or graduate standing.

PSY 562 Therapeutic Intervention: Foundations 3(3-0)
Foundational skills for therapeutic intervention including theory and technique. Prerequisite: PSY 350 or graduate standing.

PSY 563 Psychology of Reading 3(3-0)
Reviews the cognitive processes that operate in skilled reading and focuses on reading development and reading difficulties in K-6th grade. Prerequisite: PSY 220, 285, 383; or graduate status.

PSY 570 Behavioral Assessment and Treatment Planning 3(3-0)
This course provides an overview of behavioral assessment procedures. Specific topics include functional behavior assessment, functional analysis, task analysis, data collection, and function-based intervention design. Prerequisite: PSY 370, 384, or graduate status.

PSY 571 Research Methods in Behavior Analysis 3(3-0)
Introduction to the fundamentals of behavior analytic research methods. Prerequisite: PSY 370, 384; or graduate standing.

PSY 575 Autism Spectrum Disorder: Characteristics and Etiology 3(3-0)
This course will review the behavioral and educational characteristics of students with autism spectrum disorders. Known causes of this disorder will also be examined. Identical to SPE 530. Credit may not be earned in more than one of these courses. Prerequisites: senior or graduate status.

PSY 579 Behavioral Medicine 3(3-0)
Applications of behavior analysis and social learning in medicine, dentistry, and physical health. Prevention, treatment, and long-term maintenance are all considered. Prerequisite: PSY 384 or PSY 370 or graduate standing.

PSY 583 Motivation and Emotion 3(3-0)
Survey of the theories, systems and concepts of motivation and emotion. Prerequisites: Fifteen hours of psychology or graduate standing.

PSY 584 Cognitive Neuroscience 3(3-0)
Converging evidence from human neuroanatomy and neurophysiology, cognitive psychology, neuropsychology, and neuroimaging research will be examined for topics in attention, perception, memory, language, and emotion. Prerequisites: PSY 387 or graduate standing.

PSY 585 Psychopharmacology 3(3-0)
Introduction to psychopharmacological methods, measures, and applications. Topics include: basic neuroanatomy and neurophysiology; electrophysiological recording; inference using brain, cardiovascular, somatic measures; biofeedback; ergonomic, and other applications. Prerequisite: PSY 387 or graduate standing.

PSY 586 Applied Behavioral Analysis in Education 3(3-0)
The use of applied behavior analysis with children and adolescents to promote academic skill development and reduce interfering behaviors. Prerequisites: PSY 370 or graduate standing.

PSY 587 Physiological Psychology 3(3-0)
Physiological events which underlie human and animal behavior. Prerequisite: PSY 387 or graduate standing.

PSY 588 Functional Neuroanatomy 3(3-0)
Function of the nervous system in behavior. Emphasis is on how various CNS structures function to mediate behavior. Prerequisite: PSY 387 or graduate standing.

PSY 589 Cognitive Psychology 3(3-0)
Introduction to cognitive processes; survey of theory and research in memory, thinking, concept formation, problem solving, and language. Prerequisites: PSY 383.

PSY 592 Supplemental Supervision in Applied Behavior Analysis 1-12(Spec)
Supervised field experience for Behavior Analyst Certification Board certification. This course may be offered in an online or hybrid format. Prerequisites: Permission of Instructor.

PSY 600 Special Issues 1-12(Spec)
Subjects of contemporary psychology not covered by regular curriculum. Prerequisite: See Course Search and Registration.

PSY 605 Assessment of Affective and Behavioral Disorders of Children and Youth 3(3-0)
Assessment measures and procedures for emotional and behavior disorders of children and adolescents will be addressed with an emphasis on linking assessment to intervention. Prerequisite: matriculation in the School Psychology program or the Clinical Psychology program.

PSY 609 History and Systems of Psychology 3(3-0)
Modern psychology is analyzed by tracing its historical roots and early systems. Emphasis is on the influence of historical systems on current areas of specialization.

PSY 611 Research Design 3(3-0)
Common types of analysis of variance, multiple comparisons tests, the analysis of covariance. Prerequisite: PSY 511.
PSY 612 Applied Multiple Regression and Correlation 3(3-0)
A study of the general linear model as applied to multiple regression and the analysis of variance. Prerequisites: PSY 211 and permission of instructor.

PSY 613 Multivariate and Correlational Methods 3(3-0)
Introduction to multivariate statistical procedures, including multiple regression and correlation, canonical and discriminant analysis, multivariate analysis of variance, and factor analysis. Prerequisites: PSY 612.

PSY 614 Seminar in Research Methods and Statistics for Psychology 3-12(3-0)
Exploration of specialized research methods and statistics for Psychology. Topics may include quasi-experimental designs, meta-analysis, modeling techniques, qualitative research, or other advanced research methods topics. This course may be taken as a three credit course and may be repeated up to twelve hours, as long as the topic is different. Prerequisites: PSY 612.

PSY 619 Continuing Registration for Final Research Project 1(1-0)
A non-credit course intended for students who have completed all program credits but need to use university resources to complete their degree requirements.

PSY 624 Advanced Developmental Psychology 3(3-0)
Basic theory and principals of life-span developmental psychology. Prerequisite: matriculation in psychology graduate program.

PSY 630 Advanced Social Psychology 3(3-0)
Intensive examination of the major theories and experiments of social psychology. Prerequisite: matriculation in psychology graduate program.

PSY 636 Organizational Applications of Personnel Psychology 3(3-0)
This course examines major ideas, assumptions, and techniques in personnel psychology, the implementation and utilization of personnel technologies, and selected current topics. Prerequisites: graduate standing and PSY 536.

PSY 641 Objective Personality Assessment 3(2-2)
Survey of concepts, procedures, and issues in personality assessment. Prerequisites: PSY 544, matriculation in the School or Clinical psychology graduate programs.

PSY 642 Clinical Research Methods 3(3-0)
Provides a basis for designing and executing clinical research and data analysis. Prerequisites: Matriculation into the Ph.D. program in Clinical Psychology at CCMU or approval from the instructor.

PSY 653 Intervention I: Adult 3(3-0)
Survey of different therapeutic approaches and techniques. Prerequisite: admission to the Doctoral Program in Clinical Psychology.

PSY 655 Introduction to Intelligence Testing 2(2-2)
Administration and interpretation of individual intelligence scales. Lab fee prorated among class members after registration. Prerequisite: permission of instructor.

PSY 656 Advanced Intellectual Assessment 2(2-2)
Report writing, interpretation of intelligence tests, and integration of testing with other assessment devices used in diagnosis of emotional and learning problems. Prerequisites: PSY 655 and permission of instructor.

PSY 657 Assessment I: Adult 3(3-1)
Administration and interpretation of intelligence scales, report writing, and integration of intellectual testing with other assessment devices. Prerequisite: matriculation in Clinical Psychology program.

PSY 658 Assessment II: Child and Adolescent 3(3-1)
Administration and interpretation of individual intelligence scales. Prerequisite: admission to the doctoral program in Clinical Psychology.

PSY 660 Intervention II: Child and Adolescent 3(3-0)
Introduction to therapeutic interventions for children and adolescents. Prerequisite: admission to the doctoral program in Clinical Psychology.

PSY 661 Neuropsychological Assessment 3(3-0)
Introduction to neuropsychological assessment of behavior with emphasis on instrument, research, and interpretation. Prerequisite: PSY 587 or PSY 687.

PSY 662 Advanced Therapeutic Interventions 3(3-1)
The practice and application of therapeutic intervention with children, birth through high school. Takes a developmental perspective on children's problems. Prerequisites: PSY 562 and concurrent enrollment in PSY 791.

PSY 667 Assessment and Development of Academic Skills 3(3-1)
Administration and interpretation of special diagnostic testing of children with learning difficulties. Lab fee. Prerequisite: PSY 577.

PSY 677 Assessment and Development of Academic Skills II 3(3-0)
Principles underlying development and evaluation of academic interventions and critique of current programs and procedures designed to improve academic performance of K-12 children. Prerequisite: matriculation in Psychology graduate program.

PSY 680 Learning 3(3-0)
Theory and research in basic learning phenomena including classical, operant, and complex behavior. Prerequisite: permission of instructor.

PSY 681 Sensation and Perception 3(3-0)
Cognitive, neuroscientific, psychophysical, and behavioral analysis of perceptual systems. Vision and audition are emphasized. Prerequisite: Permission of instructor.

PSY 682 Psychology of Child Development 3(3-0)
Identical to EDU 682. Credit may not be earned in more than one of these courses. This course is approved for offering in a distance learning format. Prerequisites: Graduate status.

PSY 686 Engineering Psychology 3(3-0)
An overview of the discipline of engineering psychology including the topics of human error and applications of perception and cognition in human-machine systems. Prerequisite: graduate standing in Psychology.

PSY 687 Physiological Foundations 3(3-0)
Extensive survey of knowledge of the physiological, anatomical, and hormonal events underlying human behavior, emphasizing brain function and neurochemical factors.

PSY 690 Research Seminar: Experimental Psychology 1-3(Spec)
Study of problems and issues in experimental psychology under faculty guidance via lecture and/or seminar format. CR/NC only.

PSY 696 Directed Research 1-12(Spec)
For students who desire to investigate some research problem in psychology. Prerequisite: must file written proposal approved by faculty sponsor in departmental office prior to registration.

PSY 697 Independent Study 1-8(Spec)
For students who accept responsibility for studying a psychological problem of their own. Prerequisite: must file written proposal approved by faculty sponsor in departmental office prior to registration.

PSY 700 Special Issues 1-12(Spec)
Special topics in contemporary psychology. May be repeated to a maximum of 12 hours, but no more than 3 hours may be taken per semester. Prerequisites: admission to doctoral candidacy in psychology; see Course Search and Registration.

PSY 724 Psychology of Aging 3(3-0)
This course examines theories of adult development and how those theories are related to important issues affecting older adults. Prerequisite: graduate standing.

PSY 727 Developmental Neuropsychology 3(3-0)
Introduction to neuropsychological assessment of children with emphasis on instruments, research and interpretation. For advanced graduate students. Prerequisites: PSY 661 or PSY 655 or PSY 657.

PSY 736 Strategies for Interventions in Social Systems 3(Spec)
Study of various social technologies of intervention, and the evaluation of a range of these methods. Prerequisite: matriculation in professional psychology doctoral program.

PSY 737 Seminar in I/O Psychology 3-12(Spec)
Exploration of specialized areas in the field of I/O Psychology. This course is taken as a three credit course and may be repeated for a maximum of twelve hours. Prerequisite: Admission to masters or doctoral programs in I/O Psychology.

PSY 751 Psychopathology 3(3-0)
A course in descriptive psychopathology with an emphasis on understanding the manifestations of disordered functioning within a variety of cultural and contextual constraints. Prerequisite: admission into a graduate program in psychology.

PSY 760 Seminar A: School Services 3(3-0)
Philosophical rationale for development of school psychology as major discipline. Role of school psychologist, and legal and ethical issues that affect the role are discussed. Prerequisite: permission of instructor.

PSY 761 Advanced Seminar in Ethical-Legal Issues for School Psychologists 1(1-0)
New and emerging ethical-legal issues in school psychology. This course may be offered in an online or hybrid format. Recommended: Prior coursework in applied professional ethics.

PSY 765 Seminar: Ethics and Professional Issues 3(3-0)
Problems and issues in the practice of professional psychology. Prerequisite: matriculation in school psychology subdoctoral program or professional psychology doctoral programs.

PSY 766 Seminar: Consultation Skills 3(Spec)
Objectives of strategies in consultation are studied with practice and evaluation of methods in actual work settings. Prerequisite: Advanced graduate standing in psychology.

PSY 767 Assessment and Intervention for Developmental Disabilities 3(3-1)
Procedures and background issues for psychoeducational assessment and intervention for infants, children, and adolescents who are emotionally-, visually-, hearing-, motorically-, or mentally-impaired or autistic. Prerequisite: PSY 667.

PSY 780 Behavior Therapy 3(2-2)
Assumptions and principles of behavioral analysis and the strategies used in a variety of behavioral disorders. Prerequisite: Admission to a graduate program in psychology.

PSY 781 Seminar: Perception 4(Spec)
Detailed treatment of selected research areas in perception. Emphasis is on perceptual data and measures and their application to real world situations. Prerequisites: PSY 681 or PSY 686.
PSY 785 Seminar: Cognitive-Behavior Therapy 3(3-0)
A graduate seminar focusing on the development and implementation of cognitive-behavioral interventions for the remediation of a variety of psychiatric disorders. Prerequisite: permission of instructor.

PSY 789 Seminar in Applied Experimental Psychology 1-9(Spec)
Exploration of specialized areas in the field of Applied Experimental Psychology through the review of the primary literature. May be repeated to a maximum of 9 hours, but no more than 9 hours may be taken per semester. Prerequisite: permission of instructor.

PSY 790 Practicum I: Professional Services 3(Spec)
Practice needed to function as a competent psychologist within a variety of professional settings. Prerequisites: Admission to Clinical Psychology or Industrial/Organizational Psychology or School Psychology.

PSY 791 Practicum II: Professional Services 3(Spec)
Continuation of 790. Prerequisites: A grade of B or better in PSY 790.

PSY 792 Supplemental Supervision 1-3(Spec)
Supplemental supervision arranged with clinical or school supervising facility. For students with special interests. Prerequisites: matriculation in clinical or school psychology graduate programs; enrollment in one of the practica, and permission of the instructor.

PSY 795 Internship in School Psychology A 3(Spec)
The first semester of a 1200 hour full-time experience in a school setting supervised by an approved school psychologist and on-campus faculty. Prerequisites: PSY 790 and PSY 791; permission of instructor.

PSY 796 Internship in School Psychology B 3(Spec)
Continuation of 795. The second semester of a 1200 hour full-time experience in a school system. Prerequisite: PSY 795.

PSY 798 Thesis 1-12(Spec)
CR/NC only.

PSY 800 Research in Applied Experimental Psychology 1-12(Spec)
Directed research course in which students work in close collaboration with instructor on a research topic in the area of applied experimental psychology. May be repeated to a maximum of 12 hours. Prerequisites: permission of instructor; students should have graduate standing, and have completed most, if not all, of the requirements for the M.S. degree in General/Experimental Psychology.

PSY 818 Program Evaluation 3(Spec)
Design and implementation of program evaluation research in professional settings with a focus on how to evaluate such research. Prerequisites: matriculation in graduate program, PSY 612.

PSY 850 Ethnic and Minority Issues in Therapy 3(3-0)
A graduate seminar addressing cultural issues in therapy with different ethnic and minority groups. Prerequisite: matriculated students in graduate programs.

PSY 890 Practicum II A: Professional Services 3(Spec)
Development of advanced competencies and expansion of a repertoire of skills in the delivery of psychological services. CR/NC only. Prerequisites: matriculation in psychology doctoral program and permission of instructor.

PSY 891 Practicum II B: Professional Services 3(Spec)
Continuation of PSY 890. CR/NC only. Prerequisites: matriculation in psychology doctoral program and permission of instructor.

PSY 892 Practicum III A: Professional Services 3(Spec)
Further development of advanced clinical competencies and a repertoire of psychodiagnostic, psychotherapy, interviewing, and consultation skills in the delivery of psychological services. CR/NC only. Prerequisites: matriculation in the professional psychology doctor program, PSY 790, PSY 791, PSY 890, PSY 891, and permission of instructor.

PSY 893 Practicum III B: Professional Services 3(Spec)
Continuation of PSY 892. CR/NC only. Prerequisites: PSY 892 and permission of instructor.

PSY 898 Doctoral Dissertation: Design 1-12(Spec)
Design of a doctoral dissertation. CR/NC only. Prerequisite: matriculation in psychology doctoral program.

PSY 899 Doctoral Dissertation: Implementation 1-12(Spec)
Completion of the doctoral dissertation designed in PSY 898: data collection, analysis, and write-up. CR/NC only. Prerequisite: PSY 898.

PSY 900 Internship A: Professional Services 1-6(Spec)
Develop competencies in psychological services, program development, evaluation, needs assessment and/or delivery systems; PSY 990-991 constitutes a full-time, year-long experience. CR/NC only. Prerequisite: Matriculation in psychology doctoral program; completed M.A. thesis; passed comprehensive exams; dissertation proposal completed and accepted; and permission of instructor.

PSY 991 Internship B: Professional Services 1-6(Spec)
Continuation of 990 as a full-time, year-long experience. CR/NC only. Prerequisite: Matriculation in psychology doctoral program; completed M.A. thesis; passed comprehensive exams; dissertation proposal completed and accepted; and permission of instructor.

PTh - Physical Therapy
See the School of Rehabilitation and Medical Sciences for more information.

PTh 615 Principles of Pharmacology 1(1-0)
Provides students with an introduction to the principles of pharmacology with an emphasis on understanding how drugs work and their effects on the body. Prerequisites: admission to Physical Therapy Program.

PTh 617 Clinical Pathophysiology I 1(1-0)
Study of the body’s physiological responses to disease states with emphasis on the clinical management pertinent to physical therapy practice. Prerequisite: admission to the physical therapy program.

PTh 618 Human Physical Development 2(2-0)
Examination of life stages and their relationship to patient conditions seen in physical therapy. The developmental foundations of therapeutic procedures are discussed. Prerequisite: admission to the Physical Therapy program.

PTh 619 Continuing Registration for Final Research Project 1(1-0)
A non-credit course intended for students who have completed all program credits but still need to use university resources to complete their degree requirements.

PTh 620 Clinical Management of Geriatric Patients 2(2-0)
Study of clinical management of geriatric patients. Physiological aspects of aging musculoskeletal, neurological, and cardiopulmonary systems are emphasized. Prerequisite: admission to the Physical Therapy program.

PTh 621 Clinical Pediatrics 2(2-0)
Students will learn evaluation procedures and strategies for clinical management of the pediatric patients. Prerequisites: PTh 618, admission to the Physical Therapy program.

PTh 622 Clinical Pathophysiology II 1(1-0)
Study of physiological responses to disease states associated with the musculoskeletal system. Emphasis is placed on the clinical management pertinent to physical therapy practice. Prerequisites: PTh 622, admission to the Physical Therapy program.

PTh 623 Clinical Pathophysiology III 1(1-0)
Study of physiological responses to disease states associated with the nervous system. Emphasis is placed on the clinical management pertinent to physical therapy practice. Prerequisites: PTh 622, admission to the Physical Therapy program.

PTh 624 Clinical Pathophysiology IV 1(1-0)
Study of physiological responses to cancer and to diseases of the endocrine, cardiovascular, and respiratory systems. Physical therapy clinical management is emphasized. Prerequisites: PTh 623, admission to the Physical Therapy program.

PTh 626 Neuroanatomy in Physical Therapy 3(3-0)
An introduction to functional neuroanatomy as it relates to physical therapy. Case studies are used to relate implications of neurological lesions with physical therapy intervention. Prerequisites: admission to the Physical Therapy program.

PTh 633 Clinical Education I 3(1-4)
A mock clinic format is utilized to introduce the student to specific clinical situations and case studies. Problem-solving, interaction and technical skills analyzed. CR/NC only. Prerequisites: admission to the Physical Therapy program. Concurrent enrollment in PTh 646.

PTh 634 Clinical Education II 6(Spec)
This course provides one six-week full-time clinical experience for physical therapy students in physical therapy practice settings. Focus of experience is orthopedic disorders. CR/NC only. Prerequisites: PTh 633 and permission of instructor.

PTh 635 Examination and Diagnosis I 2(1-2)
Theoritical concepts, and procedures central to examination and diagnosis of patients with dysfunctions or disabilities involving the musculoskeletal system, with laboratory practice in selected measures. Prerequisites: Admission to the Physical Therapy Program. Co-requisite: PTh 645.

PTh 636 Examination and Diagnosis II 2(1-2)
Theoritical concepts, and procedures central to examination and diagnosis of patients with dysfunctions or disabilities involving the musculoskeletal system, with laboratory practice in selected measures. Prerequisites: PTh 633. Co-requisite: PTh 646.

PTh 645 Patient Care I 5(3-4)
An introduction to the skills and techniques needed in the care of patients. Problem-solving, communication, general patient care and safety will be emphasized. Prerequisites: admission to the Physical Therapy program.

PTh 646 Patient Care II 5(3-4)
An introduction to evaluation procedures and interventions used for patients with a variety of dysfunctions involving the musculoskeletal system. This orthopedic intervention course is designed to integrate with other courses in a semester focused on orthopedics. Prerequisites: Admission into physical therapy program, PTh 645, concurrent enrollment in PTh 633, concurrent enrollment in PTh 636.

PTh 655 Teaching and Learning in Physical Therapy 2(2-0)
Theoritical and research on learning development and instruction as it relates to the role of physical therapists as teachers and learners in a variety of situations/settings. Prerequisites: admission to the Physical Therapy program.
PTH 791 Independent Study 1-3(Spec)  
Students engage in independent study on a topic related to physical therapy. Students work with a faculty sponsor to outline the project requirements and complete the activities. Prerequisites: admission to the Graduate Program in Physical Therapy and a written proposal approved by the Physical Therapy Program Director.

PTH 792 Special Topics in Physical Therapy 1-9(1-9)  
Exploration of current special topics in physical therapy examination and intervention. May be repeated to a maximum of 9 credits. Prerequisites: Admission to the Physical Therapy Program.

PTH 825 Health Promotion in Physical Therapy Practice 2(2-0)  
Overview of health promotion in physical therapy practice. Focus on health needs assessment, implementing health promotion interventions, and evaluating program effectiveness with individuals and groups. Prerequisites: admission to the Physical Therapy Program.

PTH 832 Clinical Education IV 12(Spec)  
This course consists of a full-time clinical internship. The student will have 16 weeks of clinical experience. Students will be affiliated with various clinical sites throughout Michigan and the U.S. CR/NC only. Prerequisites: admission to the Physical Therapy program, and permission of instructor. Concurrent enrollment for students selecting PTH 790.

PTH 850 Evidence Based Practice in Physical Therapy 2(2-0)  
Principles of evidence based practice applied to the physical therapy profession. Students will learn to gather and evaluate evidence and incorporate it into clinical practice. Prerequisites: HSC 670, admission to the Physical Therapy Program.

PTH 860 Health Informatics for Physical Therapists 2(2-0)  
Exploration and application of health informatics in support of patient care, teaching, research and health care administration applicable to physical therapy. Prerequisites: admission to the Physical Therapy Program.

PTH 870 Rehabilitation Care Management 3(3-0)  
Students develop skills for primary care management in rehabilitation services. Content areas include: keep/referral decision making, patient advocacy, utilization of public health agencies, and cultural issues. Prerequisites: admission to the Physical Therapy Program.

PTH 890 Clinical Research II 4(4-0)  
Second of two courses sequence to satisfy the doctoral project requirements for physical therapy program. Students complete (a) a prospective research project or (b) clinical case report. CR/NC only. Prerequisites: admission to the Physical Therapy Program.

PTH 891 Fall Assessment and Prevention 1(1-0)  
This course presents comprehensive fall assessment and prevention programs. Evaluation of risk factors for falling and prevention strategies are emphasized. Prerequisites: Admission to the Graduate Program in Physical Therapy.

PTH 893 Imaging in Physical Therapy 1(1-0)  
Study and application of patient imaging in the practice of physical therapy. Prerequisites: PTH 634 and admission to the Physical Therapy Program.

PTH 894 Issues and Practice in Women's Health 1(1-0)  
Issues in physical therapy evaluation, examination, and management of female patients/clients. Unique conditions of female adolescents, the childbearing years, midlife, and older are discussed. Prerequisites: PTH 634 and admission to the Physical Therapy Program.

PTH 932 Clinical Education V 12(Spec)  
This course consists of a one week full-time clinical internship. Students will be affiliated with various clinical sites throughout Michigan and the U.S. CR/NC only. Prerequisites: admission to the Physical Therapy program, PTH 832, and permission of the instructor. Concurrent enrollment in PTH 890.

REL - Religion  
See the Department of Philosophy and Religion for more information.

REL 501W Seminar in the Study of Religion 3(3-0)  
The study of religion as an academic discipline, including a selection of leading scholarly approaches to the investigation of religious phenomena. Writing Intensive. Prerequisites: 9 credit hours in Religion.

REL 505W Research Seminar 3(3-0)  
A seminar supporting research projects in religion, primarily intended for seniors who are religion majors. Writing Intensive. Prerequisite(s): for undergraduates, a signed Religion major with completion of REL 501. For graduate studies, permission of instructor.

REL 597 Special Topics 1-6(Spec)  
Advanced study of selected topics using readings, discussions, lectures, and research as appropriate.

REL 642 African-American Sacred Song 3(3-0)  
Study of nature and function of African-American sacred singing from spirituals to contemporary gospel. Singing will be examined in historical context with varied theoretical approaches. Prerequisites: a Bachelor's degree from an accredited college. No prior knowledge of music theory required.
RPL - Recreation, Parks, Leisure Services

Administration

See the Department of Recreation, Parks, and Leisure Services Administration for more information.

RPL 508QR Budgeting & Funding for Leisure Service Agencies 3(3-0)
Budgetary and fund development procedures for leisure service agencies. Quantitative Reasoning. Prerequisites: RPL 204 or RPL 216 or RPL 261 or graduate status. Pre/co-requisites: RPL 353 or RPL 430 or RPL 431.

RPL 511 Liability and Risk Management in Leisure Services 3(3-0)
Situation analysis of the legal systems impacting the delivery of recreation and leisure services. Emphasis on applied legal understanding and loss control strategies. This course may be offered in an online or hybrid format. Prerequisite: 6 credits in RPL or signed Event Management Minor; or Graduate Status.

RPL 518 Research & Philosophy in RPL 3(3-0)
This course explores the philosophical, social, and historical foundations of parks, recreation and leisure. Develops skills in research in leisure service settings. Prerequisites: 14 credits in RPL or graduate status.

RPL 521 Fund Development & Grant Writing for Public & Non-profit Organizations 3(3-0)
Processes and applied skills for fund development and grant writing for public and nonprofit organizations. This course may be offered in an online or hybrid format. Pre/co-requisites: RPL 405 or 508 or senior or graduate status.

RPL 545 Marketing of Leisure Services 3(3-0)
Provides a basis for applying marketing principles and techniques to the provision of leisure service experiences. This course is approved for offering in a distance learning format. Prerequisites: 6 credits in RPL or signed Event Management minor or graduate status.

RPL 552 Environmental Interpretation 3(3-0)
Development of the skills to produce and implement interpretive programs in parks, camps, natural areas, and visitor and nature centers located in urban and rural areas. Prerequisites: RPL 358 or Graduate status.

RPL 570 Wilderness Issues and Policy 3(3-0)
Exploration of wilderness as a unique natural resource context. Examines legislative origins, policy decisions, and management philosophies in relation to current issues and trends. Prerequisites: RPL 216 or graduate status.

RPL 580 Programming for Therapeutic Recreation 3(3-0)
Programming techniques for Therapeutic Recreation. Prerequisites: RPL 210 or graduate status. Pre/co-requisites: Two of the following: RPL 340, 341, 342, 344, 345.

RPL 581 Therapeutic Recreation: Issues and Trends 3(3-0)
Current issues and trends related to therapeutic recreation service delivery including: professional credentialing, third-party reimbursement, accreditation standards, legislation, ethics, and other administrative issues. Prerequisite: RPL 210 or graduate status. Pre/co-requisites: Two of the following: RPL 340, 341, 342, 344, 345.

RPL 600 Advanced Issues in Recreation 1-6(Spec)
Advanced concentration study of a current recreation or park administration problem or issue. Prerequisite: Admission to MA or MSA in Recreation & Park Administration program.

RPL 603 Advanced Independent Reading in Recreation 1(Spec)
Exploration of one or more aspects of the recreation, parks, and leisure services systems. Emphasis on advanced administrative principles, policies, methods, and issues. Prerequisite: Admission to MA or MSA in Recreation & Park Administration program.

RPL 610 Leisure Research 1(1-0)
Introduction to leisure research methodology. Prerequisite: Admission to MA or MSA in Recreation & Park Administration program.

RPL 611 Evaluation in Recreation and Leisure Services 3(3-0)
A study of evaluation and its application to the field of recreation and leisure services. This course may be offered in an online or hybrid format. Prerequisite: Admission to the MSA program.

RPL 615 Practicum in Recreation Supervision and Administration 1-6(Spec)
Supervised and practical experience in some facet of recreation and park administration or supervision. Not applicable for RPL Masters candidates, except to fulfill requirement deficiencies. CR/NC only. Prerequisite: Permission of instructor.

RPL 618 Issues in Leisure 3(3-0)
Theories of leisure behavior and current issues and trends in leisure. Topics discussed are dependent upon interests of students enrolled in class. This course may be offered in an online or hybrid format. Prerequisite: Admission to the MSA program.

RPL 619 Continuing Registration for Final Research Project 1(1-0)
A non-credit course intended for students who have completed all program credits but still need to use university resources to complete their degree requirements. Prerequisite: Admission to MA or MSA in Recreation & Park Administration program.

RPL 620 Planning for Parks and Recreation Facilities 3(3-0)
Principles and procedures in the planning, development, and maintenance of park and recreation areas and facilities. Prerequisite: Admission to MA or MSA in Recreation & Park Administration program.

RPL 636 Recreation Facility Operations and Management 3(3-0)
Administrative practices for the management and operations of areas and facilities for recreation and leisure services. This course may be offered in an online or hybrid format.

RPL 640 Recreation Program and Event Administration 3(3-0)
Principles and procedures in the conceptualization, planning, administration, operations, and evaluation of recreation programs and special events. This course may be offered in a hybrid or online format. Prerequisite: Admission to the MSA program.

RPL 652 Outdoor Recreation 3(3-0)
Focus on state, national, and international agencies involved in the provision of programs and services for outdoor recreation. Prerequisite: Admission to MA or MSA in Recreation & Park Administration program.

RPL 698 Graduate Internship 1-6(Spec)
Advanced internship experience, performed under a certified or trained professional in a recreation/leisure setting for a 15-week period. Prerequisite: Permission of instructor.

RPL 699 Graduate Project 1-6(Spec)
Student proposes, implements, and evaluates an advanced, in-depth administrative or supervisory level applied project. Prerequisite: Permission of instructor. Recommended: PES 670 or HEV 597.

RPL 798 Thesis 1-6(Spec)
A written thesis and oral defense of research conducted in the leisure services field. The thesis must be approved by the candidate's graduate committee and advisor. Not open to students enrolled in RPL 791. Prerequisite: Permission of instructor. CR/NC only.

SAM - Science of Advanced Materials

See the Ph.D. in Science of Advanced Materials for more information.

SAM 560 Introduction to Rheology 3(3-0)
Introduction to the flow and deformation of materials under stress. Applications to polymeric and biological materials. Prerequisites: MTH 233, 334; or graduate standing. Recommended: CHM 345 or CHM 331 or PHY 312 or EGR 358.

SAM 570 Multiscale Modeling and Simulation of Materials 3(3-0)
Simulation, modeling, and their applications of polymers, colloids, biomaterials, gels, liquid crystals, drug interactions, and nanomaterials on the molecular, mesoscopic, and bulk level. Prerequisites: MTH 233, 334; or graduate standing. Recommended: CHM 345 or CHM 331 or PHY 312 or EGR 355.

SAM 620 Chemical Principles in the Science of Materials 3(3-0)
Principles of inorganic and organic chemistry relevant to the study of materials. Theories of bonding; important synthesis reactions; standard methods of structure determination; chemical properties. Prerequisites: CHM 131 and 132, or CHM 161.

SAM 630 Physical Principles in the Science of Materials 3(3-0)

SAM 685 Current Topics in the Science of Advanced Materials 1-5(1-0)
One credit graduate seminar focusing on current topics in the science of advanced materials. May be repeated for a total of up to 5 credits. Prerequisite: Admission to SAM PhD program.

SAM 690 Special Topics in Science of Advanced Materials 1-9(Spec)
Special topics not included in regular courses in the Science of Advanced Materials program. Course may be taken for credit more than once; total credit not to exceed nine hours. Prerequisites: Admission to SAM program.

SAM 700 Advanced Materials I: Inorganic and Nanomaterials 3(3-0)
This course will provide a detailed survey of metals, semiconductors, ceramics, and nanomaterials, with a special emphasis on structure-property relationships. Prerequisites: SAM 620 or SAM 630.

SAM 710 Advanced Materials II: Polymers, Composites and Biomaterials 3(3-0)
Structure, properties, characterization, and synthesis of polymer materials, biomaterials and derived compositions. Prerequisites: SAM 620 or SAM 630.

SAM 720 Inorganic and Nanomaterials Laboratory 4(2-6)
Experimental synthesis, characterization, and modeling techniques used for inorganic and nanomaterials. Prerequisites: Admission to SAM PhD program.
SAM 721 Polymeric and Biomaterials Laboratory 4(2-6)  
Experimental synthesis, characterization, and modeling techniques used for polymers and biomaterials. Prerequisites: Admission to SAM PhD program.

SAM 722 Material Surface Characterization Laboratory 3(1-6)  
Surface characterization techniques for a variety of materials. Prerequisites: SAM 620 or 630. Pre/Co-requisites: SAM 700 or 710.

SAM 723 Engineering Materials Laboratory 4(2-6)  
Synthesis, characterization, and modeling techniques used for engineering materials including metals, composites, fluids and electrical materials. Prerequisite: Admission to the SAM PhD program.

SAM 785 Seminar in the Science of Advanced Materials 1(1-0)  
In-depth analysis of classical sociological theory focusing on Marx, Durkheim, Weber, and Mead. The historical and intellectual context in which these theorists wrote is emphasized. Prerequisites: Approval of the Sociological Science Education Council chair.

SCI 790 Research in Science Education 2-4(Spec)  
Supervised practical experience in a criminal or social justice organization. CR/NC only. Prerequisites: SOC 200 or both SOC 200 and 350; SOC 301; SOC 220 and an additional 9 hours of social and criminal justice coursework; or regular admission to the Sociology Graduate Program.

SCI 792 Seminar 1(1-0)  
A formal, public oral presentation of Plan A (thesis) research. Required of students receiving the MAT in Integrated Science on the Plan A option. CR/NC only. Prerequisites: Approval of the Interdisciplinary Science Education Council chair.

SCI 797  Directed Research in the Science of Advanced Materials 1-3(Spec)  
Directed research supervised by a SAM faculty member. May be repeated for a total of 36 credits. Prerequisites: Admission to the SAM program.

SCI 899 Dissertation 1-12(Spec)  
Completion of the doctoral dissertation. May be repeated for a total of 12 credits. CR/NC only. Prerequisites: Admission to the SAM Ph.D. program; successful completion of preliminary exams.

SCI - Sciences  
See the College of Science and Engineering for more information.

SCI 597 Special Studies in Science 1-12(Spec)  
Primarily for graduate students. Prerequisite: permission of instructor.

SCI 730 Seminar 1(1-0)  
A formal, public oral presentation of Plan A (thesis) research. Required of students receiving the MAT in Integrated Science on the Plan A option. CR/NC only. Prerequisites: Approval of the Interdisciplinary Science Education Council chair.

SCI 790 Research in Science Education 2-4(Spec)  
Provides students with an experience in research techniques for science education. CR/NC only. Prerequisites: Admission to the MAT in Integrated Science and approval of the Interdisciplinary Science Education Council chair.

SCI 798 Thesis 1-6(Spec)  
The thesis committee approved research towards a Plan A thesis. CR/NC only. Prerequisites: Approval of the Interdisciplinary Science Education Council chair.

SOC - Sociology  
See the Department of Sociology, Anthropology and Social Work for more information. Note: Prerequisites for any undergraduate course in sociology may be waived by permission of the department chair and the instructor.

SOC 501 Development of Sociological Theory 3(3-0)  
In-depth analysis of classical sociological theory focusing on Marx, Durkheim, Weber, and Mead. The historical and intellectual context in which these theorists wrote is emphasized. Prerequisites: SOC 100, 201, 221; or graduate standing.

SOC 502 Theories of Race Relations in Sociology 3(3-0)  
Contributions to sociological theories of race and ethnic relations by major theorists. This course may be offered in an online or hybrid delivery format. Prerequisites: SOC 301, 323, 350; or regular admission to the Sociology graduate program.

SOC 506 Comparative Cultural Systems 3(3-0)  
Examines the structural, cultural development, with particular emphasis on urban and post-industrial cultures. Students investigate cultures different from their own. Identical to ANT 506. Credit may not be earned in more than one of these courses. This course is approved for offering in a distance learning format. Prerequisite: One anthropology or sociology course.

SOC 507 Class and Poverty in America 3(3-0)  
Examines the relationship of social class and their application to American society. Review of sociological literature on class and poverty in the U.S. Prerequisites: SOC 300 or SOC 200, 350; SOC 301; or admission to Graduate Program.

SOC 512 Industrial Sociology 3(3-0)  
The characteristics of industrial societies. Relationship of the organization of industrial work to that of nonwork culture, institutions, and roles. Prerequisites: SOC 300 or both SOC 200 and 350; SOC 301; or regular admission to the Sociology Graduate Program.

SOC 514 Sociology of Health and Illness 3(3-0)  
Social forces that affect the health of populations and individuals, as well as the operations of a major social institution, that of medical care. Prerequisites: Completion of a University Group III B Course or regular admission to the Sociology Graduate Program.

SOC 515 Custodial Institutions 3(3-0)  
The structural organizational, and functional dimensions of custodial institutions in American society, emphasizing social processes of jails, prisons, training schools, mental hospitals, and nursing homes. Prerequisites: SOC 300 or SOC 200, 350 or PSC 280; SOC 301; or regular admission to the Sociology Graduate Program.

SOC 521 Advanced Study of Deviant Behavior 3(3-0)  
Interdisciplinary approach to community as locus of justice, and justice as law of community. Review of intellectual heritage of community study: community development; peace building practices. Prerequisites: SOC 200, 301, 350 or regular admission to the Sociology Graduate Program.

SOC 523 Community Corrections and Alternative Sentencing 3(3-0)  
Justice policies and practices of community corrections and alternative sentencing are featured, including intermediate sanctions, probation, parole, and prisoner reentry. Prerequisites: SOC 300 or both SOC 200 and 350; SOC 301; SOC 220 and an additional 9 hours of social and criminal justice coursework; or regular admission to the Sociology Graduate Program.

SOC 524 Sociology of Law 3(3-0)  
The association of law and social justice, social organization, stratification, and social control. Current issues in justice, law, and conflict resolution. Prerequisites: SOC 200, 350 (or SOC 300); SOC 301; or graduate standing.

SOC 525 Internship in Social and Criminal Justice 6(Spec)  
Supervised practical experience in a criminal or social justice organization. CR/NC only. Prerequisites: SOC 523 with a grade of C or better; permission of the course instructor.

SOC 526 Police and Community Relations 3(3-0)  
Community and police perceptions of police role in democratic society, police discretion, use of force, community policing, and related topics. Prerequisites: SOC 301, 350.

SOC 527 Community-Based Justice 3(3-0)  
Interdisciplinary approach to community as locus of justice, and justice as law of community. Review of intellectual heritage of community study: community development; peace building practices. Prerequisites: SOC 200, 301, 350 or regular admission to the Sociology Graduate Program.

SOC 530 Capstone Experience in Youth Studies 3(3-0)  
Capstone experience for Sociology Major: Youth Studies concentration students to work with youth in community settings and meet on campus to reflect on field experience. Prerequisites: SOC 100, 215, 411, 412, 425; ANT 200 or SOC 311; SOC 422 or SWK 422. Co-requisites: Concurrent enrollment in one of the following is permitted: SOC 311, 411, 412, 422, 425, or SWK 422.

SOC 531 Capstone Experience in Global Justice 3(3-0)  
Capstone course synthesizes course work on the issues of global social justice/justice. Explores roots, consequences, types, policy approaches, and strategies for pursuing global justice. Identical to ANT 331. Credit may not be earned in more than one of these courses. Prerequisites: SOC/ANT 101; 15 hours in the Global Justice Minor; Completion of the Service Learning component of the Global Justice Minor; and Approval of the Global Justice Advisor. May be taken by SOC or ANT Majors with the approval of the Global Justice Advisor. Or, graduate standing.

SOC 532 Global Aging: Cross-Cultural Aging in a Globalized World 3(3-0)  
Comparative study of cultural shapings, expressions and experiences of contemporary aging. Social and cultural responses to perceived problems of aging. Transformations of aging under globalization. Cross listed with ANT 532. Credit may only be earned for one of these courses. Prerequisites: Six credits of cultural anthrop学, gerontology and/or sociology.

SOC 590 Gender, Culture & Society 3(3-0)  
Analysis of gender roles in various cultures; theoretical approaches to explaining gender role variation. Identical to ANT 590 and WGS 590. Credit may not be earned in more than one of these courses. Prerequisites: 6 hours of anthropology and/or sociology and women's studies.

SOC 599 Special Topics in Sociology 1-10(Spec)  
Consideration of subject-matter not included in courses currently listed in catalog.

SOC 601 Contemporary Sociological Theory 3(3-0)  
Analysis of social theories of knowledge, postcolonialist social theory, postcolonialist feminism, black feminist thought, interactionism, critical theory, postmodernism, and other sociological theories of contemporary relevance. Prerequisites: 15 hours of sociology and graduate standing.

SOC 602 Professional Seminar 3(3-0)  
Techniques of thesis writing; development of thesis prospectus. The research of departmental faculty is presented and discussed. Prerequisites: Regular admission to the Sociology Graduate Program.

SOC 605 Sociology of Knowledge 3(3-0)  
Relationship of ideas to social life. The intellectual in society; relationship of empirical knowledge to cultural values and ideologies; objectivity in sociology. Prerequisite: SOC 301 or SOC 501.
SPE 529 The Gifted Student 3(3-0)
Characteristics of individuals with superior abilities. Reviews special curricula and teaching procedures for improving the learning and adjustment of these students. This course has been approved for offering in a distance learning format. Prerequisite: standing or graduate status.

SPE 530 Autism Spectrum Disorder: Characteristics and Etiology 3(3-0)
This course will review the behavioral and educational characteristics of students with autism spectrum disorders. Known causes of this disorder will also be examined. Identical to PSY 575. Credit may not be earned in more than one of these courses. Prerequisite: senior or graduate status.

SPE 531 Autism Spectrum Disorder: Educational Implications 3(3-0)
Presentation of special techniques and materials used in best practice instruction of students with autism spectrum disorders. This course may be offered in an online or hybrid format. Prerequisites: SPE 530 and senior or graduate status.

SPE 536 Field Experience: Autism 3(Spec)
Practice and application of knowledge and strategies for teaching students with autism under faculty supervision. Application to register for this course must be filed during the semester prior to registration for approval. Prerequisites: SPE 530, SPE 531, PSY 586, PSY 682, CDO 550, and graduate status.

SPE 545 Special Education Workshop 1-6(Spec)
Study of trends, alternative approaches, and innovative curricula in programs for the exceptional student. This course is a variable credit topical workshop. This course is approved for offering in a distance learning format. Prerequisite: Junior standing or graduate status.

SPE 550 Teaching Culturally Diverse Students 3(3-0)
Survey of sociocultural influences on the performance of students from varying backgrounds, and educational provisions made for them in public schools including an anti-bias curriculum. This course is approved for offering in a distance learning format. Prerequisites: Junior standing or graduate status.

SPE 570 Career Development and Transitions 3(3-0)
Lifespan issues for persons with disabilities, stressing curriculum content and instructional strategies that promote interdisciplinary career development and transition education at all age levels. This course may be offered in an online format. Prerequisites: SPE 126 with a C or better; Junior standing or graduate status.

SPE 577 Introduction to Specific Learning Disability 3(3-0)
Systematic introduction to the identification, diagnosis and remediation of specific learning disabilities. This course is approved for offering in a distance learning format. Prerequisite: Junior standing or graduate status.

SPE 578 Students with Emotional Impairment 3(3-0)
Diagnostic procedures, therapy, and research concerning children and youth with emotional impairment. Grade of C+ or better required to count toward degree. This course may be offered in an online or hybrid format. Prerequisites: SPE 126 with a grade of C or better; SPE 322 and 323 with grades of C+ or better; admission to Teacher Education.

SPE 579 Teaching Students with Emotional Impairment 3(3-0)
Special techniques and materials used in instruction of students who have emotional and behavioral disorders. Grade of C+ or better required to count toward degree. This course may be offered in an online or hybrid format. Prerequisites: SPE 126 with a grade of C or better; SPE 322, 323 with grades of C+ or better; admission to Teacher Education. Graduate students may be admitted with permission of instructor.

SPE 581 Field Experience-Emotional Impairment 3-6(Spec)
University-supervised practice and application of knowledge and strategies for teaching students with emotional impairment. Grade of C+ or better required to count toward degree. Prerequisites: SPE 126 with a grade of C or better; SPE 322, 323, 324, 578, 579 with grades of C+ or better; admission to Teacher Education.

SPE 585 Early Childhood Special Education 3(3-0)
Current issues in early childhood special education aligned with developmentally appropriate practices, working with families, professionals, and curriculum focused on children birth to eight. This course may be offered in an online or hybrid format. Prerequisites: HFD 100 or EDU 280; or junior standing; or graduate status.

SPE 600 Current Issues in Special Education 3(3-0)
Concentrated study of current special education problems with particular attention to program implementation and development resulting from recent legislation and research. This course may be offered in an online or hybrid format. Prerequisite: admission to a master's program in Special Education.

SPE 619 Continuing Registration for Final Research Project 1(1-0)
A non-credit course intended for students who have completed all program credits but still need to use university resources to complete their degree requirements.

SPE 640 Administration of Special Education 3(3-0)
Study of the organization and administration of special education programs. This course may be offered in an online format. Identical to EDL 675. Credit may not be earned in more than one of these courses.
SPE 645  Special Education Workshop 1-6(Spec)
Study of trends, alternative approaches, and innovative curriculum in planning for individuals with disabilities. Specifically for in-service training. This course may be offered in an online or hybrid format. Prerequisite: permission of instructor.

SPE 665 Independent Study 1-3(Spec)
Individual research or project dealing with a problem in special education. Prerequisite: Approval of department chairperson.

SPE 675  Teaching the Student with Learning Disabilities 3(3-0)
Methods and materials used in teaching students with specific learning disabilities. This course may be offered in an online or hybrid format. Prerequisite: SPE 577.

SPE 678  Education of Students with Severe Emotional Impairment 3(3-0)
Study of children with severe emotional impairment with particular attention to the underlying theories and intervention programs implemented by teachers. Prerequisites: major in Teachers of Students with Emotional Impairment.

SPE 679  Behavioral and Curricular Interventions for Individuals with Mild Disabilities 3(3-0)
The relationship between behaviors and curriculum in the education of individuals with mild disabilities, focusing on the techniques and practices of various interventions. This course may be offered in an online or hybrid format. Prerequisites: SPE 600, admission to a master’s degree program.

SPE 685 Innovative Cognitive Techniques in Special Education 3(3-0)
A study of instructional techniques which have been shown to be effective in enhancing the cognitive skills of special education students. Prerequisites: SPE 577, PSY 667, SPE 675.

SPE 689  Graduate Practicum in Special Education 3-6(Spec)
Provide students the opportunity to develop and demonstrate competencies required for working with students with cognitive impairment or emotional impairment or specific learning disabilities. This course may be offered in an online or hybrid format. Prerequisites: Cognitive Impairment focus: SPE 519, SPE 521, SPE 522; Emotional Impairment focus: SPE 578, SPE 579, SPE 581; Specific Learning Disabilities focus: PSY 667, SPE 675, SPE 685. Permission of instructor and application to register for this course must be filed during the semester prior to registration for approval.

SPE 695  Research for Counseling and Special Education 3(3-0)
Presentation and application of designs and procedures pertinent to conducting research in human services. Includes writing a research proposal and manuscript, implementing mini-research project. Identical to CED 695. Credit may not be earned in more than one of these courses. This course is approved for offering in a distance learning format. Prerequisites: Regular Admission to the M.A. in Counseling or Special Education; completion of 15 hours or more toward the M.A. in Counseling or Special Education.

SPE 720  Seminar: Teaching Students with Severe Cognitive Impairment 3(3-0)
Study and research of selected topics that reflect total education programming for individuals with severe cognitive impairment. This course may be offered in an online or hybrid format. Prerequisite: major in Teachers of Students with Cognitive Impairment.

SPE 741 Seminar: Administration of Special Education 2(2-0)
Provides interaction among special educators to discuss current issues and problems in implementing programs in accordance with special education code and guidelines. This course may be offered in an online or hybrid format. Prerequisites: SPE 640 and background in research methods.

SPE 750 Consultation and Collaboration in Special Education 3(3-0)
Analysis and application of the skills, competencies, responsibilities, priorities, and evaluative processes appropriate in special education. This course may be offered in an online format. Prerequisites: SPE 600, 695, 679, 785.

SPE 775 Seminar: Learning Disabilities 3(3-0)
Discussion and research of major issues and current topics in the field of learning disabilities. Prerequisites: SPE 577, SPE 675.

SPE 785 Assessment and Program Improvement in Special Education 3(3-0)
Selection, evaluation, administration, and interpretation of assessments used in special education for data-based program improvement. This course may be offered in an online format. Prerequisites: SPE 600, 695, 679.

SPE 790 Seminar: Investigations and Solutions in Special Education 3(3-0)
Completion of Plan B paper or project under the supervision of a faculty advisor. This course may be offered in an online or hybrid format. Prerequisites: SPE 600, SPE 679, SPE 785, SPE/CED 695; admission to a master’s program; permission of instructor.

SPE 798 Thesis 1-6(Spec)
Design of a master’s thesis. CR/NC only. Prerequisite: Approval of Committee chairperson.

SPN - Spanish
See the Department of Foreign Languages, Literatures, and Cultures for more information.

SPN 508 Contemporary Spanish Novel and Short Story 3(3-0)
Outstanding novels and short stories of Spain since 1940 reflecting politics, society, economics, and culture of Spain after the Civil War. Recommended: Three (3) credits in Spanish at the 400 level.

SPN 585 Introduction to Hispanic Linguistics 3(3-0)
Seminar on the major aspects of Hispanic Linguistics such as sound patterns, word-formation, sentence structure, meaning and context, discourse structure, regional and social variation. Prerequisite: One 400-level SPN course; or graduate standing in the M.A. Spanish Program.

SPN 591 Special Topics in Spanish 3-9(Spec)
Special topics may include language, literature and/or culture. May be repeated when the content is not a duplication of a previous special topics offering. Recommended: Three (3) credits in Spanish at the 400 level or graduate standing in the M.A. Spanish Program.

SPN 595 Theory and Practice of Translation 3(3-0)
Seminar on the historical, theoretical and practical aspects of translation. The link between linguistic and cultural factors and their relationship to translation will be emphasized. This course may be offered in an online or hybrid format. Prerequisites: SPN 375; one 400-level SPN course; or graduate standing in the M.A. Spanish Program.

SPN 597 Independent Study 1-6(Spec)
The in-depth study of a topic under the direction of a faculty member who together with a student designs the format of the study. Prerequisites: permission of instructor and department chairperson; three (3) credits in Spanish at the 400 level.

SPN 610 Studies in U.S. Latino Cultures 3-6(3-0)
Analysis of Latino culture in the United States in terms of a given topic/genre. The works selected for each topic/genre will be examined in the light of the historical, social, and economic context. This course is approved for offering in a distance learning format. Prerequisites: admission to the M.A. program in Spanish. A student may take this course twice, for 3 hours of credit each time, but must choose a different topic/genre for the second 3 hours.

SPN 615 Themes in Latin American Cultural Studies 3-9(Spec)
Analysis of Latin American societies through concepts of nation, ethnicity, social class, and gender. May include cultural production, cultural politics, and socioeconomic development. A student may take this course up to three times, for 3 credits each time, when content previously studied is not duplicated. This course may be offered in an online or hybrid format. Prerequisite: Admission to the M.A. program in Spanish.

SPN 619 Continuing Registration for Final Research Project 1(1-0)
A non-credit course intended for students who have completed all program credits but still need to use university resources to complete their degree requirements.

SPN 620 Special Topics in Spanish-American Literature 3-9(Spec)
Examination of literature and culture in Spanish America through analysis of literary and cultural texts. Topics to be taken up will vary; at least one hour must be devoted to each topic/genre. May be offered in an online or hybrid format. Prerequisite: Admission to the M.A. program in Spanish.

SPN 621 Colonial to 19th-Century Spanish American Literature 3(3-0)
Special topics seminar on Spanish-American literature from the 16th-19th centuries through analysis of representative texts and other media, with an overview of the historical context. This course may be offered in an online or hybrid format. Prerequisites: Admission to the M.A. program in Spanish.

SPN 622 20th and 21st-Century Spanish American Literature 3(3-0)
Analysis of Spanish American literary texts and their relationship with the changing social landscape of the 20th and 21st century. May be offered in an online or hybrid format. Prerequisite: Admission to the M.A. program in Spanish.

SPN 623 Critical Thinking through Hispanic Literature 3(3-0)
This course offers instruction in analytical and argumentative writing, critical thinking, research strategies and proper documentation through the study of Hispanic literary works. This course may be offered in an online or hybrid format. Prerequisites: Admission to the M.A. program in Spanish.

SPN 630 Themes in Spanish Peninsular Literature and Cultures 3-9(Spec)
Special topics seminar on main themes, authors and genres of prose, drama and lyric production in Spain from the medieval period to the 21st century. May be taken up to three times if the themes are different. May be offered in an online or hybrid format. Prerequisite: Admission to the M.A. program in Spanish.

SPN 631 Medieval and Golden Age Spanish Literature 3(3-0)
Special topics seminar on main themes, authors and genres of prose, drama and lyric production in Spain from the medieval period to the 17th century. This course may be offered in an online or hybrid format. Prerequisite: Admission to the M.A. program in Spanish.
SPN 632 Eighteenth to Twenty-first Century Spanish Literature 3(3-0)
Special topics seminar on literature that reflects significant factors which shape Spanish society and culture from the eighteenth century to the present day. This course may be offered in an online or hybrid format. Prerequisite: Admission to the M.A. program in Spanish.

SPN 640 History of the Spanish Language 3(3-0)
Examines the external and internal history of the Spanish language from its Indo-European origins to the modern period, with special emphasis on the evolution of phonology, morpho-syntax, lexis, and semantics. Prerequisite: admission to the M.A. program in Spanish.

SPN 650 Stylistics 3(3-0)
This course is designed to enable the student to deal with complexities of written Spanish at different levels of the language giving consideration to the fundamental aspects of morpho-syntax or orthography. This course may be offered in a hybrid format. Prerequisite: admission to the M.A. program in Spanish.

SPN 655 Spanish Pragmatics and Critical Discourse Analysis 3(3-0)
The seminar offers theoretical frameworks and current issues in pragmatics and critical discourse analysis. It demonstrates the relevance and usefulness of both disciplines to the field of applied linguistics. This course may be offered in an online or hybrid format. Prerequisite: Admission to the M.A. program in Spanish.

SPN 660 Spanish Phonology 3(3-0)
This course provides an understanding of Spanish articulatory phonetics in itself, and as contrasting with English articulatory phonetics, and to analyze the phonological system of the Spanish language. Prerequisite: admission to the M.A. program in Spanish.

SPN 665 Second Language Acquisition: Theory and Practice 3(3-0)
The study of second language acquisition and pedagogy, with focus on communicative language teaching and practical application in teaching Spanish at the university level. Prerequisite: Permission of the instructor.

SPN 670 Study Abroad: Latin America 3-6(Spec)
Courses offered at a site in Latin America selected by the department. Students will take one course in Spanish American Cultural Issues and one in Language or Linguistics, as approved by the advisor. Prerequisite: admission to the M.A. program in Spanish.

SPN 680 Study Abroad: Spain 3-6(Spec)
Courses offered at a site in Spain selected by the department. Students will take one course in Spanish Culture and one in Language or Linguistics, as approved by the advisor. Prerequisite: admission to the M.A. program in Spanish.

SPN 697 Individual Study for the Comprehensive Examination 3(3-0)
Individual study for the Comprehensive Examination under the supervision of three Spanish graduate faculty. Prerequisite: Permission of Spanish Graduate Director.

SSC - Social Sciences
Contact the College of Humanities and Social and Behavioral Sciences for more information.

SSC 597 Special Studies in Social Science 1-12(Spec)
Primarily for graduate students. Prerequisite: permission of instructor.

STA - Statistics
See the Department of Mathematics for more information.

STA 575 Statistical Programming for Data Management and Analysis 3(3-0)
Introduction to statistical programming for managing and analyzing data, including programming logic, data manipulation, missing data handling, basic techniques for analyzing data and creating reports. This course may be offered in an online or hybrid format. Prerequisites: STA 282 or 382 or 392; or graduate standing.

STA 580 Applied Statistical Methods I 3(3-0)
Applications of statistical analysis methods including the use of computer software packages. Topics include simple and multiple regression, diagnostics, forecasting, and analysis of variance. This course may be offered in an online or hybrid format. Prerequisites: STA 282 or 382 or 392; or graduate standing.

STA 582 Experimental Designs 3(3-0)
Randomized block designs, Latin square designs, factorial designs, fractional factorial designs, response surface methods, robust designs. Prerequisite: STA 580.

STA 583 Nonparametric Statistics 3(3-0)
Theory and applications of nonparametric methods. Topics include one, two, and several sample problems, rank correlation and regression, Kolmogorov-Smirnov tests and contingency tables. Prerequisites: STA 282 or 382 or 392; or graduate standing.

STA 584 Mathematical Statistics I 3(3-0)
Probability theory and mathematical analysis; finite and infinite samples spaces, conditional probability and independence, random variables, expectations, moment-generating functions, probability models, limit theorems. Prerequisite: MTH 233.

STA 585 Mathematical Statistics II 3(3-0)
Introductory topics from mathematical theory of statistics: population distributions, sampling distributions, point and interval estimation, tests of hypotheses. Prerequisite: STA 584.

STA 586 Clinical Trials and Survival Analysis 3(3-0)
Simple and advanced statistical techniques used in the analysis and interpretation of clinical research data. Emphasis on statistical techniques commonly used in chronic disease analysis. Prerequisite: STA 282 or 382 or 392; or graduate standing.

STA 587 Statistical Theory and Methods for Quality Improvement 3(3-0)
Statistical theory and methods for optimizing quality and minimizing costs: classical and recently developed on-line methods and Taguchi’s off-line quality and robust designs. Prerequisites: STA 580.

STA 588 Sampling Techniques 3(3-0)
Principles of sampling; simple random sampling; stratified random sampling; systematic sampling; cluster sampling; sample size determination; ratio and regression estimates; comparisons among the designs. Prerequisites: STA 282 or 382 or 392; or graduate standing.

STA 589 Time Series Forecasting 3(3-0)
Introduction to basic time series forecasting techniques. Topics include forecasting, Box-Jenkins models, time series regression, and transfer function models. Prerequisite: STA 580.

STA 590 Applied Statistical Methods II 3(3-0)
Linear models with autocorrelated errors, non-linear regression, logistic regression, multivariate ANOVA, simultaneous comparison procedures, ANOVA diagnostics, analysis of covariance, unbalanced data and missing data analysis. Prerequisites: MTH 223; STA 580; or graduate standing.

STA 591 Data Mining Techniques I 3(3-0)
Data mining techniques for analyzing large and high dimensional data. Topics include data mining strategy, exploratory analysis, predictive modeling techniques, model assessment and comparison. This course may be offered in an online or hybrid format. Prerequisites: STA 580 or graduate standing.

STA 592 Six Sigma: Foundations and Techniques for Green Belts 3(3-0)
Six Sigma problem solving strategy for continuous improvement. Topics include DMAIC, and PDSS strategies and applications, tools and statistical techniques used in the strategies. Prerequisites: STA 282 or 382 or 392; or graduate standing.

STA 595 Introduction to Bayesian Statistics 3(3-0)
Introduction to Bayesian analysis and applications. Topics include principles of Bayesian statistics, Bayesian linear models and generalized linear models. Prerequisites: STA 580, 584 or graduate standing.

STA 596 Special Topics In Statistics 1-6(Spec)
Subject matter not included in regular courses. May be taken for credit more than once, total credit not to exceed 6 hours. Prerequisite: permission of the instructor.

STA 597 Independent Study 1-6(Spec)
The in-depth study of a topic in statistics under the direction of a faculty member. May be taken for credit more than once, total credit not to exceed six hours. Prerequisite: Permission of instructor.

STA 675 Advanced Statistical Data Management and Simulation 3(3-0)
Advanced computational techniques for data management, statistical computing and simulation, including SAS Macro programming language, R, and SAS SQL. Prerequisite: STA 575, 584.

STA 678 Categorical Data and Survival Analysis 3(3-0)
Contingency tables, logistic and Poisson regression models, log-linear models, nonparametric methods of survival analysis, Cox proportional hazard models and accelerated failure time models. Prerequisites: STA 580, 584.

STA 682 Linear Models 3(3-0)
Theory and application of least squares method and hypothesis testing for the linear regression models. Prerequisites: MTH 525; STA 584.

STA 684 Theory of Statistical Inference 3(3-0)
Stochastic convergence and limiting theorems, sampling distributions, theory of point estimation and hypothesis testing, general linear hypotheses, sequential probability ratio test. Prerequisites: MTH 532 and STA 584.

STA 686 Multivariate Analysis 3(3-0)
Multivariate normal distributions, multivariate methods including multivariate analysis of variance, multivariate regression, principal component analysis, factor analysis, canonical correlation, discriminant analysis and cluster analysis. Prerequisites: STA 580, STA 584.

STA 691 Advanced Data Mining Techniques 3(3-0)
Topics include data mining high dimensional data: cluster and sequence analysis, self-organizing maps, support vector machine, path mining, and Bayesian network. Recommended: STA 580 or equivalent.

STA 694 Theory and Applications of Bayesian Statistics 3(3-0)
Topics include single parameter models, Bayesian computation, Markov Chain Monte Carlo methods, hierarchical models, model comparisons and regression models. Prerequisite: STA 684.

STA 695 Practicum/Internship 3(Spec)
Advanced internship experience in external agency supervised by a faculty member and a professional supervisor. Prerequisite: Permission of the program advisor.
STA 696 Special Topics in Statistics 1-6(Spec)
Subject matter not included in regular courses. Course may be taken for credit more than once, total credit not to exceed six hours. Prerequisites: Graduate student status and permission of instructor.

STA 697 Independent Study 1-9(Spec)
The in-depth study of a topic in statistics under the direction of a faculty member. May be taken for credit more than once, total credit not to exceed nine hours. Prerequisites: Permission of instructor.

STA 782 Generalized Linear Models 3-3-0
Theory and applications of generalized linear models, models for continuous data, models for binary and polytomous data, log-linear models, quasi-likelihood functions and model checking. Prerequisite: STA 682.

STA 784 Theory of Estimation 3-3-0
Theory of point estimation in Euclidean sample spaces. Topics include unbiasedness, equivariance, global properties, large-sample theory, and asymptotic optimality. Prerequisites: STA 664; MTH 632.

STA 797 Independent Study 1-9(Spec)
The in-depth study of a topic in statistics under the direction of a faculty member. May be taken for credit more than once, total credit not to exceed nine hours. Prerequisites: Permission of instructor.

SWK - Social Work
See the Department of Sociology, Anthropology, and Social Work for more information.

SWK 597 Independent Study 1-12(Spec)
Directed reading or research on approved topic. Prerequisite: Completion of at least 75 undergraduate credits or graduate standing. Recommended: SWK 100.

SWK 599 Special Topics in Social Work 1-12(Spec)
Consideration of subject matter not included in courses currently listed in the Bulletin. Prerequisite: Completion of at least 75 undergraduate credits or graduate standing. Recommended: SWK 100.

TAI - Theatre and Interpretation
See the Department of Communication and Dramatic Arts for more information.

TAI 518 Advanced Make-up 3(2-2)
Practical application of advanced make-up materials and techniques, including both two-dimensional and three-dimensional make-up. Prerequisite: TAI 278. Recommended: ART 260, 261.

TAI 569 History of American Theatre 3(3-0)
Development of drama and theater in America from colonial times to the present. Prerequisites: 6 hours of TAI coursework.

TAI 570 Oral Interpretation of Prose Fiction 3(3-0)
Specialized study of the short story and novel, in both individual and group performances. Prerequisites: one course in oral interpretation; one course in fictional literature.

TAI 571 Oral Interpretation of Poetry 3(3-0)
Specialized study of poetry. Prerequisites: one course in oral interpretation and one course in poetic literature.

TAI 572 Special Topics in Oral Interpretation 1-9(Spec)
Current topics for each semester listed in Course Search and Registration. 3 hours each; maximum credit 9 hours. Prerequisite: one course in oral interpretation and/or a major in English.

TAI 573 Seminar: Interpretive Reading 3(3-0)
History of the art of interpretive reading, its current theories and possible trends. Prerequisite: one course in interpretive reading.

TAI 574 History of Drama and Theatre 13(3-0)
Development of drama and theatre in Western Culture from ancient origins to 1700. Prerequisites: 6 hours of TAI coursework.

TAI 575 History of Drama and Theatre II 3(3-0)
Continuation of TAI 574. History of Drama and Theatre I. Development of drama and theatre in Western Culture from 1700 to 1945. Prerequisites: 6 hours of TAI coursework.

TAI 577 Special Topics in Technical Theatre 1-9(Spec)
Current topics for each semester listed in Course Search and Registration. 3 hours each; maximum credit 9 hours. Prerequisites: Two from the following: TAI 177, TAI 278, TAI 377, TAI 477.

TAI 578 Special Topics in Theatre 1-9(Spec)
Current topics for each semester listed in Course Search and Registration. 3 hours each; maximum credit 9 hours. Prerequisites: Two undergraduate courses in theatrical production.

TAI 579 Costume Design and Construction 3(3-0)
Concentration in the problems of design, pattern drafting, and construction of costumes for the theatre. Prerequisites: TAI 377; FMD 140.

TAI 580 Dramatic Theory and Criticism 3(3-0)
Analysis of significant theories of theatre and drama. Prerequisite: TAI 574 or TAI 575.

STA 581 Advanced Directing 3(3-0)
Continuation of TAI 481. Directing. Emphasis on the rehearsal and performance of one-act plays for public presentation. Prerequisites: TAI 177 and TAI 481. Admission by approval of instructor only (contact CDA office for information).

STA 583 Women in the Contemporary American Theatre 3(3-0)
Examines the contributions of women producers, directors, playwrights, actors, designers, and critics to the development of the contemporary American theatre. Prerequisites: 6 hours of TAI coursework.

STA 584 Field Course in Theatre 1-4(Spec)
A travel course to metropolitan theatrical productions and institutions. Required are a pre-travel reading program and final reaction/evaluation paper.

STA 585 Creative Dramatics 3(2-2)
Techniques of guiding children through original dramatizations. Primarily for the classroom teacher.

STA 586 Playwriting 3(3-0)
Theory and practice in writing original plays; discussion and critical evaluation of student plays. Prerequisites: ENG 201; ENG 294 or one course in history of drama and theatre.

STA 587 Irish Theatre and Drama 3(3-0)
Development of theatre and drama in Ireland. Course requires travel to Dublin during Spring Break. Prerequisites: Permission of Instructor.

STA 588 Contemporary Theatre 3(3-0)
Development of drama and theater in Western Culture from 1945 to the present. Prerequisites: 6 hours of TAI coursework.

STA 589 Theatre Workshop 2-6(Spec)
Theoretical and practical work in productions of the University Theatre. Prerequisite: minimum of one course in theatre.

STA 590 Summer Repertory Theatre 3(3-0)
Intensive practical theatre experience in the repertory situation under professional direction and guidance. Prerequisite: applicant admitted to course only through audition.

STA 602 Modern Performance Theory 3(3-0)
Intensive examination of the growth and development of major assumptions underlying modern approaches to theatrical production.

STA 619 Continuing Registration for Final Research Project 11-0
A non-credit course intended for students who have completed all program credits but still need to use university resources to complete their degree requirements.

STA 790 Advanced Independent Study 1-4(Spec)
Intensive study of some special problem under guidance of a faculty member or faculty committee. Prerequisite: permission of advisor and instructor (and completion of form).

UNV - Prior Learning
Contact Global Campus for more information.

UNV 697 Prior Learning 1-10(Spec)

WGS - Women's and Gender Studies
Contact the College of Humanities and Social and Behavioral Sciences for more information.

WGS 590 Gender, Culture, and Society 3(3-0)
Analysis of gender roles in various cultures; theoretical approaches to explaining gender role variation. Identical to ANT 590 and SOC 590. Credit may not be earned in more than one of these courses. Prerequisites: 6 hours of anthropology and/or sociology and/or women's studies.
This publication presents the Code of Student Rights, Responsibilities and Disciplinary Procedures at Central Michigan University. It establishes the procedures followed and outlines the possible consequences for students found in violation of the "Code of Conduct." The disciplinary procedures outlined in this document do not replace or substitute for filing charges through law enforcement agencies if it is determined that such action is appropriate.

This document originally was formally adopted by the Board of Trustees for Central Michigan University on December 16, 1972. Since that time, it has been periodically reviewed and revised as needs changed. This revision was approved by the President and the Board of Trustees on June 24, 2014 and amended by the President on December 12, 2014 and March 16, 2015.

The President is responsible for promulgating rules and regulations pertaining to student rights and responsibilities, including regulations governing student organizations, in keeping with the policies and goals established by the Board of Trustees. In fulfilling this responsibility, the President is obligated to assure the right of due process for students.

The President has designated the Associate Vice President for Student Affairs as the person charged with the administration of student discipline. The Associate Vice President for Student Affairs appoints Conduct Proceedings Officers to answer questions concerning the rights and responsibilities of students, to receive complaints as they are reported, and to follow through with discipline cases to their resolution.

Student Affairs Office
March 16, 2015

1. Preamble

The students, faculty, and staff of Central Michigan University constitute an academic community that is committed to the preservation, communication, and discovery of knowledge, and to the active pursuit of truth. Consistent with this purpose, the university recognizes its obligation to afford each student the opportunity to develop his or her educational potential while retaining free exercise of rights and freedoms as a citizen. Such opportunity should be limited only by the necessity of insuring equality of opportunity to all students, and by the corollary requirement of orderly operation of the educational processes. Each member of the Central Michigan University community assumes an obligation regarding self-conduct to act in a manner consistent with a respect for the rights of others and with the university’s function as an educational institution. As guides for individual and group actions within this community, the university affirms the following general principles of conduct. These principles serve as the basis for regulations concerning student conduct.

1.1 The community requires a system of order supportive of the educational process that is the purpose of the university. Primary responsibility for preserving the system of order rests upon the individuals making up the community. Each individual must accept responsibility for his or her own actions and values and for recognizing that such actions and values affect the whole community. Implicit in the community’s recognition of the rights of the individual is an obligation on the part of the individual to accept responsibilities toward the community.

1.2 Even though there is a diversity of opinion regarding many ethical and moral standards, each person should endeavor to maintain self conduct in a manner consistent with respect for others and thoughtful consideration for the needs of society. In social relationships generally, including relations involving the civil, property, and personal rights of others, each individual has an obligation to act in a manner consistent with these fundamental values.

1.3 The educational function depends upon honesty, integrity, and respect for truth. Any action not consistent with these principles is unacceptable.

1.4 As part of the democratic tradition, members of the community should be free to study and act upon social issues, including issues affecting the university. Each person ought to learn and practice the art of thoughtfully examining controversial issues, expressing views individually and as a group member responsibly, and in a manner that is consistent with the educational purpose of the university.

1.5 The university community recognizes the need for the development of personal ethics and philosophies. The members of this community should be committed to broad personal growth and development in society, realizing that each individual has both the freedom and obligation to make ethical choices and to accept the attendant responsibilities.

2. Student Rights

Free inquiry and free expression are essential attributes of a community of scholars. The freedom to learn depends upon appropriate opportunities and conditions in the classroom, on the campus generally, and in the community at large. The responsibility to secure and respect general conditions conducive to the freedom to learn is shared by all members of the university community. Students should strive to develop the capacity for critical judgment and the ability to engage in a sustained and independent search for truth, while endeavoring to exercise their freedom with maturity and responsibility. As students undertake to fulfill the obligations and duties outlined in this document, the university community of which they are a part undertakes to respect the basic freedoms of students.
2.1 Rights of Students

In recognition of students’ rights and dignity as members of the university community, Central Michigan University is committed to supporting the following principles and to protecting those rights guaranteed by the Constitution, the laws of the United States and the State of Michigan, local ordinances, and the policies adopted by the Board of Trustees.

2.1.1 Students have the right to free inquiry, expression and association.

2.1.2 Students have the right to editorial freedom in student publications and other student media, e.g. CM Life, Framework, WMHW, and MHTV.

2.1.3 Students have the right to representation on the appropriate, designated bodies.

2.1.4 Students accused of misconduct or of violating university policy have the right to have a determination of their violation or non-violation in accordance with university procedures.

2.1.5 Students have the right to protection against improper disclosure of their student records.

2.1.6 Students have the right of access to their personal educational records.

2.1.7 Students have the right to access all policies, rules and decisions concerning their continued enrollment, and to the required course materials and facilities necessary to pursue their studies.

2.1.8 Students have the right to educational programs that meet the objectives of the master syllabus, to teaching consistent with those objectives, and to a learning environment that encourages the students’ engagement with their education.

2.1.9 Students have the right to be informed by the faculty near the beginning of each course about course requirements, evaluation procedures, and evaluation criteria to be used, and the right to expect that those criteria be employed. Faculty members have the authority to change a course syllabus after the beginning of the semester and are expected to inform students of these changes in a timely manner.

2.1.10 Students have the right to take reasoned exception to the data or views offered in any course of study; they are, however, responsible for learning the content of any course of study for which they are enrolled.

2.1.11 Students have the right to be evaluated solely on relevant academic criteria and to have protection against arbitrary or capricious academic evaluation as described in the “Grade Grievance Policy” in the University Bulletin.

2.1.12 Students have the right to request and receive timely assessment of their academic work by the instructor, or in the case of graduate students by their thesis/dissertation/Plan B committee chairperson and committee members.

2.1.13 Students have the right to request and receive a reasonable and timely review of their grades by the instructor.

2.1.14 Students have the right of complaint about academic matters if they believe their rights have been violated. When not covered by another policy, a complaint is properly filed by presenting the issue first to the faculty member or thesis, doctoral research project or dissertation committee chairperson. If not resolved, the student may take the issue to the department chairperson. If not resolved at this level, the student may take the complaint to the office of the dean of the academic college or the Dean of the College of Graduate Studies.

2.2 Relationships with the University

2.2.1 As citizens, students have the same duties and obligations as do other citizens and enjoy the same freedoms of speech, press, religion, peaceful assembly, and petition that other citizens enjoy. In all of its dealings with students, the university will respect the rights guaranteed to them by the Constitutions and laws of the United States, the State of Michigan, and local ordinances.

2.2.2 All registered student organizations are open to all students without respect to race, religion, creed, sexual orientation, gender, disability, or national origin except that certain organizations (e.g. social fraternities and sororities) are restricted as to gender, as allowed under Title IX of the Education Amendments of 1972.

2.2.3 Students individually and collectively are free to examine and to discuss all questions of interest to them, including questions relating to university policies, and to express opinions publicly and privately. They are free to support causes by any orderly means that do not disrupt the operation of the university.

2.3 Responsibilities of Students and Faculty

Students should conscientiously strive to complete course requirements as stated, and accept responsibility to contribute positively to the learning environment established by faculty. Proper evaluation of students in a course is based solely on performance in meeting appropriate standards established and communicated by the instructor for that course. Each course has a master syllabus approved through university curricular processes, which includes a description of the scope of the course and a list of the goals and objectives of the learning experience. Faculty members assigned to teach a course develop a course outline, based on the master syllabus, to provide students with greater specificity about how the course will be conducted in order to accomplish the intended goals and objectives. Proper evaluation of progress of graduate students in thesis or dissertation work or other research projects is based on attainment of objectives established by the chair of the student’s committee according to written departmental guidelines.

2.4 Relationships with Law Enforcement Agencies

In addition to filing complaints under these regulations, victims are encouraged to report crimes to the appropriate law enforcement agency. The CMU Police Department is the designated law enforcement agency for crimes committed on campus. As members of the local community, students are expected to cooperate with all law enforcement agencies.

2.5 Confidentiality of Information

All information about students’ views, beliefs, and political associations that members of the university acquire in the course of their work as teachers, administrators, advisers, and counselors is confidential. Improper disclosure of confidential information is a serious violation of the obligations of a member of this university community. Judgments of a student’s ability and character, however, may be provided under appropriate circumstances.

2.6 Student Associations

Students are free to form and join associations that advance the common interest of their members. Activities of such organizations must be conducted in accordance with university regulations and public law.

3. Responsibilities of Students

3.1 General Regulations Concerning Student Conduct

3.1.1 The Board of Trustees is responsible for promulgating policies regarding student conduct at Central Michigan University. The President, as its executive officer, is the final authority in all discipline cases. The Vice President of Enrollment and Student Services is the designated officer responsible to the President for conducting disciplinary review of a decision of the Appeals Board to suspend a student for more than one week or to dismiss a student. The Associate Vice President for Student Affairs is the designated officer responsible to the President for the administration of student conduct policies. All misconduct of students is reported to the Associate Vice President for Student Affairs or to the persons designated by the AVP for Student Affairs to receive such reports.

3.1.2 The university shall take disciplinary action in cases concerning a student’s actions or offenses occurring within or affecting people on property within the physical boundaries of Central Michigan
University, on or affecting university owned or controlled property, or when the student is in attendance at a university sponsored event, or when the interests of the university as a community, are clearly involved. Only where the health and safety of members of this community, are clearly involved shall the special authority of the university be asserted in other cases.

Students subject to the provisions of this Code are defined as all persons who have enrolled at the university, either full-time or part-time, pursuing undergraduate, graduate, or non-degree studies. Persons who have been enrolled at the university, and who have not withdrawn, are students even when they are not enrolled for a particular term. Students also include persons who have been admitted to the university and who, before their first attendance, participate in activities intended only for prospective students (e.g., orientation, leadership, band, or other camp, athletic training and practices).

3.2 Specific Regulations Concerning Student Conduct

3.2.1 Academic Dishonesty. Written or other work that a student submits in a course shall be the product of his/her own efforts. Plagiarism, cheating, and all other forms of academic dishonesty are prohibited. Students are expected to adhere to the ethical and professional standards associated with their programs and academic courses. Alleged violations of this section shall be adjudicated in accordance with CMU’s Policy on Academic Integrity. Copies of the Policy on Academic Integrity may be accessed via the Office of Student Conduct website (https://www.cmich.edu/ess/studentaffairs/StudentConductOffice/Pages/default.aspx).

3.2.2 False Information. A student shall not furnish, or attempt to furnish, false or misleading information to university officials or on official university records. Furthermore, a student shall not forge, alter, or misuse the university name, the name of any university employee, documents, records of identification, or attempt to do the same.

3.2.3 Disruption of Learning. A student shall not obstruct, disrupt or interfere, or attempt to obstruct, disrupt or interfere with another student’s right to study, learn or complete academic requirements. This includes acts to destroy or prevent or limit access to information or records used by other students in connection with their university responsibilities.

3.2.4 Disruptive Behavior During Class. A student shall not obstruct, disrupt or interfere, or attempt to disrupt or interfere with another student’s right to study, learn, participate, or a teacher’s right to teach during a class. Whether in the classroom or online, this includes but is not limited to such behaviors as talking at inappropriate times, drawing unwarranted attention to him or herself, engaging in loud or distracting behaviors, or refusing to leave a classroom when ordered to do so.

3.2.5 Disruption of University Authorized and Scheduled Events. A student, group of students, or registered student organization shall not obstruct or disrupt, or attempt to obstruct or disrupt, teaching, research, administration, disciplinary procedures, or other university activities. This includes, but is not limited to: acts to destroy or prevent or limit access to information or records used by other students in connection with their university responsibilities or impairing classes, the carrying forward of the university’s business, or the arrangements for properly authorized and scheduled events. A person attempts to disrupt when, with the intent to disrupt, that person does any act that constitutes a material step toward disruption.

3.2.6 Access to Facilities. A student shall not enter, or attempt to enter, closed university facilities or facilities clearly under the authorized control of another individual, e.g., student vehicles, rooms or apartments; disrupt or attempt to disrupt, the scheduled use of university facilities; block, or attempt to block, access to or from university facilities; or remain within, or attempt to remain within, university facilities after their closing unless authorized to do so by the President, or the President’s designated representative, or the student authorized to and in control of said facility or facilities.

3.2.7 Threat/Endangerment/Assault. A student shall take no action that threatens or endangers the safety, health, or life, or impairs the freedom of any person, nor shall a student make any verbal threat of such action. This includes actions commonly understood to constitute assault or battery.

3.2.7.1 Sexual Assault. A student shall adhere to the university’s Sexual Misconduct Policy (W3-39) and the policies contained therein. Copies of the Policy on Sexual Misconduct may be accessed via the Office of Student Conduct website (https://www.cmich.edu/ess/studentaffairs/StudentConductOffice/Pages/default.aspx).

3.2.8 Disruptive Self-Injurious Behavior. A student shall not engage or threaten to engage in self-injurious behavior that negatively impacts or is disruptive to the learning/living environment of others.

3.2.9 Property Damage. A student shall take no action that damages or tends to damage property not the student’s own.

3.2.10 Theft. A student shall not appropriate for the student’s own use, sale, or other disposition, property not the student’s own without consent of the owner or the person legally responsible for it. This includes embezzlement, misappropriation and/or theft of university and/or student organizational resources and theft of personal information.

3.2.11 Disorderly Conduct. A student shall not act as a disorderly person or engage in disorderly conduct or disturb the peace, as defined by state statute or local ordinance. This includes acts of indecent exposure or lewd conduct.

3.2.12 Controlled Substances. A student shall not possess, use, manufacture, produce, or distribute, or aid in the use, manufacture, production, or distribution of, any controlled substance except as expressly permitted by law and university policy. Violation of the Residence Life Alcohol and Controlled Substances Policy is a violation of this section. Controlled substances are defined in the Controlled Substances Act of 1971, as amended.

This includes acts of indecent exposure or lewd conduct.

3.2.13 Violation of Alcohol Policy. A student shall not possess, consume or furnish, or aid in the consumption or furnishing of, alcoholic beverages except as permitted by law and university policy. Violation of the Residence Life Alcohol & Controlled Substances Policy is a violation of this section.

3.2.14 Firearms/Explosives/Weapons. A student shall not possess or use firearms; explosives (including, but not limited to, fireworks and black powder); dangerous chemicals; weapons; knives with a blade longer than three inches, hunting knives, fixed blade knives, switchblade knives, throwing knives, daggers, razors, other cutting instruments the blade of which is exposed; or items that forcibly eject projectiles (including BB, CO2-powered, pellet and air soft guns); and any other device that may be injurious to others, except as part of an approved university activity and under the supervision of a university official. Firearms (including BB, CO2-powered, pellet and air soft guns) may not be stored in university residences. Any replica of any of the foregoing weapons is also prohibited. Firearms used for hunting must be properly registered with the CMU Police Department and stored in compliance with university regulations.

The state of Michigan has enacted a concealed carry law that prohibits carrying a concealed pistol into a dormitory (residence hall) or classroom of a university.

3.2.15 Complying with University Agents. A student shall comply with the directions of university agents acting in the performance of their regular or delegated duties and must identify him self or her self to these agents upon request.

3.2.16 Payment of Fines/Restitution. A student shall pay fines or restitution levied by a proper hearing body or university authority by the deadline established.

3.2.17 Misuse of Buildings/Facilities/Services. A student must observe rules and regulations concerning the use of campus buildings and other university owned or operated facilities, vehicles, equipment and services.
3.2.18 Computer Abuse. A student shall not abuse university computer time or equipment, including but not limited to: CMU-hosted Blackboard, online chat rooms, Skype meetings and other social media technologies, when such resources are accessed or utilized using CMU’s computers, networks, servers, or other CMU-provided technologies. Abuse includes but is not limited to: unauthorized entry or transfer of a file, unauthorized downloading or uploading of copyrighted information, unauthorized use of another individual’s identification and password; use of computing facilities to interfere with the work of a student, faculty members or university officials; or use of computing facilities to interfere with normal operation of the university; or improper use of the learning management system (LMS) and digital environments. A student shall adhere to the rules and practices promulgated by the university Office of Information Technology (www.oit.cmich.edu) and the policies contained therein, including but not limited to the Copyright Infringement Responsible Use of Computing and Data Stewardship Policies.

3.2.19 Bullying/Hazing/Harassment. A student shall not bully, haze or harass any person or group of persons. Telephone harassment, texting, email, computer or online social media harassment, are included under this policy, as are all other forms of bullying and harassment.

3.2.20 Civil Disorder. A student shall not participate in a riot or civil disorder, which is defined as five or more persons, acting in concert, who intentionally or recklessly cause or create a serious risk of causing public terror or alarm.

3.2.21 Aiding Civil Disorder. A student shall not, intending to cause or aid or abet the institution or maintenance of a riot or civil disorder, act or engage in conduct which urges other persons to commit acts of unlawful force or violence or the unlawful burning or destroying of property or the unlawful interference with a police officer, peace officer, firefighter or member of the Michigan National Guard or any unit of the armed services officially assigned to civil disorder duty in the lawful performance of his/her duty.

3.2.22 Participation in Riot. A student shall not assemble or act in concert with four or more persons for the purpose of engaging in conduct which creates a serious risk of a riot or civil disorder or be present at an assembly that either has or develops such a purpose and remain there after an order has been given to disperse.

3.2.23 Violation of Injunction. A student shall not violate the terms of any injunction regulating conduct in Isabella County or the terms of the Mt. Pleasant Nuisance Party Ordinance during and as part of a riot or civil disorder.

3.2.24 Discrimination. Violation of the CMU Nondiscrimination Policy or the Equal Opportunity and Affirmative Action protocol shall be treated as an offense under these regulations.

3.2.25 Violations by Registered Student Organizations. Violation by Registered Student Organizations of these regulations, and other rules pertaining to Registered Student Organizations as outlined in the Student Organization Operational Guide shall be treated as an offense under these regulations.

3.2.26 Violation of Residence Hall Rules. Violation of “Residence Hall Rules” shall be treated as an offense under these regulations.

3.2.27 Collusion. A student who shall with any one or more persons enter into a combination or agreement, expressed or implied, to commit a violation of any of these regulations, is in violation of the regulation. Students are responsible for the actions of their guests while present on CMU property or at university sponsored activities.

3.2.28 Aiding/Abetting. A student implicated in the violation of any regulation in this document, whether he or she directly commits the act constituting the violation or procedures in connection with it, or aids or abets in its commission, may be treated under the regulations as if he or she had directly committed such violation.

3.2.29 Violation of Federal/State/Local Law. Violation of federal, state or local law in a manner that affects the university shall be treated as an offense under these regulations.

3.2.30 Retaliation. A student, group of students, or registered student organization shall not retaliate against any student who files a complaint or grievance; requests an administrative hearing; participates in an investigation; appears as a witness in an administrative hearing; or opposes an unlawful act, discriminatory practice, or policy.

3.2.31 Violation of University Regulations. Violation of other university regulations, policies or established procedures shall be treated as an offense under these regulations.

3.2.32 Unauthorized Fires. No student shall start or allow to be started a fire with the intent to destroy property including their own and/or rubbish.

3.2.33 Arson. A person who uses, arranges, places, devises, or distributes an inflammable, combustible, or explosive material, liquid, or substance or any device in or near a building, structure, other real property, or personal property with the intent to commit arson or who aids, counsels, induces, persuades, or procures another to do so is in violation of arson.

4. Official University Sanctions

4.1 Sanctions. Sanctions that may be imposed for violation of university regulations include the following:

4.1.1 Reprimand: A written reprimand, including the possibility of more severe disciplinary sanctions in the event of the finding of a subsequent violation of university regulations within a stated period of time.

4.1.2 Restitution: Reimbursement for defacement, damage to, or misappropriation of property. The person or body imposing this sanction may impose another allowed sanction as an alternative if restitution is not made within the time specified.

4.1.3 Fines: Fines may be levied. In no circumstance shall the fine levied exceed $1,000. Failure to pay a fine in the time limit prescribed shall result in further disciplinary action.

4.1.4 Removal from University Housing: Cancellation of contract and requirement to vacate university housing within a specified period of time. If housing is not vacated within the prescribed time, additional sanctions shall be imposed.

4.1.5 Campus Restrictions: Limitations on the times and/or places where a student may be present on campus. If said restrictions are not observed, additional sanctions shall be imposed.

4.1.6 Educational Programs: Participation in educational programs, i.e., workshops, seminars, or other educational activities may be required. The person or body imposing this sanction shall impose another sanction as an alternative if the specified program is not completed within the time stipulated and may impose additional sanctions.

4.1.7 Revocation of the Privilege of being a Registered Student Organization

4.1.8 Disciplinary Probation: Subjection to a period of critical examination and evaluation of behavior. In addition to any of the sanctions set forth above, the student or organization may be placed on probation for a stated period. Placement on probation may include additional restrictions or requirements, including but not limited to the following:

a) Withdrawal of the privilege of campus registration of a motor vehicle,

b) Withdrawal of the privilege of membership in a campus organization,

c) Withdrawal of the privilege of holding office in a campus organization,

d) Withdrawal of the privilege of representing the university in any inter-university event

e) Requirement to complete a specified number of credit hours with a specific grade point average during the current or subsequent academic session.

Appendix I
222 Appendix I

f) Requirement to complete coursework related to the violation.
g) Withdrawal of the privilege of using computing resources.
h) Completion of work or other service to be provided to the university or other organization within a specified time. The person or body imposing this sanction may impose another allowed sanction as an alternative if the specified service is not completed within the time stipulated, and may impose additional sanctions.

A condition of probation may be that automatic suspension or dismissal of a student or organization shall occur upon a determination (under the procedures set forth in Article 5 herein) that a violation of a condition of probation or any other violation has occurred.

4.1.9 Suspension/Dismissal from an Academic Program: Exclusion from an academic program as set forth for a definite or indefinite period of time.

4.1.10 Suspension: Exclusion from classes and other privileges or activities as set forth for a definite period of time. Suspension may include exclusion from the campus and property belonging to the university for a stated period of time and may require an independent evaluation supporting the student or organization's return, with which CMU concurs.

4.1.11 Dismissal: Permanent termination of student status.

4.2 Additional Sanctions
Sanctions in addition to those listed in Article 4.1 may be established by the university.

4.3 Temporary Suspension
The university reserves the right to suspend a student, summarily and without notice, if in the judgment of the President of the university or the President's representative a student's presence would constitute a continuing danger to the person himself/herself, other persons or property, or that the operation of the university would be seriously impaired. In the case of temporary suspension, the student will be given written notice of the charges against him or her following the conclusion of any related investigations and a hearing before a Hearing Officer will be held as soon as possible considering the complexities of the matter and the status of any related criminal proceedings.

4.4 Automatic Sanctions for Grave Offenses
Certain grave offenses require that the sanctions be stipulated in advance and imposed automatically. The following shall be breaches of the student conduct regulations for which the minimum sanction of suspension is mandatory:

4.4.1 Bomb threat or knowingly false bomb warning.
4.4.2 Willful destruction of property worth more than $1,000.
4.4.3 Willful disruption of scheduled university activities.
4.4.4 Violence against persons that results in bodily injury requiring substantial medical treatment or death.
4.4.5 Administering or causing to be administered to any person unknowingly or against the person's will any "Controlled Substance" as defined in the Controlled Substances Act of 1971, as amended.
4.4.6 Sale or distribution of, or aiding or assisting in the sale or distribution of, any "Controlled Substance" as defined in the Controlled Substances Act of 1971, as amended.
4.4.7 Possession of a firearm or any other dangerous weapon as described in Section 3.2.14.
4.4.8 Participation in a riot or civil disorder as described in Section 3.2.20 or 3.2.22.
4.4.9 Urging other persons to commit unlawful acts during a riot or civil disorder, as described in 3.2.21.
4.4.10 Being present at a riot or civil disorder after an order has been given to disperse.

4.4.11 Violations of Sections 3.2.7 (Threat/Endangerment/Assault), or 3.2.9 (Property Damage) during a riot or civil disorder.
4.4.12 Violation of the terms of any injunction regulating conduct in Isabella County or the terms of the Mt. Pleasant Nuisance Party Ordinance during and as a part of a riot or civil disorder.
4.4.13 Violation of section 3.2.33 (Arson).

5. Student Hearing Procedures for Charged Violation of Student Conduct Regulations

5.1 Intake Conduct Proceedings Officer
5.1.1 A charge may be made to the Conduct Proceedings Officer by any member of the university community or may be brought by the Conduct Proceedings Officer on one's own initiative stating that a student has violated the Specific Regulations Concerning Student Conduct (3.2). Students subject to the provisions of this Code are defined as all persons who have enrolled at the university, either full-time or part-time, pursuing undergraduate, graduate, or non-degree studies. Persons who have been enrolled at the university, and who have not withdrawn (or been academically dismissed), are students even when they are not enrolled for a particular term. Students also include persons who have been admitted to the university and who, before their first attendance, participate in activities intended only for prospective students (e.g., orientation, leadership, band, or other camp, athletic training and practices).
5.1.2 One or more Conduct Proceedings Officers shall be appointed by the President or the President's designated representative. The Conduct Proceedings Officer will make, or cause to be made, an investigation of the charge.
5.1.3 If, from the investigation, the Conduct Proceedings Officer determines the matter may be reason for discipline under the student conduct regulations, the Conduct Proceedings Officer will notify the student that a charge has been made and will offer the student an opportunity to discuss the matter.

If notified by either United States mail or by university email, the notice will be mailed to the last address for the student on file with the university Office of the Registrar. The notice will be deemed received two (2) business days following the date the notice is posted at facilities of the United States Post Office (for U.S. Postal mail) or immediately upon delivery for electronic mail. In the absence of mailing, personal delivery to the student cited, or delivery to the last address on file in the Office of the Registrar constitutes proper notice. If personal delivery to the student or delivery to the last address is used, the date notice is so delivered shall be deemed the date the notice is received.

The student will have two (2) business days from the date of receipt (through any of the mediums listed above) in which to respond to the notice. If the student has not responded at the end of this two-day period, the Conduct Proceedings Officer will set up a hearing.

5.1.4 The student may bring an advisor of the student's choice to the discussion with the Conduct Proceedings Officer. If the student’s advisor is an attorney, the student must notify the Conduct Proceedings Officer of this at least three (3) business days in advance of the discussion. The advisor's role is limited to providing advice to the student. The advisor is not permitted to ask or answer questions or make oral arguments. Any case presented must be made by the student.
5.1.5 If the student chooses to discuss the matter, the Conduct Proceedings Officer will at the discussion inform the student of the charge(s) and the regulation(s) which are alleged to have been violated and will explain to the student the process outlined in this document.
Appendix I

5.1.6 Student Admits Violation
5.1.6.1 If the student admits to the violation, the Conduct Proceedings Officer may:
   a) Issue a sanction
   b) Order that the sanction be set by a university Hearing Officer, or
   c) Enter into a written, mutually acceptable, behavioral contract with the Student and/or
   d) Refer the student for counseling.
5.1.6.2 The student charged or the person or group who first brought the charge, or the university, may appeal the sanction (except the terms of a behavioral contract), by a letter delivered to the Office of the Conduct Proceedings Officer or university Hearing Officer within five (5) business days after the Conduct Proceedings Officer has set the sanction. Since admission of the violation by the student is a prerequisite to the Conduct Proceedings Officer acting under this section, such an appeal will only be as to the appropriateness of the sanction and not the fact of whether the violation occurred.

Once a student admits a violation for which there is an automatic sanction, the sanction is automatically imposed and only the terms of a suspension may be appealed. The appeal is to the Appeals Board.

5.1.7 Student Does Not Admit Violation
After discussion with the student, the Conduct Proceedings Officer may determine that the matter requires no further action. The Conduct Proceedings Officer will refer the matter for hearing if:
5.1.7.1 The student denies the charge and the Conduct Proceedings Officer determines the matter may be reason for discipline.
5.1.7.2 The student chooses not to discuss the matter at the discussion offered by the Conduct Proceedings Officer. The student will be notified of the date and time of the hearing.

5.1.8 Alternative Resolution
5.1.8.1 Mutual Settlement. In lieu of referral to a hearing or prior to a student’s admission of a violation of the Code, the Conduct Proceedings Officer may offer or accept mutual settlements of any charged violations under this code. Settlements shall be in writing and shall state the conditions of the agreement and any sanctions imposed. Mutual settlements may not be appealed.

Cases not settled in a timely manner shall proceed to a hearing.
5.1.8.2 Counseling. In lieu of, or in addition to, a sanction or referral to a hearing the Conduct Proceedings Officer may refer the student for psychological counseling.
5.1.8.3 Behavioral Contract. In lieu of, or in addition to, a sanction or referral to a hearing, the Conduct Proceedings Officer may arrange a behavioral contract with the student. A behavioral contract is mutually acceptable agreement between the university and a student that specifies certain behavior with which the student must comply, and specifies automatic sanctions that will be imposed if the contract is broken. If the contract is broken, as determined by a finding of fact under procedures set forth in Article 5 herein, the student may be suspended from the university as determined by the Conduct Proceedings Officer. In cases where suspension is automatic under the terms of a behavioral contract, a hearing to determine if the contract has been broken will be on fact only.
5.1.8.4 Referral to Behavioral Evaluation Team. In lieu of referral to a hearing, the Conduct Proceedings Officer and the student may agree to a referral to a process provided by the Care Team, Care Team Coordinator, or Behavioral Evaluation Team. This option is available in situations where the alleged conduct of the student appears to be related to a mental health concern(s) or emotional issue(s).

5.2 Hearings
There are two hearing forums: The university Hearing Officer and the university Hearing Body. The Conduct Proceedings Officer will assign a case to one of these forums, except that in cases where there is potential for a sanction of suspension or dismissal, the student may choose which hearing forum will hear the case. The student will have two (2) business days from the date of the meeting with the Conduct Proceedings Officer to make a final choice in writing to the Conduct Proceedings Officer. If no such timely choice is made, the Conduct Proceedings Officer will designate whether the case will be heard by a Hearing Officer or Hearing Body. The student will be notified of the time and date of the hearing.

5.2.1 University Hearing Officer
5.2.1.1 One or more university Hearing Officers will be appointed by the President or the President’s designee and must participate in the appropriate training sessions regarding the Code of Student Rights, Responsibilities and Disciplinary Proceedings.
5.2.1.2 The university Hearing Officer will be assigned by the Associate Vice President for Student Affairs, or the Director of the Office of Student Conduct, as the designee of the Associate Vice President for Student Affairs, to hear the case.
5.2.1.3 The university Hearing Officer, based on the information presented at the hearing, determines whether the student charged violated the student conduct regulations, and sets the sanction, when applicable. Failure to complete the terms of the sanction may result in suspension from the university as determined by the Conduct Proceedings Officer. Certain violations have automatic sanctions imposed according to Section 4.4. In such cases, the university Hearing Officer will decide if a violation has occurred and, if so, the terms of a mandatory sanction.

5.2.2 University Hearing Body
5.2.2.1 The university Hearing Body consists of one university Hearing Officer and two students.
5.2.2.2 The students will be selected from a pool of students who are approved by the Vice President for Enrollment and Student Services or his/her designee in consultation with the Student Government Association and must participate in the appropriate training sessions regarding the Code of Student Rights, Responsibilities and Disciplinary Proceedings.
5.2.2.3 The university Hearing Body, based upon the information presented at the hearing, determines whether the student charged violated student conduct regulations, and sets the sanction, when applicable. Failure to complete the terms of the sanction may result in suspension from the university as determined by the Conduct Proceedings Officer. Certain violations have automatic sanctions imposed according to Section 4.4. In such cases, the university Hearing Body will decide if a violation has occurred and, if so, the terms of a mandatory sanction.

5.2.3 Hearing Procedures
5.2.3.1 In all disciplinary hearings, the burden of proof rests with the Conduct Proceedings Officer, who must prove by a preponderance of evidence that a violation has occurred.
5.2.3.2 The student charged may have an advisor of the student’s choice present at the hearing. If the student’s advisor is an attorney, the student must notify the Conduct Proceedings Officer of this at least three (3) business days in advance of the hearing. The advisor’s role is limited to providing advice to the student. The advisor is not permitted to ask or answer questions or make oral arguments. Any case presented must be made by the student.
5.2.3.3 A record of the hearing, made by an audio recording device, will be kept by the Conduct Proceedings Officer at least until the appeal time is exhausted. The Conduct Proceedings Officer, on behalf of the university, will maintain all copies of these recordings.
5.2.3.4 A university Hearing Officer presides at all hearings.
5.2.3.5 Hearing notifications and procedures will be communicated to the charged student at least twenty-four (24) hours before the hearing.
5.2.3.6 The Hearing Officer or Hearing Body will issue a written decision within ten (10) business days to the Conduct Proceedings Officer stating if a violation has been found, what facts support this finding, and the sanction(s) to be imposed.
5.2.3.7 A decision letter will be e-mailed to the student within three (3) business days from the date the decision is received by the Conduct Proceedings Officer.
5.2.3.8 The student charged has the right to cross-examine the complainant and any witnesses in the case against him or her. The Hearing Officer, however, has the right to determine the method the cross-examination will take (direct confrontation, submission of written questions, or any other method that, in the Hearing Officer's opinion, will elicit the desired testimony).

5.3 Complainant's Rights
Central Michigan University recognizes that complainants have rights that need to be protected as well as those of the person who is cited.
5.3.1 The complainant has the right to have a person of his or her choice accompany him or her throughout the disciplinary hearing.
5.3.2 The complainant has the right to remain present during any disciplinary or appeal hearings.
5.3.3 The complainant has the right to submit an "impact statement" and to suggest an appropriate sanction if the person cited is found in violation of the Code of Student Rights, Responsibilities and Disciplinary Procedures.
5.3.4 The complainant has the right to be informed in a timely manner of the outcome of the hearing regarding the findings and the sanction.
5.3.5 The complainant has the right to appeal either the findings or the sanction.
5.3.6 The complainant has the right to cross-examine the student charged and any "defense" witnesses in the case. The Hearing Officer, however, has the right to determine the method the cross-examination will take (direct confrontation, submission of written questions, or any other method that, in the Hearing Officer's opinion, will elicit the desired testimony).

5.4 Appeals
5.4.1 The following matters may be appealed to the Appeals Board:
5.4.1.1 The decision of a university Hearing Body or a university Hearing Officer as provided in Section 5.2. The appeal may be as to the facts found or the sanction set or both. If the sanction is automatic, then the appeal may only be made as to the findings, or the terms of a suspension. The appeals board may not reduce the sanction below the minimum imposed by Section 4.4 or by the terms of behavioral contracts or other disciplinary actions in which automatic sanctions are specified.
5.4.1.2 The sanction set by the Conduct Proceedings Officer after admission of violation by the student. Imposition of any automatic sanction after such an admission may not be appealed; however, the terms or conditions of the sanction may be appealed. See Section 5.1.7.2 for more information regarding this type of appeal.
5.4.2 The Appeals Board consists of the Student Government Association President or designee, the Chairperson of the Academic Senate or designee, and the Associate Vice President for Student Affairs or designee and must participate in the appropriate training sessions regarding the Code of Student Rights, Responsibilities and Disciplinary Proceedings.
5.4.3 An appeal to the Appeals Board may be made by the student involved, by the person or group who first brought the charge, or by the university.
5.4.4 An appeal is timely only if taken within five (5) business days of the decision appealed. An appeal not made within the time limit will not be heard unless the President or the President's designee makes an exception.
5.4.5 An appeal is made by submitting a written statement of appeal to the Conduct Proceedings Officer within the time limit. The written statement of appeal must state: the name of the person appealing, the basis of the appeal, the person or group making the decision from which the appeal is made, whether a decision as to fact or sanction or both is appealed, and the remedy that the person appealing is requesting from the Appeals Board.
5.4.6 The student charged may have an advisor of the student’s choice present at the hearing of the appeal. If the student’s advisor is an attorney, the student must notify the Conduct Proceedings Officer of this at least three (3) business days in advance of the hearing. The advisor's role is limited to providing advice to the student. The advisor is not permitted to ask or answer questions or make oral arguments. Any case presented must be made by the student.
5.4.7 The Conduct Proceedings Officer is responsible for notifying members of the Appeals Board of the appeal and for setting a time and place for holding a meeting of the Appeals Board. The Conduct Proceedings Officer will provide notice of time and place of the meeting of the Appeals Board to the student(s) charged, the charging party, and other university persons deemed appropriate by the Conduct Proceedings Officer.
5.4.8 The Conduct Proceedings Officer will assemble the documentary evidence introduced at the hearing, the record made of the hearing, and the administrative contact history made in connection with the matter and will make these materials available to the Appeals Board.
5.4.9 The Appeals Board may establish its own procedure for conducting any appeal appropriate to the circumstances designed to achieve fairness to the student charged as well as the interests protected by the Central Michigan University Code of Student Rights, Responsibilities and Disciplinary Procedures.
5.4.10 The Appeals Board makes its determination based solely on the record of the student's hearing, facts that are presented to the Appeals Board, and arguments before the Appeals Board. No additional witnesses, witness statements, or other materials may be introduced during the Appeal.
5.4.11 The purpose of the Appeals Board is to decide if the findings and/or the sanction of the Hearing Body were so incorrect that the decision should be changed. It is not the purpose of the Appeals Board to substitute its judgment for that of the Hearing Officer or Body. It is not the function of the Appeals Board to rehear the charges against the student; it is an appeal of the findings and/or the sanction of the Conduct Proceedings Officer, Hearing Officer or Body only as requested by the person or persons making the appeal. The Appeals Board may:
   a) Find that there are not sufficient facts presented to warrant the findings of fact made at the original hearing and may set aside the finding or determine the facts differently.
   b) Order that a new hearing be held.
   c) Change the sanction.
   d) Provide such further and additional relief or changes as dictated by fairness to the student and to the interests protected by the Central Michigan University Code of Student Rights, Responsibilities and Disciplinary Procedures.
5.4.12 The Appeals Board must hear the appeal within fifteen (15) business days from the date the appeal is made in writing and delivered to the Conduct Proceedings Officer.
5.4.13 A decision of the Appeals Board is final except that a decision to suspend for more than one week or to dismiss a student is subject to discretionary review by the Vice President for Enrollment and Student Services or the President (see 5.4.14). Any student responding to a charge under these procedures, or any person bringing charges under these procedures, or the Administration, may make a written application to the Vice President for Enrollment and Student Services to review such a decision made by the Appeals Board. The application must be received in the Office of the Vice President for Enrollment and Student Services within five (5) business days after the date of the Appeals Board decision. Failure to make application for review within the time limit ends the right to make application for review unless the time limit is extended by the Vice President for Enrollment and Student Services. The application for review must contain the following information:

a) Name of the student(s) charged in the proceeding in which the Appeals Board has rendered a decision.

b) Name, address, and telephone number of the person making application for review.

c) A copy of the Appeals Board decision involved.

d) A statement as to what portion(s) of the Appeals Board decision the applicant wishes reviewed, and the reason(s) why the person making application for review considers the decision to be capricious, or the procedures followed to be fundamentally unfair.

e) A statement of the relief requested from the Vice President for Enrollment and Student Services by the person making application for review.

If the Vice President for Enrollment and Student Services elects to review a decision of the Appeals Board, either in part or entirely, the Vice President for Enrollment and Student Services may establish whatever procedures are deemed appropriate and consistent with fairness to govern the review.

5.4.14 The university reserves the right for the President or the President’s designee to impose a different sanction after a determination of violation, than the sanction imposed by the Conduct Proceedings Officer, Hearing Officer, Hearing Body, Appeals Board, or others under these procedures.

5.5 Charges Involving Student Organizations

All notices referred to in this document, when involving a Registered Student Organization, shall be sent to the president of the organization, at his or her last address on file with the Office of the Registrar, unless another representative of the organization is designated by the organization to receive such notices. When a Registered Student Organization is charged with a violation, the president of the organization shall represent the organization in the process described in Section 5, unless the Registered Student Organization designates some other representative. The representative of the student organization must be a registered student at Central Michigan, and must be a regular member of that organization.

5.6 Changes in Procedures

5.6.1 The procedures set forth herein shall apply throughout the calendar year. A university Hearing Officer may be appointed by the Conduct Proceedings Officer to hear a case at times when a university Hearing Body cannot be readily assembled such as when students are not in attendance at regular sessions, during exam week, summer sessions.

5.6.2 These procedures are subject to change by the President of the university or designee. If any change is deemed necessary, any new procedures shall guarantee a fair hearing with due process.

5.7 Clarifying Processes

Clarifying processes that are consistent with the Hearing Procedures in this document may be proposed by the Office of Student Rights and Responsibilities.
Policy on Academic Integrity

This Policy applies to any and all student experiences in which academic credit is involved (e.g., courses, internships, practica, theses).

1. **Academic Integrity**
   
   Because academic integrity is a cornerstone of the University’s commitment to the principles of free inquiry, students are responsible for learning and upholding professional standards of research, writing, assessment, and ethics in their areas of study. In the academic community, the high value placed on truth implies a corresponding intolerance of scholastic dishonesty. Written or other work which students submit must be the product of their own efforts and must be consistent with appropriate standards of professional ethics. Academic dishonesty, which includes cheating, plagiarism and other forms of dishonest or unethical behavior, is prohibited.

   A breakdown of behaviors that constitute academic dishonesty is presented below. The definitions and clarifications are meant to provide additional information and examples of these behaviors. They are not intended to be all-inclusive. Questions regarding this policy or requests for additional clarification can be directed to the Office of Student Conduct.

2. **Academic dishonesty includes:**
   
   A. **Cheating on Examinations Definition**
      
      Cheating is using or attempting to use materials, information, notes, study aids, or other assistance in any type of examination or evaluation which have not been authorized by the instructor.

      **Clarification**
      
      1. Students completing any type of examination or evaluation are prohibited from looking at another student’s materials and from using external aids of any sort (e.g., books, notes, calculators, and conversation with others) unless the instructor has indicated specifically in advance that this will be allowed.
      2. Students may not take examinations or evaluations in the place of other persons. Students may not allow other persons to take examinations or evaluations in their places.
      3. Students may not acquire unauthorized information about an examination or evaluation and may not use any such information improperly acquired by others.

   B. **Plagiarism Definition**
      
      Plagiarism is intentionally or carelessly presenting the work of another as one’s own. It includes submitting an assignment purporting to be the student’s original work which has wholly or in part been created by another person. It also includes the presentation of the work, ideas, representations, or words of another person without customary and proper acknowledgement of sources. Students must consult with their instructors for clarification in any situation in which the need for documentation is an issue, and will have plagiarized in any situation in which their work is not properly documented.

      **Clarification**
      
      1. Every direct quotation must be identified by quotation marks or appropriate indentation and must be properly acknowledged by parenthetical citation in the text or in a footnote or endnote.

   C. **Fabrication, Forgery and Obstruction Definition**
      
      Fabrication is the use of invented, counterfeited, altered or forged information in assignments of any type including those activities done in conjunction with academic courses that require students to be involved in out of classroom experiences.

      Forgery is the imitating or counterfeiting of images, documents, signatures, and the like.

      Obstruction is any behavior that limits the academic opportunities of other students by improperly impeding their work or their access to educational resources.

      **Clarification**
      
      1. Fabricated or forged information may not be used in any laboratory experiment, report of research, or academic exercise. Invention for artistic purposes is legitimate under circumstances explicitly authorized by an instructor.
      2. Students may not furnish to instructors fabricated or forged explanations of absences or of other aspects of their performance and behavior.
      3. Students may not furnish, or attempt to furnish, fabricated, forged or misleading information to university officials on university records, or on records of agencies in which students are fulfilling academic assignments.
      4. Students may not steal, change, or destroy another student’s work. Students may not impede the work of others by the theft, defacement, or mutilation of resources so as to deprive others of their use.

   D. **Multiple Submission Definition**
      
      Multiple submissions are the submission of the same or substantially the same work for credit in two or more courses. Multiple submissions shall include the use of any prior academic effort previously submitted for academic credit at this or a different institution.

      Multiple submissions shall not include those situations where the prior written approval by the instructor in the current course is given to the student to use a prior academic work or endeavor.

      **Clarification**
      
      1. Students may not normally submit any academic assignment, work, or endeavor in more than one course for academic credit of any sort. This will apply to submissions of the same or substantially the same work in the same semester or in different semesters.
2. Students may not normally submit the same or substantially the same work in two different classes for academic credit even if the work is being graded on different bases in the separate courses (e.g., graded for research effort and content versus grammar and spelling).

3. Students may resubmit a prior academic endeavor if there is substantial new work, research, or other appropriate additional effort. The student shall disclose the use of the prior work to the instructor and receive the instructor’s permission to use it PRIOR to the submission of the current endeavor.

4. Students may submit the same or substantially the same work in two or more courses with the prior written permission of all faculty involved. Instructors will specify the expected academic effort applicable to their courses and the overall endeavor shall reflect the same or additional academic effort as if separate assignments were submitted in each course. Failure by the student to obtain the written permission of each instructor shall be considered a multiple submission.

E. Complicity Definition
Complicity is assisting or attempting to assist another person in any act of academic dishonesty.

Clarification
1. Students may not allow other students to copy from their papers during any type of examination.
2. Students may not assist other students in acts of academic dishonesty by providing material of any kind that one may have reason to believe will be misrepresented to an instructor or other university official.
3. Students may not provide substantive information about test questions or the material to be tested before a scheduled examination unless they have been specifically authorized to do so by the course instructor. This does not apply to examinations that have been administered and returned to students in previous semesters.

F. Misconduct in Research and Creative Endeavors Definition
Misconduct in research is serious deviation from the accepted professional practices within a discipline or from the policies of the university in carrying out, reporting, or exhibiting the results of research or in publishing, exhibiting, or performing creative endeavors. It includes the fabrication or falsification of data, plagiarism, and scientific or creative misrepresentation. It does not include honest error or honest disagreement about the interpretation of data.

Clarification
1. Students may not invent or counterfeit information.
2. Students may not report results dishonestly, whether by altering data, by improperly revising data, by selective reporting or analysis of data, or by being grossly negligent in the collecting or analysis of data.
3. Students may not represent another person’s ideas, writing or data as their own.
4. Students may not appropriate or release the ideas or data of others when such data have been shared in the expectation of confidentiality.
5. Students may not publish, exhibit, or perform work in circumstances that will mislead others. They may not misrepresent the nature of the material or its originality, and they may not add or delete the names of authors without permission.
6. Students must adhere to all federal, state, municipal, and university regulations for the protection of human and other animal subjects.
7. Students may not conceal or otherwise fail to report any misconduct involving research, professional conduct, or artistic performance of which they have knowledge.

8. Students must abide by the university’s Policy on Research Integrity where applicable, which can be found under Policies at the following web address: www.orsp.cmich.edu. Applicability of this policy for students is found under I. GENERAL PROVISIONS, A. Applicability, number 3.

G. Computer Misuse Definition
Misuse of computers is disruptive, unethical, or illegal use of the university’s computer resources, including any actions which violate the university’s Rules for Computing and Networking Resources. Misuse of computers also includes disruptive, unethical, or illegal use of the computers of another institution or agency in which students are performing part of their academic program.

Clarification
1. Students may not use the university computer system in support of any act of plagiarism.
2. Students may not monitor or tamper with another person’s electronic communications.
3. Students may not use university computer resources to engage in illegal activity, including but not limited to the following: illegally accessing other computer systems, exchanging stolen information, and violating copyright agreements which involve software or any other protected material.

H. Misuse of Intellectual Property Definition
Misuse of intellectual property is the illegal use of copyright materials, trademarks, trade secrets or intellectual properties.

Clarification
Students may not violate the university policy concerning the fair use of copies. Information can be found at the following web address: https://www.cmich.edu/office_president/general_counsel/Documents/p05003.pdf.

3. Ethical and Professional Behavior
Students are expected to adhere to the ethical and professional standards associated with their programs and academic courses. Such standards are generally communicated to students by instructors and are available through publications produced by professional organizations. Unethical or unprofessional behavior will be treated in the same manner as academic dishonesty.

4. Discretion of Instructors
Since the circumstances in which allegations of academic misconduct arise are many and varied, no single process will be appropriate to every situation. The procedures offered below are meant to cover the majority of situations. However, reasonable deviations from these procedures may be appropriate, so long as they are consistent with the following guiding principles:

- Students must be informed about the nature of and basis for any allegations of academic misconduct and the consequences that may be imposed.
- Students have a right to contest any allegations of academic misconduct, and to provide their side of the story to the instructor.
- Once the instructor has considered the evidence and considered anything that the student may say on his or her own behalf, the instructor has the right to exercise her or his professional judgment in determining whether the student has engaged in academic misconduct, and to determine the consequences of such misconduct on the student’s grade for the assignment and/or the course.
- A student accused of academic misconduct has a right to appeal the instructor’s decision once s/he has discussed the matter with the instructor.
- All parties should act in a reasonably prompt manner, given the circumstances.
Nothing in this policy shall prohibit an instructor from informally discussing a student’s work with the student to determine whether academic misconduct has occurred, or to educate the student about standards of academic integrity, without or prior to accusing the student of engaging in academic misconduct. It is recognized that some cases of academic misconduct may be borderline, accidental, or minor. Instructors are free to address such cases as occasions for further education rather than allegations of misconduct. For example, it would be consistent with this policy for an instructor to forgo the procedures outlined below and simply educate a student who has engaged in what appears to the instructor to be minor, borderline, or accidental academic misconduct, and to allow the student to redo the work (for full or partial credit) so as to avoid any question of academic integrity.

5. Academic Consequences of Violations of the Policy on Academic Integrity

A student is not permitted to withdraw from a course in which an instructor has imposed academic consequences (such as a reduction in grade) for academic misconduct. The instructor shall exercise his or her professional judgment in determining the appropriate academic consequences of the violation. Academic consequences may include a warning or reprimand, a requirement to resubmit work (with or without an additional reduction in grade for the assignment), a lowering of the grade for the assignment (including withholding of any credit for the assignment), or a lowering of the grade for the entire course (including failing the course).

In addition, instructors are encouraged to report serious incidents of academic misconduct to the Office of Student Conduct for formal proceedings seeking disciplinary sanctions under the Code of Student Rights, Responsibilities and Disciplinary Procedures.

6. Procedures for Handling Alleged Violations of this Policy

A. Initial Notification

If an instructor believes that a student has committed a violation of the Policy on Academic Integrity, the instructor will attempt to contact the student within a reasonable period of time (normally ten (10) university business days) to notify the student of the suspected violation of the Policy on Academic Integrity. This contact may be in written form (including e-mail), by phone, or in person. In any case, the instructor should convey to the student the following information:

- A description of the nature of the alleged violation (e.g., plagiarism on a term paper; looking at another student’s work on an exam, etc.);
- The basis for believing that the student has violated the Policy (e.g., a Turnitin originality report, a description of a report made by someone who observed the academic misconduct, etc.);
- The academic consequences that the instructor may impose if s/he concludes that there is sufficient evidence that academic misconduct has occurred;
- An offer to discuss the matter further and to respond to the allegations. Depending on the circumstances, this further discussion may occur at a separate time, or it may be continuous with the initial notification. The discussion may take place in person, via email, or by phone. If the student declines to discuss the matter with the instructor, then s/he forfeits the right to appeal the instructor’s decision.

The instructor is encouraged to keep a record of this contact.

B. Discussion between Instructor and Student

The instructor will offer the student an opportunity to discuss the allegation of academic misconduct, and to present any evidence or other information on his or her behalf. This discussion may be continuous with the initial contact; or it may occur at a later time. It may take place by phone, email, or in person. The instructor will determine the most appropriate format for this discussion, taking into account the details of the situation and the student’s availability and preferences about how the discussion is to be conducted.

If this discussion occurs during a face-to-face meeting, either the instructor or the student may request that a representative of the Ombuds office, a mutually agreeable third party attend to serve as a neutral facilitator or observer. However, neither the instructor nor the student may be represented or accompanied by an attorney or any other advisor.

Regardless of the format of this discussion, the student will be provided the opportunity to respond to the allegation and to explain any suspected or alleged misconduct by presenting evidence, giving additional information relevant to the matter, explaining extenuating or mitigating circumstances, or acknowledging a violation.

C. Determination of Academic Consequences of Violation

After either (1) the instructor and student have discussed the alleged violation of the Academic Integrity Policy, or (2) the student has admitted that s/he violated the Academic Integrity Policy, or (3) the student has declined to discuss the violation, then the instructor will exercise his or her professional judgment in determining whether a violation has occurred, and, if so, what academic consequences are appropriate and what grade is appropriate for the assignment and course. Once this decision has been made, the instructor should communicate his/her decision to the student in writing. This may be done through regular mail, campus mail, email, or hand delivery to the student. The instructor should retain a copy of this communication. Instructors are encouraged to report serious violations of the Policy on Academic Integrity to the Office of Student Conduct, and to include a copy of this communication in the report.

If the student wishes to discuss the allegations but it is not possible to have this discussion before grades are due, or if the instructor is unable to contact the student before grades are due, the instructor shall determine whether to (1) forgo submitting a grade for the student or (2) submit a grade which has been lowered to reflect the consequences of academic misconduct. If the instructor decides not to submit a grade until the matter is resolved, the system will assign a grade of “N,” which the instructor will remove once the discussion with the student has occurred. If the instructor submits a grade before a discussion with the student occurs, the instructor should notify the student of this decision and offer to discuss the matter. If, as a result of the discussion, the instructor determines that the evidence of the violation was faulty or insufficient to warrant a determination of academic misconduct, or if s/he determines that mitigating factors presented by the student warrant a less serious academic consequence than was reflected in the grade submitted, then s/he will file a change of grade request. In such a case, the instructor should communicate this decision to the student.

D. Appeal of an Instructor’s Decision

A student may appeal the instructor’s decision that a violation of the Policy has occurred, and/or the academic consequences imposed by the instructor. However, if a student has refused to discuss the matter with the instructor, s/he forfeits the right to such an appeal.

The appeal must be submitted in writing to the instructor and to the dean (or his/her designated representative, e.g., an associate dean) of the college in which the violation occurred no later than ten (10) university business days after the instructor notifies the student of his/her final decision, or ten (10) university business days after the final course grades have been posted, whichever is earlier. However, if a discussion between the student and instructor has been scheduled
E. Formal Proceedings in the Office of Student Conduct

If the instructor believes that a student has violated the Policy on Academic Integrity and that the violation is sufficiently serious, the instructor may refer the case to the Office of Student Conduct for the consideration of additional sanctions. The following procedures will be followed:

1. The instructor will inform the student that formal proceedings in the Office of Student Conduct are being requested.
2. The instructor will forward all documentation supporting the allegation of violation to the Office of Student Conduct with a cover letter describing the situation. Examples of documentation include the course syllabus, quiz or exam, assignment, source of plagiarism.
3. The “Code of Student Rights, Responsibilities and Disciplinary Procedures” will govern the sanctions which can be imposed, and the appeal process.
4. The Office of Student Conduct will determine a sanction and will notify the instructor of its determination.
5. This sanction will be recorded on the student’s permanent disciplinary record, subject to release only under the terms of the Family Educational Rights and Privacy Act.

F. Proceedings With a Department or Program

1. Departmental or Program Action
   a. In cases where an instructor judges a student to have violated the Policy on Academic Integrity, that person is encouraged to report the incident to the chair of the department or unit in which the student’s program is housed.
   b. Departments and programs will follow their internal procedures for deciding whether the student’s status in the academic program should be reviewed because of the violation of the Policy on Academic Integrity and, if so, what review process will take place.

2. Appeal of Departmental or Program Action
   A record of the department, program and/or college decision and appeal (if any) will be part of the file on the violation of Policy on Academic Integrity maintained by the Office of Student Conduct.

The dean's decision will be final.

If it is necessary, pending the resolution of an appeal, the student will be assigned a deferred grade.
Introduction
Students seeking to enter the Teacher Education program at Central Michigan University are screened using multiple criteria related to teacher excellence and the CLEAR model for teacher education. The selection criteria assess characteristics appropriate for students pursuing a professional teaching practice that is Content–or knowledge–driven, LEArner–centered and Reflective/Relevant to the multiple roles and contexts of the professional educator. Once a student is admitted, cognitive and affective skills are both developed and monitored throughout the teacher education experience, which stresses faculty mentoring of all prospective teachers.

Excellent teachers demonstrate an interest in students, an ability to relate to and communicate with diverse students in varied ways, as well as the ability to motivate and facilitate learning. Teacher candidates at CMU must be learner-centered and able to communicate both in writing and in face-to-face interactions with spontaneity and clarity. In addition, students must demonstrate the professional dispositions appropriate to the field of teaching in order to be recommended for certification. Such dispositions include values, commitments, and professional ethics that influence behaviors toward students, families, colleagues, and all members of the learning community and affect student learning, motivation, and development as well as the educator’s own professional growth and development. Only qualified candidates will be recommended for certification. It is important to note any legal charge or conviction may impede a student’s ability to progress through or be admitted to the teacher education program.

The Three Cycles of Candidacy
There are three cycles for teacher education candidates to complete in order to fulfill the requirements leading to teacher certification. Students must follow the requirements located on the Teacher Education Road Map (www.ehs.cmich.edu/css) and the requirements of the Michigan Department of Education in effect at the time of admission to the teacher education program.

Cycle I: Admission Candidacy
Each student who expects to earn either an Elementary Provisional Certificate or a Secondary Provisional Certificate must submit an application for admission to the teacher education program. Application forms and related information can be found on the Center for Student Services website at www.ehs.cmich.edu/css. Admission to teacher education occurs twice a year, once in September and once in February, and is based upon the student’s completion of all admission requirements.

Students must be admitted to the teacher education program before being eligible to enroll in professional education courses that indicate “admission to teacher education” as a prerequisite. Admission to the program is valid for five years from the date of admission to teacher education. Changes mandated by the Michigan Department of Education may become effective at any time in a student’s education program.

Cycle II: Continuing Candidacy
This point in the teacher education program has been established as a method to verify candidates’ ongoing growth and development in the teacher education program. All requirements must be fulfilled to continue in the teacher education program and be eligible to move to their student teaching experiences. Cycle II includes, but is not limited to items such as completion of a specified pre-student teaching field experience, departmental approval of all majors and minors and successful completion of all professional education courses. For specific requirements, consult the EHS Teacher Education Road Map located at (www.ehs.cmich.edu/css).

Cycle III: Exit Candidacy
This point in the teacher education program is intended as a verification of eligibility related to graduation and certification. For specific requirements and details about Cycle III, consult the College of Education and Human Services, Center for Student Services web site at www.ehs.cmich.edu/css.

Conflict Resolution and Appeal Procedure
1. A student who has a complaint regarding teacher certification decisions should make known his or her complaint as soon as possible, but in no case later than thirty days after the end of the semester. Any exception to the time limitation shall be for unusual and most compelling reasons. At each step of the process, the student will be given the opportunity to present relevant information, and the reasons for the decision will be explained to the student.
2. A student who feels that arbitrary and/or capricious decisions have been made in evaluating admission, or continuing requirements for the teacher education program, or in the recommendation for certification, should meet with the Assistant Director of Professional Education.
3. If the student is still not satisfied, he or she may request in writing a consultation with the Director of Professional Education. In the absence of the Director of Professional Education, the student’s request in writing should be sent to the Dean of the College of Education and Human Services. In such cases, the Dean shall act in place of the Director.
4. If the student is not satisfied with the decision of the Director of Professional Education, the student may submit an appeal in writing to the Professional Education Selection, Admission and Retention Committee. The Professional Education Selection, Admission and Retention Committee has the authority to overrule decisions made by the Director of Professional Education regarding admission or continuing requirements for the teacher education program or in the recommendation for certification. Appeal decisions made by the Professional Education Selection, Admission and Retention Committee are final.

Teacher Certification

Postbaccalaureate Students
A postbaccalaureate student is defined as a student with a non-teaching bachelor’s degree from a four-year regionally accredited institution who is seeking teacher certification, a student with a teaching degree who is seeking teacher certification and/or endorsement in an additional area, or a student with a teaching degree who is seeking provisional or professional certification and/or endorsement in an additional area.
Provisional Teacher Certification for non-degree seeking Postbaccalaureate Students

1. Postbaccalaureate students must follow the “Standards Leading to Teacher Certification” as published in the Bulletin and meet Michigan Department of Education requirements.

2. Postbaccalaureate students must have majors and/or minors signed by a department advisor in the department offering the major or minor. The request for the signed major/minor will be initiated by the staff in the EHS Center for Student Services. Certification will be recommended for those teaching areas in which CMU presently offers a major or minor. Course substitutions may be approved only by the department advisor.

3. Postbaccalaureate students must complete all Professional Education courses and other degree/certification requirements for either elementary or secondary students as published in the Bulletin.

4. The Teacher Education and Professional Development Department (TEPD) will submit a list of the names of all students applying for student teaching the following semester to each student’s major and minor department for approval or denial.

5. The EHS Center for Student Services will audit the BSED degree of all students to certify that candidates have met all the requirements before confirming them for certification.

Validity of Provisional Certificate

A current Elementary Provisional Certificate is valid for teaching all subjects in grades kindergarten through five, and major and minor fields in grades six through eight (upon completion of the required subject area tests) as specified on the certificate and kindergarten through eight in a self-contained classroom. It is valid for six years and may be renewed for three years, provided the applicant presents six semester hours of credit in a planned program when earned after the issuance of the initial certificate and within three years of the application date of the first renewal. A second three-year renewal may be granted provided the applicant presents six semester hours of credit in a planned program as approved by the university when earned after the issuance of the first provisional renewal and within three years of the second renewal date.

A current Secondary Provisional Certificate is valid in subject matter fields in grades six through twelve in which the applicant has completed a major(s) or minor(s) as specified on the certificate. It is valid for six years and may be renewed for three years provided that the applicant presents six semester hours of credit in a planned program when earned after the issuance of the initial certificate and within three years of the application date of the first renewal. A second three-year renewal may be granted provided the applicant presents six semester hours of credit in a planned program as approved by the university when earned after the issuance of the first provisional renewal and within three years of the second renewal date.

Requirements for Professional Education Certification

Professional Education Certificate: The Elementary or Secondary Professional Education Certificate may be issued to a candidate who has met the following requirements:

1. Has submitted the appropriate application to www.michigan.gov/moecs.
2. Has taught successfully for three years, according to the validity of his or her provisional certificate.
3. Has presented evidence that he or she has completed six semester hours in a planned course of study beyond the issuance date of the most recent provisional renewal and within five years of application date of the professional certificate.
4. Elementary applicants for the Professional Education Certificate must have completed six semester credit hours of reading methods; and secondary applicants must have completed three semester credit hours of reading methods; and three semester credit hours in the diagnosis and remediation of reading disabilties and differentiated instruction which includes a field experience. Beginning July 1, 2009, all teachers progressing from a Provisional to the Professional Education Certificate must have completed 3 semester credit hours of reading diagnostic and remediation coursework in accordance with Michigan Revised School Code MCL 380.1531(4). At this time, Central Michigan University has established EDU 603 (Elementary Assessment in Reading) and EDU 606 (Secondary Assessment in Reading) to meet this requirement.

Procedures for Professional Education Certification

The Candidate Shall:

1. Submit a planned program of study beyond the bachelor's degree to www.michigan.gov/moecs.

A. If the candidate has been admitted to a master's degree program, he/she may submit a copy of the Authorization of Graduate Degree Program, signed by the advisor, with the application as evidence that the student is pursuing a “planned course of study beyond the bachelor's degree.”

B. A candidate who is not pursuing a graduate degree or who has initially been granted non-degree status in graduate school, or who is pursuing undergraduate study must obtain approval for a “planned course of study” beyond the bachelor's degree from an advisor in the appropriate department by contacting the EHS Center for Student Services. The student is expected to have a signed program on file before registering for his or her first coursework at Central Michigan University.

2. Apply for a Professional Certificate at www.michigan.gov/moecs when the last of the requirements have been met.

3. Return a copy of the provisional certificate.


Professional Education Certificate Renewal

1. Apply for a professional certificate renewal at www.michigan.gov/moecs.

2. A Professional Education Certificate is valid for 5 years and shall be renewed at the end of the 5-year period for an additional 5 years upon the applicant’s completion of 6 semester hours of academic credit from an approved teacher preparation institution, or the submission of evidence of the equivalent in continuing education units completed through professional development programs or professional activities defined and approved by the State Board. Submission is made to the Michigan Department of Education.

3. For persons who do not complete the requirements of subrule (1) of this rule, the certificate expires on June 30 of the year the certificate's expiration.

4. To reinstate an expired Professional Education Certificate, a person shall apply to www.michigan.gov/moecs for a reinstatement and shall present evidence of the completion of the 6 semester hours, or their equivalent, in approved professional development programs or approved professional activities specified in subrule (1) of this rule.

5. Credit completed out of state shall be in an approved teacher education institution and approved by the Michigan State Board of Education prior to enrolling in a course.

Certificate Fee

Public Act 339 of 1988 requires the collection of a certification fee paid when billed by the Michigan Department of Education.
Index

A
Academic and Retention Standards  56
Academic Dishonesty  46
Academic Integrity, Policy on  226
Academic Load  31
Academic Overview  11
Academic Regulations  46
ACC  162
Accelerated Degrees  11
Accounting (MBA)  64
Admission Procedures  28
Apparel Product Development and Merchandising Technology  103
Computer Science  74
Economics  78
Geographic Information Sciences  92
Mathematics  107, 109
Political Science  119
Psychology, Experimental  124
Spanish  91
Accounting, School of  58
Accreditations  6
Actuarial Science (Graduate Certificate)  109
Additional Master's Degrees  57
Administration 2010  5
Administration, Master of Science in  140
Application  26
Accelerated Master's Degree Program  28
Application Deadlines and Processing Time  26
Application Fees  33
Application Materials  26
Certificate of  27
CMU Faculty and Staff  29
Duration of Status  30
for College of Medicine  26
Inactive Status  30
International Students  28
Non-Degree
  Off Campus  29
  Termination of  30
Types of  27
  with Baccalaureate from Schools without Recognized  29
Advanced Materials, Science of  159
Advisor, Assignment to  52
Affiliation with the University, Misrepresentation of  47
Affirmative Action. See Civil Rights and Institutional Equity
ANT  162
Anthropology. See Sociology, Anthropology, and Social Work, Department of
Application
  Deadlines and Processing Time  26
Applied Statistics and Analytics M.S.  108
  Accelerated Program  109
Army ROTC Scholarships  43
ART  163
Art and Design, Department of  58
Art Gallery  24
ASL  164
Assessment, Student Learning Outcomes  6
AST  164
Athletics  23
ATR  164
Audiology. See Communication Disorders, Department of
Auditing Courses  47
Authorization of Degree Program  52
Autism. See Counseling and Special Education, Department of
Awards  43
B
BCA  164
Beaver Island  23
Bicycle Registration  34
Billing Procedures and Delinquent Account Policy  33
BIO  165
Biology, Department of  58
BIS  167
BLR  168
Board of Trustees  5
Bovee University Center  22
Broadcast and Cinematic Arts, School of  60
Brooks Observatory  23
Bulletin
  How to Use  12
BUS  168
Business Administration, College of  63
Business Information Systems, Department of  64
C
Calendar  7
Campus Recreational Services  22
Car
  Registration Refund  34
Career Services  32
CDO  169
CED  170
Center for Community Counseling and Development  31
Central Michigan University
  Accreditations  6
  Administration  5
  Campus Visits  12
  Enduring Philosophy  10
  Faculty and Staff Admission  29
  Health Services  21
  Libraries  19
  Mission, Vision, Values and Goals  10
  Philosophy  10
  The College of Graduate Studies  12
  Trustees, Board of  5
Certificate, Graduate. See Graduate Certificates
Certificates, Graduate
  Acquisitions Administration  147
  Citizen Engagement  121
  Cultural Resource Management  152
  Data Mining  156
  Educational Technology  136
  Engineering Management  147
  General Administration  148
  Health Services Administration  148
  Human Resources Administration  148
  Information Resource Management  149
  International Administration  149
  Leadership  149
  List of  11
  MSA Certificates  147
  Philanthropy and Fundraising  149
  Project Management  149
  Public Administration  149
  Public Administration, Professional Development in  121
  Recreation and Park Administration  150
  Research Administration  150
  Change of Registration  32
Chemistry and Biochemistry, Department of  66
Child Care Options  23
Children's/Young Adult Literature. See English Language and Literature, Department of
CHM  171
Cinematic Arts. See Broadcast and Cinematic Arts, School of
Citizen Engagement - Graduate Certificate  121
Clarke Historical Library  19
Classroom Teaching. See Elementary Education
CMU
  CMU Today  9
  History  8
  Police  20
  University Calendar  7
Coaching. See Physical Education and Sport, Department of
Code of Student Rights, Responsibilities and Disciplinary Procedures  218
Cognate Courses  52
<table>
<thead>
<tr>
<th>Course Descriptions 160 Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMU Onlines Courses 51</td>
</tr>
<tr>
<td>Credit and Attendance Hours 161</td>
</tr>
<tr>
<td>Cross-Listed Courses 161</td>
</tr>
<tr>
<td>Distance Learning, Hybrid, or Online Courses 161</td>
</tr>
<tr>
<td>Federal Credit Hour Definition 161</td>
</tr>
<tr>
<td>Key to Course Descriptions 161</td>
</tr>
<tr>
<td>Key to Designators 160</td>
</tr>
<tr>
<td>Prerequisites 161</td>
</tr>
<tr>
<td>Variable Credit 161</td>
</tr>
<tr>
<td>CPS 174</td>
</tr>
<tr>
<td>Creative Writing. See English Language and Literature, Department of</td>
</tr>
<tr>
<td>Credit and Attendance Hours 52, 161</td>
</tr>
<tr>
<td>Federal Credit Hour Definition 161</td>
</tr>
<tr>
<td>Credit and Points 46</td>
</tr>
<tr>
<td>Credit by Examination 34, 47</td>
</tr>
<tr>
<td>Credit/No Credit 47</td>
</tr>
<tr>
<td>Cross-Listed Courses 52, 161</td>
</tr>
<tr>
<td>Cultural Resource Management</td>
</tr>
<tr>
<td>Graduate Certificate 152</td>
</tr>
<tr>
<td>Master of Arts 151</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAN 175</td>
</tr>
<tr>
<td>Data Mining 156</td>
</tr>
<tr>
<td>Deadlines and Processing Time for Admission 26</td>
</tr>
<tr>
<td>Deferred Grades 49</td>
</tr>
<tr>
<td>Definition of Federal Credit Hour 161</td>
</tr>
<tr>
<td>Degree Candidacy 53</td>
</tr>
<tr>
<td>Ph.D. or Ed.D. Degree 53</td>
</tr>
<tr>
<td>Specialist's Degree 53</td>
</tr>
<tr>
<td>Degree Programs</td>
</tr>
<tr>
<td>Accelerated 28</td>
</tr>
<tr>
<td>Additional Master's Degrees 57</td>
</tr>
<tr>
<td>Changing 51</td>
</tr>
<tr>
<td>Degree Requirements 53</td>
</tr>
<tr>
<td>Doctoral Degree 55</td>
</tr>
<tr>
<td>Graduate Certificate 53</td>
</tr>
<tr>
<td>Master's Degree 54</td>
</tr>
<tr>
<td>Specialist's Degree 54</td>
</tr>
<tr>
<td>Degrees and Certificates Offered</td>
</tr>
<tr>
<td>Accelerated Degrees 11</td>
</tr>
<tr>
<td>Designators, Key to 160</td>
</tr>
<tr>
<td>DHA 175</td>
</tr>
<tr>
<td>Dietetics. See Human Environmental Studies, Department of</td>
</tr>
<tr>
<td>Disability Services for Students 19</td>
</tr>
<tr>
<td>Disciplinary Procedures 218</td>
</tr>
<tr>
<td>Dissertation 55</td>
</tr>
<tr>
<td>Distance Learning 57</td>
</tr>
<tr>
<td>Distance Learning Courses 52</td>
</tr>
<tr>
<td>Distance Learning, Online, or Hybrid Courses 161</td>
</tr>
<tr>
<td>Diversity and Inclusion 15</td>
</tr>
<tr>
<td>Diversity Education, Office of 15</td>
</tr>
<tr>
<td>Doctoral Degree 55</td>
</tr>
<tr>
<td>Degrees Offered 11</td>
</tr>
<tr>
<td>Doctoral Degrees</td>
</tr>
<tr>
<td>Audiology 71</td>
</tr>
<tr>
<td>Earth and Ecosystem Science 157</td>
</tr>
<tr>
<td>Educational Leadership (Ph.D.) 83</td>
</tr>
<tr>
<td>Educational Technology 136</td>
</tr>
<tr>
<td>Education: Educational Leadership 82</td>
</tr>
<tr>
<td>Health Administration 96</td>
</tr>
</tbody>
</table>

| History 100                |
| Mathematical Sciences 110  |
| Medicine 114               |
| Neuroscience 155           |
| Physical Therapy 131       |
| Psychology                 |
| Applied Experimental 124   |
| Clinical 125               |
| Industrial/Organizational 126 |
| School 128                 |
| Science of Advanced Materials 159 |
| Doctoral Project 55        |
| Dramatic Arts. See Communication and Dramatic Arts, Department of |
| Drop and Add               |
| Refunds 37                 |
| Drop and Add (Courses) 32  |
| Duration of Admission Status 30 |

| E                        |
| Early Childhood Education. See Teacher Education and Professional Development, Dept. of |
| Earth and Atmospheric Sciences, Department of 77 |
| Earth and Ecosystem Science, Ph.D. in 157 |
| ECE 175                   |
| ECO 176                   |
| Economics, Department of 77|
| EDL 176                   |
| EDU 179                   |
| Education 138. See also Teacher Education and Professional Development, Dept. of; See also Teacher Education Standards Leading to Teacher Certification 230 |
| Educational Leadership, Department of 78 |
| Educational Technology    |
| Doctoral Degree (DET) 136 |
| Graduate Certificate 136  |
| Master of Arts 135        |
| EES 181                   |
| EGR 181                   |
| Electronic Media Studies. See Broadcast and Cinematic Arts, School of |
| Elementary Education. See Teacher Education and Professional Development, Dept. of |
| Employment Opportunities 45 |
| ENG 182                   |
| Engineering and Technology, School of 85 |
| English Language and Literature, Department of 86 |
| English Proficiency Standards 29 |
| Entrepreneurship, Department of. See The Undergraduate Bulletin |
| ENV 183                   |
| ESC 183                   |
| Exercise Physiology 93    |

| F                        |
| Facilities. See Offices and Facilities |
| Family Educational Rights and Privacy Act 37, 47, 48 |
| Family Studies. See Human Environmental Studies, Department of |
| Federal Credit Hour Definition 161 |
| Fees 33                    |
| Application 33             |
| Auditing Courses 34        |
| Credit by Examination 34   |
| Diploma Replacement 34     |
| Excess Materials 34        |
| Field Trips 34             |
| Graduation 34              |
| Health Services 34         |
| Housing 34                 |
| Late Registration 33       |
| Library 34                 |
| Non-Payment Tuition Charge 33 |
| Off-Campus Classes 34      |
| Returned Check 34          |
| Special Course 34          |
| Study Abroad 34            |
| Transcript 34              |
| Vehicle Registration 34    |
| Film Studies. See Broadcast and Cinematic Arts, School of |
| FIN 184                    |
| Finance and Law, Department of 90 |
| Financial Aid 39           |
| Refunds 37                 |
| Financial Debt and Involuntary Withdrawal 37 |
| Financial Information 33   |
| Housing 34                 |
| FLN 184                    |
| FMD 184                    |
| FNS 185                    |
| Foreign Languages, Literatures, and Cultures, Department of 90 |
| Foreign Student (see International) 28 |
| FRN 185                   |
SAC 22
SAM 212
Scholarships and Financial Aid 39
School Counseling. See Counseling and Special Education, Department of
SCI 213
Science of Advanced Materials 159
Secondary Education. See Teacher Education and Professional Development, Dept. of
Servicemembers' Opportunity College 14
Services and Resources. See Offices and Facilities
Sexual Aggression Services 18
Sexual Misconduct Policy 19
SOC 213
Social Work. See Sociology, Anthropology, and Social Work, Department of
Spanish. See Foreign Languages, Literatures, and Cultures, Department of
SPE 214
Special Education. See Counseling and Special Education, Department of
Specialist Degree
Degree Requirements 54
Degrees Offered 11
Education (General Educational Administration) 81
Psychological Services 127
Special Olympics Michigan 24
Speech, Language, and Hearing Clinics 31
Speech Pathology. See Communication Disorders, Department of
SPH 215
SSC 216
STA 216
Standards Leading to Teacher Certification 230
Statistics. See Applied Statistics and Analytics; See Mathematics, Department of
Strategic Priorities 10
Student Activities and Involvement, Office of 18
Student Activity Center 22
Student Affairs, Office of 18
Student Conduct 18
Student Conduct, Office of 18
Student Employment 45
Student Enrichment 23
Student Government Association 18
Student Learning Outcomes Assessment 6
Student Life. See Student Activities and Involvement, Office of OR Student Conduct, Office of
Student Media 24
Student Organization Center 18
Student Services
Career Services 32
Computer-based & Placement Testing Center 32
Counseling Center 20
Printing Services 22
Speech, Language, and Hearing Clinics 31
Student Disability Services 19
University Health Services 21
Students with disabilities, services for 19
Study Abroad
Fees 34
Study Abroad, Office of 17
SWK 217
T
TAI 217
Teacher Education and Professional Development, Department of 133
Teaching English to Speakers of Other Languages. See English Language and Literature, Department of
TEC 217
Technology. See Engineering and Technology, Department of
Termination of Admission 30
TESOL. See English Language and Literature, Department of
Testing Center 32
Therapeutic Recreation. See Recreation, Parks, and Leisure Services Administration, Dept. of
Thesis, Doctoral Project or Dissertation 55
Transcripts 34, 49
Transfer Credit Policy 49
Trustees, Board of 5
Tuition 33
Tuition and Fees 33
Off-Campus Programs Refunds 38
Refunds 38
U
University Center, Bovee 22
University Communications 25
University Libraries 19
University Recreation 22
Upward Bound 16
URec 22
V
Variable Credit Courses 52, 161
Varsity Athletics 23
Vehicle Registration Refund 34
Veterans, Children of 45
Veterans' Resource Center 45
Vision Statement 10
Visitor Parking 12
Visits to campus 12
Volunteer Center 24
W
Waiver of a Program Requirement 57
Withdrawing
from all courses 50
Withdrawing from a Class 32
WST 217