

Graduate Studies Bulletin

2017-2018

Volume 120

July, 2017

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Published by Central Michigan University, Mount Pleasant, Michigan 48859. Second class postage paid at the Post Office of Mount Pleasant, Michigan 48858. Postmaster: Send change of address or P.O.D. Form 3579 to Registrar's Office, Warriner Hall, Central Michigan University, Mount Pleasant, Michigan 48859.

(USPS 097-900)

Graduate Catalog

The purpose of this bulletin is to provide information about CMU's academic programs available in the 2017-18 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/EO 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.



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Welcome to Central Michigan University



From the President...

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

Our primary focus at Central Michigan University is to prepare you to succeed in your professional and personal lives.

You will learn from caring, accomplished professors who are experts in their fields. You will build connections, participate in leadership experiences, join student organizations and engage in hands-on learning — all of which set the stage for your career and shape your life for the long term.

Our faculty and staff will help you find your personal path forward, in an environment where you are surrounded by opportunities and achievement.

Consider that CMU is among only 5 percent of U.S. universities in the highest two Carnegie research classifications. Our sales students earn top national honors. Fiat Chrysler has named CMU one of its top 10 global recruiting universities. And our Biosciences Building — the largest construction project in our history — is open for classes, addressing student demand in the sciences and providing rich opportunities for study and research.

When your degree is complete, you will have gained the skills and knowledge you need to join the proud network of more than 220,000 CMU alumni worldwide.

Education transforms lives, communities, nations and the world. On behalf of the entire CMU community, I am excited to see you put your stamp on the world.

Best regards,

A handwritten signature in black ink that reads "George E. Ross". The signature is fluid and cursive, with the first name "George" being the most prominent.

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 master's degree in addition to interdisciplinary programs. Doctoral degrees include Educational Leadership, Educational Technology, Earth and Ecosystem Science, Mathematics, Neuroscience, Science of Advanced Materials, History, and several degrees in Psychology. Professional degrees include a Master of Arts in Professional or School Counseling, Master of Business Administration, and a Master of Science in Nutrition & Dietetics, 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
Vice President for Research
and Dean of Graduate Studies

Steven L. Johnson
Vice President for Enrollment
and Student Services

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**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 2015-2016, 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 Council for Accreditation of Educator Preparation (CAEP). CMU's education programs leading to certification are also approved by the Michigan Department of Education. 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 masters 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: National Association of Schools of Art and Design; 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 (<http://www.abet.org>); National Environmental Health Science and Protection Accreditation Council; 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 Association¹; 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 accredits CMU's Human Growth and Development Pre-School lab.

¹Questions 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

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.

University Calendar

Mount Pleasant Campus Tentative

Summer Sessions	2017	2018	2019
First Session (Six Weeks)			
Classes Begin	May 15	May 14	May 13
Registration - Drop/Add Ends	May 16	May 15	May 14
Memorial Day Recess	May 29	May 28	May 27
Classes End	June 22	June 21	June 20
Second Session (Six Weeks)			
Classes Begin	June 26	June 25	June 24
Independence Day Recess	July 4	July 4	July 4
Classes End	Aug. 3	Aug. 2	Aug. 1
Fall Semester	2017	2018	2019
Faculty Preparation Week Begins	Aug. 21	Aug. 20	Aug. 19
Classes Begin	Aug. 28	Aug. 27	Aug. 26
Registration - Drop/Add Ends	Sept. 1	Aug. 31	Aug. 30
Labor Day Recess	Sept. 4	Sept. 3	Sept. 2
Thanksgiving Recess (5:00 p.m. Wed - 8:00 a.m. Mon.)	Nov. 22-27	Nov. 21-26	Nov. 27-Dec. 2
Classes End	Dec. 9	Dec. 8	Dec. 7
Examination Week	Dec. 11-15	Dec. 10-14	Dec. 9-13
Semester Ends	Dec. 16	Dec. 15	Dec. 14
Commencement	Dec. 16	Dec. 15	Dec. 14
Spring Semester	2018	2019	2020
Faculty Preparation Week Begins	Jan. 4	Jan. 3	Jan. 9
Classes Begin	Jan. 8	Jan. 7	Jan. 13
Registration-Drop/Add Ends	Jan. 12	Jan. 11	Jan 17
Martin Luther King Jr. Day (no classes)	Jan. 15	Jan. 21	Jan 20
Spring Recess 1:00 p.m. Sat -8:00 a.m. Mon.	March 3-12	March 2-11	March 7-16
No Classes	April 5-6	April 4-5	April 2-3
Classes End	April 28	April 27	May 2
Examination Week	April 30-May 4	April 29-May 3	May 4-8
Semester Ends	May 5	May 4	May 9
Commencement	May 5	May 4	May 9

See <https://www.cmich.edu/ess/registrar/RegistrarCalendars/Pages/default.aspx> for updates to the semester calendar.

CMU - A Brief History

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.

On June 1, 1959, with forty buildings standing on a 235-acre campus and an enrollment of 4,500 students, Central was renamed Central Michigan University, a designation that reflected growth in the complexity of the school's academic offerings as well as its physical growth in the post-war period.

Through the 1960s, enrollment grew from 4,500 to more than 14,000 students. The enormous rate of growth caused significant change in the character of the university. Buildings were constructed on the land south of Preston Street, more than doubling the physical size of the campus.

The gift of Neithercut Woodland near Farwell and the establishment of CMU's Biological Station on Beaver Island gave the university valuable facilities for specialized studies.

The number and variety of programs also grew. Programs in business and communications were developed and expanded. In 1971, the Institute for Personal and Career Development was established to provide academic programs for students with limited access to traditional forms of education.

The Specialist in Education degree marked CMU's entry into training beyond the master's degree level. In the early 1970s, CMU began offering doctoral programs in Psychology. Today, CMU provides more than 50 master's degree programs, two specialist degrees, and 14 doctoral programs.

The technological advances of the 1980s spurred further program expansion, especially throughout the sciences. Other construction followed, including the Dow Science Complex, Applied Business Studies Complex and Student Activities Center. CMU's Global Campus continued to grow as well, and the university offered its first online courses in 1994, offering courses to students around the world.

Campus continued to expand with the addition of academic, athletic and residential buildings through the 1990s and the early 21st century. The modern Music Building was opened in 1997, followed by a \$50 million expansion of Park Library in 2002, and the state-of-the-art Health Professions Building and several residence halls in 2003.

CMU's newest buildings are the technologically advanced and LEED-certified Education and Human Services Building, which opened in 2009, and the CMU Events Center, which opened in December 2010 and also includes environmentally friendly features. In 2012, CMU opened its College of Medicine Building, where the first class of medical students began taking courses in summer 2013.

In addition, the state-of-the-art Biosciences Building opened for classes in January 2017. The facility serves students and faculty in the biological sciences disciplines from molecular biology and biochemistry to organismal biology and ecology, houses 40 research-active faculty members, and provides space for classrooms and laboratories. The \$95 million building was the largest capital project in CMU history.

Renovation and expansion to Grawn Hall, home of the College of Business Administration, began in May 2016. Renovations to the oldest building on CMU's campus will add another 6,600-square-feet between two stories. The project will be completed by fall 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.

CMU Today

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 8,700 students enrolled online and at more than 35 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. The first class of medical doctors graduate in May 2017.

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 2016 Leadership Safari program, a five-day leadership experience for new students, celebrated 20 years of the program and had a total of 2,138 participants and 282 student staff volunteers.
- 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.
- Fifteen new academic, athletic and residential buildings have been built on CMU's campus in the past 16 years, including the Graduate Housing Apartments, which opened in July 2013; the Biosciences Building, which opened January 2017; and the Baseball Performance Center, 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 No. 1 for the best online 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 John G. Kulhavi 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 six men's and 10 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 16 different sports and the football program has participated in a postseason bowl game eight of the past 11 years. The Chippewa's won the league's top award, the Cartwright Award for overall excellence, in 2009 and 2015. CMU's athletes have had the highest GPA in the MAC the past 15 years and are consistently among the best in the nation.

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 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 125 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.)
 Biochemistry, Cell and Molecular Biology (Ph.D.)
 Earth and Ecosystem Science (Ph.D.)
 Education: Educational Leadership (Ed.D.)
 Educational Leadership (Ph.D.)
 Educational Technology* (D.E.T.)
 Health Administration* (D.H.A.)
 History (Ph.D.)
 Mathematical Sciences (Ph.D.)
 Medicine (M.D.)
 Neuroscience (Ph.D.)
 Physical Therapy (D.P.T.)
 Psychology, Applied Experimental (Ph.D.)
 Psychology, Clinical (Ph.D.)
 Psychology, Industrial/Organizational (Ph.D.)
 Psychology, School (Ph.D.)
 Science of Advanced Materials (Ph.D.)

Specialist's Degrees

General Educational Administration
 Psychological Services: School Psychology

Master's Degrees

Administration (M.S.A.)
 Apparel Product Development and Merchandising Technology (M.S.)
 Applied Statistics and Analytics (M.S.)
 Biology (M.S.)
 Biochemistry, Cell and Molecular Biology (M.S.)
 Broadcast and Cinematic Arts (M.A.)
 Business Administration (M.B.A.)
 Chemistry (M.S.)
 Chemistry, Teaching College (M.A.)
 Communication (M.A.)
 Computer Science (M.S.)
 Counseling (M.A.)
 Cultural Resource Management (M.A.)
 Early Childhood Education (M.A.)
 Economics (M.A.)
 Education* (M.A.)
 Educational Leadership (M.A.)
 Educational Technology* (M.A.)
 Engineering (M.S.)
 English Language and Literature (M.A.)
 Entrepreneurial Transactions (M.E.T.)
 Exercise Physiology (M.S.)
 Geographic Information Sciences (M.S.)
 Health Administration (M.H.A.)
 Higher Education Administration (M.A.)
 History (M.A.)
 History, Joint (M.A.)
 Humanities (M.A.)
 Information Systems (M.S.)
 Mathematics (M.A.)
 Music (M.M.)
 Neuroscience (M.S.)
 Nutrition & Dietetics (M.S.)
 Physician Assistant (M.S.)

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

Accelerated Degrees (Bachelor's and Master's)

See page 30 for more information.

Administration (MSA)*
 Apparel Product Development and Merchandising Technology
 Applied Statistics and Analytics
 Business Administration (MBA) - Accounting Emphasis
 Computer Science
 Economics
 Engineering
 Geographic Information Sciences
 History
 Mathematics
 Political Science
 Psychology, Experimental

Graduate Certificates

Acquisitions Administration
 Actuarial Science
 Administrative Essentials
 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
 Modern History
 Nutrition and Dietetics
 Philanthropy and Fund Raising
 Professional Development in Public Administration
 Project Management
 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>. Programs with an asterisk are only offered through Global Campus.*

(Continued)

Undergraduate Degrees

- Bachelor of Applied Arts
- Bachelor of Arts
- Bachelor of Fine Arts
- Bachelor of Individualized Studies
- Bachelor of Music
- Bachelor of Music Education
- Bachelor of Science
- Bachelor of Science in Athletic Training
- Bachelor of Science in Business Administration
- Bachelor of Science in Computer Engineering
- Bachelor of Science in Education
- Bachelor of Science in Electrical Engineering
- Bachelor of Science in Engineering Technology
- Bachelor of Science in Mechanical Engineering
- Bachelor of Social Work

Undergraduate Certificates:

An Undergraduate Certificate signifies completion of certain prescribed coursework. Certificates are offered in:

- African and African Diaspora Studies
- American Indian Studies
- Creative Writing
- Citizenship Engagement
- Cultural Competency
- Cybersecurity
- Deafblind Intervener
- East Asian Studies
- European Studies
- Fermentation Science
- Global Governance and Advocacy
- Governance of Nations
- Human Geography
- International Non-Governmental Organization (NGO) Administration
- International Security Studies
- Latin American and Latino Studies
- Lawmaking and Legal Processes
- Middle East and Islamic Studies
- Political Advocacy and Elections
- Public and Social Entrepreneurship
- Public Policy Analysis
- Social Justice in Global Health,
- Technical and Professional Writing
- TESOL
- Translation (English and Spanish)

(Some programs are offered through Global Campus only.)

Colleges of the University

College of Business Administration

- School of Accounting
- Department of Business Information Systems
- Department of Economics
- Department of Entrepreneurship
- Department of Finance and Law
- Department of Management
- Department of Marketing and Hospitality Services Administration

College of Communication and Fine Arts

- Department of Art and Design
- School of Broadcast and Cinematic Arts
- Department of Communication and Dramatic Arts
- Department of Journalism
- School of Music

College of Education and Human Services

- Department of Counseling and Special Education
- Department of Educational Leadership
- Department of Human Environmental Studies
- Department of Recreation, Parks, and Leisure Services Administration
- Department of Teacher Education and Professional Development

College of Graduate Studies

The Herbert H. and Grace A. Dow College of Health Professions

- Department of Communication Sciences & Disorders
- School of Health Sciences
- Department of Physical Education and Sport
- School of Rehabilitation and Medical Sciences

College of Humanities and Social & Behavioral Sciences

- Department of English Languages and Literature
- Department of History
- Department of Military Science
- Department of Philosophy and Religion
- Department of Political Science and Public Administration
- Department of Psychology
- Department of Sociology, Anthropology, and Social Work
- Department of World Languages and Cultures

College of Medicine

College of Science and Engineering

- Department of Biology
- Department of Chemistry & Biochemistry
- Department of Computer Science
- Department of Earth & Atmospheric Sciences
- School of Engineering & Technology
- Department of Geography & Environmental Studies
- Department of Mathematics
- Department of Physics

Global Campus

See the 2017-2018 Global Campus Bulletin.

College of Graduate Studies



Central Michigan University's Foust Hall houses the Office of Research and 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 Applications Processing 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.

Applications Processing 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, Applications Processing 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

Applications Processing
Ronan 260
989-774-4444

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 *2017-2018 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 section begins with the chairperson's office address and telephone number.

Global Campus

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 in 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: <https://www.cmich.edu/global/cmu-online/about/assessment/Pages/default.aspx>.

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. EST 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. EST and ends on the following Sunday at 12:00 midnight EST. 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

Students enrolled in CMU's Global Campus programs have full access to the CMU Libraries' services and resources, whether enrolled at an off campus center or through an online class. The staff of the library is dedicated to linking students with the information they need to be successful in their classes. Librarians will help by teaching students how to use the library's electronic and print resources, by helping to identify appropriate databases, journals, and other resources, and by answering any other research and information-related questions. Research help can be requested by chat, email, or telephone.

The library's Documents on Demand office will deliver electronic copies of journal articles and book chapters, as well as copies of print books, to students upon request. There is no charge for this service, and electronic requests are typically filled within 24 hours.

For more information please visit the CMU Libraries' website.

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

CMU 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 CMU at 800-950-1144, ext. 3718.

Non-Credit Options**Corporate and Education Training**

CMU is able to partner with corporations to assist them with the learning and development needs within their organizations. For further information, please contact 800-950-1144, ext. 3718.

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. 3718.

Office for Institutional Diversity and Inclusion

Traci L. Guinn, Interim Associate Vice President

Warriner 319; 989.774.3700;

cmich.edu/office_provost/OID

The Office for Institutional Diversity and Inclusion serves a leading role in promoting an institutional culture that values and supports diversity and inclusion. Historical legacies on inclusion and exclusion have determined pathways to education that have served to be closed to many potential students, staff, and faculty. Diversity and inclusion within the academic and educational setting reflects a community that is reflective of all aspects of society, so that all community members can share in our differences and our similarities a part of our life-long learning process. We prepare our students through leadership development the skills necessary for impacting an increasingly more global society that preserves knowledge from all communities that is inherent to prepare graduates for a more complex and diverse society. Through the following offices and services, the office offers campus-wide programs and activities for students, faculty, and staff to enhance their cultural competence and global perspectives. In addition, Institutional Diversity and Inclusion monitors progress of CMU's academic, social, and cultural diversity programs and initiatives, including the Strategic 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.

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 students of color. The office works closely with diverse student groups in planning and implementing academic, social, and recreational activities. Programs and scholarships offered through the office include cultural celebrations, the Multicultural Award of Distinction, Lloyd M. Cofer and Multicultural Advancement scholarships. The office also offers mentoring through the Men About Change program along with the Women's Initiative of Strength and Hope (WISH) program. Additional objectives include establishing strong working relationships with existing university offices and departments on matters regarding educational policies and procedures, developmental program planning and evaluation, and student services relating to minorities. Contact information: Bovee University Center 112; 989-774-3945; e-mail: mass@cmich.edu.

Office of Diversity Education

The Office of Diversity Education (ODE) is here to help expand your view of the world and improve your cultural competence by participating in programs and services offered. You'll learn how to communicate with diverse groups of people and use differing experiences, backgrounds and perspectives to uncover creative solutions to personal and professional challenges. ODE offers opportunities for faculty, staff and students to enhance their cultural competence by providing intercultural education, facilitating campus wide interaction, building collaborative partnerships to advance diversity and inclusion, and implementing educational opportunities that cultivate and sustain a supportive and inclusive campus community. Contact information: Bovee University Center 110B; 989-774-7318; e-mail: ODE@cmich.edu.

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 (LGBTQ) 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. CMU students gain valuable mentoring, volunteer and hands-on experience working with MI GEAR UP student programs. 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 Office of International Affairs (OIA) is CMU's clearinghouse for all international initiatives and academic support unit for the purpose of educating students who will be responsible global citizens and effective world leaders. The OIA provides campus-wide leadership in coordinating, planning and developing international programs and initiatives for students, faculty and staff on campus and abroad that are academically, culturally, and socially beneficial to all. The OIA strives to provide both domestic and international students with life-changing opportunities to expand their view of the world and prepare them for meaningful careers in the global workforce whether at home or abroad.

The OIA is comprised of the following units: Study Abroad; International Recruiting; Ontario, Canada Program Centers, and International Student and Scholar Services. Coupled with these units is the broad oversight of university internationalization in general: strategic planning; coordination of linkage agreements for student exchange or dual-degrees; international and domestic faculty support; community engagement; etc.

To achieve its goals, the OIA:

- develops recruiting strategies to increase the number of international students studying at CMU, as well as the cultural diversity of the international student population;
- attends recruiting fairs and develops direct high school and university contacts abroad to promote CMU;
- develops and manages a worldwide marketing strategy that includes print & electronic media and consulting agencies;
- provides comprehensive initial orientation and ongoing support services to international students and faculty for a smooth transition and a successful academic experience at CMU;
- serves as social and academic advocates on behalf of the international student and scholar population;
- assists international students, scholars and faculty in understanding immigration regulations and maintaining valid legal status in the United States;

- is responsible for ensuring university compliance with Department of Homeland Security and Department of State regulations for international students and scholars;
- offers over 150 approved study abroad programs in more than 50 countries (for the full list of options available, please visit the Office of Study Abroad website at www.studyabroad.cmich.edu);
- ensures a wide range of short-term, semester and year-long study abroad opportunities in almost every major;
- offers opportunities to study languages not taught at CMU;
- performs academic and health/safety evaluations of current and potential exchange and study abroad partner locations;
- works closely with students to ensure opportunities abroad for a semester, or even a year, allow for on-time graduation;
- supports faculty's internationally-focused professional development;

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. The Office of Study Abroad's highly trained study abroad advisors meet with each student to help them choose an appropriate program to match their budget and academic needs. All students participating in a CMU approved program will receive academic credit for their program. Students can have all their courses pre-approved by their academic department, so they will know in advance the course credits that will be awarded by CMU. Students must be in good standing at CMU and have a GPA of 2.5 or higher to apply.

Studying abroad does not have to be expensive. Students looking for affordable programs can choose from a variety of tuition exchange programs offered around the world. Tuition exchange programs allow students to pay CMU tuition and enroll in courses at the foreign university with no additional charge. There are also a number of resources available to help fund study abroad. The Office of Study Abroad offers a large number of study abroad scholarships each year. In addition, there are scholarships available through on-campus 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 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.

University Services and Resources

Office of Student Affairs

Tony Voisin, Associate Vice President for Student Affairs

Ronan Hall 290; 989-774-3346;

<https://www.cmich.edu/ess/studentaffairs/Pages/default.aspx>

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, Panhellenic 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 federal and state laws and statutes, including but not limited to the 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, the Elliott-Larson Civil Rights Act. 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 the University'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/default.aspx.

Nondiscrimination Policy

CMU's Nondiscrimination Policy and Equal Opportunity and Affirmative Action Protocol prohibit unlawful acts of discrimination or harassment on the basis of age, color, disability, ethnicity, gender, gender expression, gender identity, genetic information, height, marital status, national origin, political persuasion, pregnancy, childbirth, or related medical conditions, race, religion, sex, sex-based stereotypes, sexual orientation, transgender status, veteran status,

(Continued)

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 complaints 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.

To view the Board of Trustees Nondiscrimination Policy, see https://www.cmich.edu/office_president/general_counsel/Documents/p03006.pdf. To view CMU's Equal Opportunity and Affirmative Action Protocol, see https://www.cmich.edu/office_president/general_counsel/Documents/p03006.pdf.

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 the confidential resources identified in the Sexual Misconduct policy, such as the CMU's Counseling Center or CMU's Sexual Aggression Services.

The Executive Director of the Office of Civil Rights and Institutional Equity is the Title IX Coordinator for CMU. 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, at 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.

To view CMU's Sexual Misconduct Policy, https://www.cmich.edu/office_president/general_counsel/Documents/p03039.pdf

Training

The University's Title IX Coordinator and the University personnel who are charged with responding to incidents of sexual misconduct on behalf of the University receive mandatory annual training regarding responding to incidents of sexual misconduct.

Members of the Central Michigan University Police Department's Special Victim's Investigative Cadre also receive mandatory annual and ongoing training.

Further, as part of our commitment to a safe and welcoming environment, CMU provides both in person or online Anti-Harassment and Discrimination Training and Title IX training through LawRoom to its employees, including faculty and staff.

CMU also provides both in person and online training to its students through Campus Clarity. The training introduces students to a University-wide conversation on important issues relating to sexual misconduct, such as healthy relationships, substance abuse, and sexual aggression. The online training is mandatory for all on-Campus incoming first-year and transfer students.

Student Ombuds Office

The Student Ombuds Office assists in resolving conflicts or disputes within the University and helps students, 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, 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 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 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 Lucile 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 technically 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. CMU e-mail can be accessed at <https://office365.cmich.edu>.

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. These opportunities are available to all CMU students, faculty, and staff. Find out more by visiting <https://www.cmich.edu/fas/fsr/cps/Pages/default.aspx> and choose “purchasing” from the menu on the right.

Office Software: Through CMU’s partnership with Microsoft, CMU students are eligible to download and use the latest version of Microsoft Office at no cost for as long as they are current students. This software can be downloaded by visiting <https://office365.cmich.edu> and choosing Office 365 in the Settings menu.

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 web site (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/fas/police/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 in 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.

Clinic 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 a.m. to 12 noon and 1 to 5 p.m. To schedule an appointment (same day or future appointment) call 989-774-5693. A registered nurse is also available at 989-774-6591 to answer questions about health-related concerns, including the quickest and most appropriate way 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 8 a.m. to 12 noon and Tuesday 1-5 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 statement due date. If 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 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. Application for all university housing should be made well in advance. Questions 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. Rates for the 2017-18 academic year may be found at www.reslife.cmich.edu

Main campus university-owned apartment housing is available for graduate students: single or married, with or without children. 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. One, two, three, and four-bedroom university family apartments are assigned according to date of application for apartment housing.

Graduate students may also live in residence halls. Residence halls provide several lifestyle options, as well as many amenities including fitness areas, Student 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.

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 CentralCard 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 provided, such as the Bookstore, which carries a full line of required class materials, student supplies, CMU clothing, and gift items; Independent Bank; MEDIAgraphix, 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://www.cmich.edu/fas/ras/printing/Pages/default.aspx>.

University Recreation (URec)

University Recreation (URec) is inclusive, providing customized opportunities and experiential learning while fostering lifelong health and wellbeing.

University Recreation (URec) manages the Student Activity Center (SAC), the John G. Kulhavi Events Center, the Outdoor Sports Complex, the Outdoor Tennis Complex, , and an 18-Hole Championship Disc Golf Course.

The Student Activity Center (SAC) is 180,000 square feet of dedicated recreation space and has hosted more than 20 million visitors since it opened in 1990. With a spacious and dynamic environment, the SAC provides fitness, recreation programming and events, meeting the needs of our diverse student and university community.

The CMU Events Center which opened in 2010, plays host to a series of on-campus and off-campus events including: CMU Athletics, Concerts, Commencement, Community Events, Performing Arts, State High School Championships, and also provides services through Ticket Central.

Facilities are provided for aquatics, events, fitness and weight training, group fitness, racquetball courts, an Injury Care Center and sports forums for basketball, volleyball, and a myriad of outdoor sports fields, and CMU's 18-hole Disc Golf course.

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 are available throughout the year. The SAC manages two pools, one in the SAC and one in the Rose Center. There are several hours per day dedicated to leisure swimming opportunities.

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 forty sports offered, providing an excellent opportunity to practice leadership, organization and teaching skills. These clubs are self-directed and offers highly competitive and instructional opportunities.

Special events are held in the SAC and Events Centers, including Special Olympics Michigan, Alumni events, SIBS weekend, CMU Up All Night and Leadership Safari.

URec offers a wide variety of employment opportunities, employing more than 300 students during the academic year, and also offers students experiential learning opportunities to support their academic and curricular interests.

We are a premier recreation and events provider with a national reputation for excellence. For more information about URec programs and facilities, contact University Recreation at 989-774-3686 or visit www.urec.cmich.edu

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 IA 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 <https://www.cmich.edu/colleges/ehs/unit/cdll/Pages/default.aspx>.

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

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>.

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: <https://www.cmich.edu/colleges/cst/physics/Pages/Brooks-Astronomical-Observatory.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.

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 laboratory for the Museum Studies minor and Cultural Resource Management master's 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. Poor 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 office in 103 Rowe Hall, see www.museum.cmich.edu, 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 Adopt-A-Grandparent, Alternative Breaks, America Counts and Reads, David Garcia Project Disabilities Awareness, Lunch Buddies, Safer Sex Patrol, and Service Ambassadors. 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; or see the website at 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/CCFANewsandEvents/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/CCFANewsandEvents/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.

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.

Outreach

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, Development, Planned Giving, Annual Giving, Research and Corporate Relations. This team generates private gift revenues from individuals, corporations and foundations in order to have a positive impact on student success. In pursuit of its mission, Advancement provides leadership to complement, encourage, and support university wide efforts to acquire transformational investments in students, faculty and facilities. 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 office of Alumni Relations enhances the lifelong relationship between the university and its graduates. Alumni are encouraged to return to campus and participate in traditional campus activities such as Homecoming and Alumni Reunion Weekend. Additionally, CMU alumni can get involved in local or regional alumni chapters, clubs and networks. Alumni are presented with ample opportunities to participate in a variety of fun events such as pro sports games, musicals, plays, golf outings and more to strengthen their connection to CMU.

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, three 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 220,000 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; WWCM (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 Hall; 989-774-3197

University Communications (UComm) promotes CMU to audiences throughout the state, region and world.

Three units in UComm provide strategic communications services for the entire university, including on campus, online and satellite centers nationwide:

- The communications team leads the university's external and internal communications, including news releases, photos and videos, electronic news digests, and official CMU social media channels.
- The integrated marketing team combines strategy and analysis to advance CMU's brand and reputation through channels such as student recruitment materials, advertising, digital marketing and the CMU websites.

The design team produces and provides consultation on visually compelling products such as university publications, college and alumni magazines, graphics, admissions materials, and CMU signage.



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 cmedadmit@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 transcripts@cmich.edu or sent directly to the following address:
Central Michigan University
Transcript Department
802 Industrial Drive
Mount Pleasant, MI 49958.

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 transcripts@cmich.edu or sent directly to: Central Michigan University, Transcript Department, 802 Industrial Drive, Mount Pleasant, MI 48858.

- 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.

- 5. Department Supplemental Materials, Testing, and Requirements.** Some departments require additional application materials. Contact your department directly for information.

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 Applications Processing (989-774-4444) 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".)

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

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 of 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 graduate 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:

- fulfilled all the prerequisites for admission to the curriculum;
- submitted a completed Admission Status Reclassification Petition form with required signatures to Graduate Student Services;
- 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 for 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 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. 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 an 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 for Admission.) 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, Exempt Countries please go to https://www.cmich.edu/office_provost/InternationalAffairs/recruitment/Documents/TOEFL%20Exempt%20countries.pdf.
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 complete 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 course work 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 course work 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 the 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.

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 one academic year, 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.

Academic Information and Supports

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

The Registrar's Office

The Registrar's Office is committed to using both professionalism and the highest level of technology to provide efficient and effective services while still maintaining personal attention as a top priority. The Registrar's Office assists the Mission and Vision of Central Michigan University through ensuring the integrity of student records, collaboration with Strategic Enrollment Management initiatives, policy and procedure interpretation and enforcement and providing data and perspective to both internal and external constituents. The Registrar's Office provides a continuum of services throughout a student's academic life cycle and into alumni status.

Primary services provided include: academic record creation and maintenance, ensuring compliance with the Family Educational Rights & Privacy Act (FERPA), enrollment verification, providing transcript evaluation, NCAA eligibility verification, final graduation audits for conferral of credentials, overseeing term course registration activities, oversight of academic scheduling and space assignments, data mining and limited analytics and support to campus stakeholders in the creation, modification and implementation of student affiliated policies and procedures as applicable.

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 Sciences & 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 Sciences & 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.

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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 Sciences & 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/academic_advising_assistance/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://www.cmich.edu/office_provost/AcademicAffairs/CBTC/Pages/default.aspx.

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.

Graduate students may register any time during the registration period via <https://www.cmich.edu/centrallink>. It is recommended that they register during the time reserved for graduate students. 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 Applications Processing at 989-774-4444 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>.

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 Applications Processing, 989-774-4444.

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.

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 *Course Search & Registration* for registration dates and procedures.

For Global Campus and CMU Online classes, registration, drop and withdrawal dates, see <https://www.cmich.edu/global/courses/Pages/drop-withdraw.aspx>.

Financial Information

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, telecom, parking fees and other miscellaneous charges.

Students may incur late fees if the monthly balances are 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:

Past Due Amount	Late Charge
\$0.01-\$9.99	No late fee
\$10.00-\$59.99	\$1.00 per month
\$60.00 and above	\$30.00 per month

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, and telecom. 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 at the beginning of the day on August 1. 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 https://www.cmich.edu/fas/fsr/student_acct_university_billing/SASUBBillingandPaymentInformation/Pages/default.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.

Fees are payable by check, money order, electronic check online, American Express, Discover, Mastercard, or Visa. Students receive electronic statements from the CMU Student Account Services and University Billing office. Students are responsible for accessing their e-mail messages for monthly account balances and payment due dates on <https://centrallink.cmich.edu/>.

Tuition Rates for Main Campus Credit Courses

Level of Courses	Tuition Rates Per Credit Hour (2016-2017*)	
	Michigan Residents	Non-Michigan Residents
Master's/Specialist	\$548.00	\$819.00
Doctoral	\$627.00	\$906.00

*Contact Student Account Services and University Billing at 989-774-3618 for updated information or see https://www.cmich.edu/fas/fsr/student_acct_university_billing/SASUBBillingandPaymentInformation/Pages/default.aspx for updates.

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.

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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.

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

Transcript fees vary depending on the method of delivery. Fees will range from \$2.25 for the most basic service to \$52.25 for overnight services. 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.

University Apartments. Various contracts are available depending on the individual unit and number of bedrooms. The approximate semester rate for students in 2017-2018 range from \$2,790 to \$3,562. See the website for more information.

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 by 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. 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, Foust 202, 989-774-3059.

All charges incurred at University Health Services are billed directly by University Health Services and are NOT part of your Student Account Services and University billing statement. Please contact the Business Office at the number above if you have billing questions.

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/cmupolice/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 self-certification by the student, giving names of employer, date of employment, and location.

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/centralink/account/Pages/Setting-Changing-Authorization-to-Release-Information-Passcod.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 all 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.

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. 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. Withdrawing 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.

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

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 *Centralink*, 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.

Third-Party Payer

Tuition and fees are the responsibility of the student. If a third-party payer fails to make payment on behalf of a student, the student will be billed and held responsible for all appropriate tuition and fees.

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 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 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. See the College of Medicine section for scholarships.

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 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

Verification is a process of review that determines 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 transcripts 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.

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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 https://www.cmich.edu/office_provost/OID/MASS/Pages/Default.aspx website.

Awards and Scholarships

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

Scholarships for the College of Medicine

See *College of Medicine* in the index for the page number for scholarships for medical students.

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 and the College of Humanities and Social and Behavioral Sciences. Income from the endowment will support a renewable internship for an undergraduate or graduate student enrolled in the political science academic program or who has an interest in the study of political science and, who has a minimum GPA of at least 3.0.

Stephen Barstow Memorial Art Prize

This renewable scholarship will be awarded to an outstanding undergraduate or graduate student who is a member of a state or federally recognized tribe majoring in art, enrolled at CMU. The applicant must have a cumulative minimum GPA of 2.5 or higher for a freshman, 3.00 or higher in Art for transfer or CMU students. The applicant must submit samples or slides of art work along with a statement of their creative achievements and goals. Applications and guidelines are available at the Department of Art. If no recipients are eligible, may be awarded to any art major.

Betty A. Brubaker Family of Heroes Scholarship

Established in 2014 by Steven A. Rellinger '85, '96, family and friends in honor of his mother, Betty A. Brubaker and also John Sheets, Don Rellinger and Herman Wright, members of the United States Military. Income from the endowment will support an award for currently enrolled CMU students that are personnel of the U.S. Armed Forces, National Guard, reserves, or honorably discharged veterans, and/or their respective family members. The recipient(s) must be eligible for Veterans Administration (VA) educational entitlement under chapters 30, 31, 33, 35, 1606 or 1607 and provide a copy of his or her VA Certificate of Eligibility. Recipients also must have a cumulative minimum GPA of 2.5 for undergraduate students and 3.0 for graduate students.

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. 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. Application may be made through the Department of Communication Disorders.

Educational Leadership Endowed Scholarship

Established in 2016 by faculty, staff, emeriti, alumni and friends of the Department of Educational Leadership to support student learning experiences related to coursework such as professional development, international travel, or course tuition. Recipients will be currently enrolled in a Department of Educational Leadership degree program; undergraduate minor, graduate program or doctoral program, and must be in good standing with the department and the university. Preference will be given to applicants that connect their experience to advancing the mission of the Department of Educational Leadership.

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 organ and a minimum GPA of 3.0. The student must audition with the School of Music.

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 or a graduate student who has completed at least one semester of study, with a minimum GPA for an undergraduate of 2.7 and 3.2 for a graduate. Preference will be given to students studying in non-Western and non-English speaking countries. The recipient must be a U.S. citizen or permanent resident, demonstrate financial need, be enrolled full time at the time of the award and during the term of study abroad (one or two semesters), and fulfill the in-kind service requirement upon return.

Wasaburo Fujimiya Study Abroad Scholarship

Established in 2014 by Wasaburo Fujimiya '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.

Grand Traverse Alumni Chapter Scholarship

Established in 1992 through funds raised by alumni and friends in Grand Traverse County for undergraduate on-campus students and undergraduate or graduate Global Campus students (Traverse City Center) with demonstrated financial need. Students will be selected from five counties: Antrim, Benzie, Grand Traverse, Kalkaska and Leelanau counties.

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 Wintermyer '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 an award for a full-time student enrolled majoring 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.

Jack-Rowe Scholarship

Established in 2016 by the estate of Madge J. '50 and Edwin Rowe. Madge was a high school counselor and wanted to help students in the same way that she was helped. Income from this endowment will support a renewable award for a full-time student demonstrating financial need with a cumulative minimum GPA of 3.0 or higher.

Tricia Keith Endowed Fund for Study Abroad Experiences

Established in 2016 by Trustee Tricia Keith '93, CMU Board of Trustees. Income from this endowment will support a renewable award for a student participating in a study abroad program. The study abroad experience will last for a duration of at least one semester and the recipient must have a cumulative minimum GPA of 3.0. The study abroad experience will be international and focused upon an academic program or research experience. Destinations within the U.S. or alternative spring break (or similar) programs are not eligible.

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. 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 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 through 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 award for a graduate student majoring in English, showing academic promise and a commitment to teaching English at either the high school or college level. Preference will be given to a student wishing to teach American literature. The award is to be used for tuition, fees, room and board, or books.

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 intent 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.

Gary and Barbara (Anderson) Russell Scholarship for Physician Assistant Program

Established in 2016 by Gary '66, '70 and Barbara (Anderson) Russell '66, '70. The recipient will be a graduate student enrolled in the Physician Assistant Program in The Herbert H. and Grace A. Dow College of Health Professions with a minimum GPA of 3.0. Student may be attending CMU either part-time (6 credit hour minimum) or full-time.

Margaret E. Sanford Marquardt Memorial Endowed Scholarship

Established in 2007 by Richard G. Marquardt '59 in memory of Margaret E. Sanford Marquardt '55, '60. 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 Larzelere Viele Scholarship

Established in 2013 by George B. Viele '60, '65 in memory of Shirley Larzelere 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.

Sydney and Mary Walston Award

Established in 2000 by Dr. Sydney Walston and his wife Mary Walston, both professors in the Department of Health Promotion and Rehabilitation. Recipient will be a junior or senior majoring in school health education or public health education, or graduate level in the Master of Public Health program. Student must have a cumulative minimum GPA of 2.5 or higher. The endowment is intended to support learning through attendance and participation at state, national or international professional conferences.

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. Wintermyer Endowed Scholarship Fund for Physician Assistant Students

Established in 2011 by Robert Wintermyer '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 during 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.

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.

Graduate Assistant Benefits

Graduate assistantships provide graduate students with financial resources to pursue their degrees, in the form of a stipend and tuition waiver benefit. 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, and continues through the subsequent summer sessions. The tuition waiver benefit pays tuition at the on-campus rate only.

(Continued)

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 the student's 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 receive 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 Procedures

Applications for assistantships must be made directly to the department in which the applicant desires to study. Interested students should contact individual departments for assistantship availability, application requirements and application deadlines.

General Requirements for Loans and Work Study

Academic Eligibility

Graduate students must register for at least five graduate 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 earnings, untaxed income, and a percentage of personal savings and assets.

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 3.00 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 Warriner 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.

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 employment. 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. Once students have earned the amount for which they are eligible, it is for the employing department to determine if students will remain employed and paid from another funding source. (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.)

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/mcacr/0,4613,7-138--240889--00.html. The student must be enrolled in a degree-granting program.



Military and Veteran Services

Military and Veteran Services

CMU has been a leader and innovator in bringing quality programs to our military men and women since 1972. All of our programs, whether onsite or online, are career-focused plans to a more secure future in the military, or in civilian life after service. CMU has been a long standing partner in Air Force education and supports the concept of the "Life Long Learner." CMU has been a partner in military education for the past 44 years and has been consistently recognized as a top 20 military friendly school by Advanced Military Education.

Veterans' Resource Center

The Veterans' Resource Center (VRC) serves students who are veterans, spouses, dependents or military students. VRC staff will help students get the most out of their CMU experience, 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 a.m.-5 p.m. or by appointment. The Veterans' Resource Center is located in Warriner Hall 114 and may be reached at 989-774-7991 or veterans@cmich.edu.

Specific information regarding Veterans' Certification can be found at: <https://www.cmich.edu/veterans>.

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 and providing credit opportunities for prior learning experiences and military education relevant to the degree. SOC is cosponsored by the American Association of State Colleges and Universities (AASCU) and the American Association of Communication Colleges (AACC) in cooperation with 13 other educational associations, the Military Services, the National Guard, and the Coast Guard. SOC is funded by the Department of Defense (DoD) through a contact with AASCU.

Application Fee

All U.S. military veterans, active duty, and reserve service members are eligible to have their application fee to CMU waived. To receive the waiver, the individual must provide one of the following to CMU at the time of application:

- DD-214 form verifying service
- Service verification letter from base command indicating current duty station
- VA Certificate of Eligibility (CoE)
- Active military ID if you are applying in person at a CMU center

Resident Tuition

Unless otherwise qualified for the military discounted tuition rates, the following individuals shall be charged the in-state tuition:

Any individual using educational assistance under either Chapter 30 (Montgomery GI Bill® – Active Duty Program), Chapter 33 (Post-9/11 GI Bill®) (to include the Marine Gunnery Sergeant John David Fry Scholarship [38 U.S.C. § 3311 (b) (9) or 3319], of title 38, United States Code), Chapter 35 (Dependents Education Assistance Program), Chapter 1606 (Montgomery GI Bill® - Selected Reserve) who lives in the State of Michigan while attending Central Michigan University (regardless of his/her formal state of residence). The in-state tuition rate shall be applicable so long as the student is continuously enrolled.

Please see <http://www.benefits.va.gov/gibill/417.asp> for additional information on GI Bill® resident rate requirements.

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.

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.

Military Discounted Tuition Rates

Listed below are the base Military tuition rates per credit hour for which academic credit is awarded. The President or designee may vary these tuition rates and fees according to cohorts, programs, locations, or terms of contracts.

Undergraduate, Military	290.00
Graduate, Military	343.00
<i>Master of Business Administration - Online</i>	
Active Military	575.00

Notes:

Military Rates are applicable to programs that do not exceed the standard undergraduate and graduate rates. However, the graduate military rate is also applicable to the Master of Science in Nutrition and Dietetics program.

Qualifying Categories for Military Discounted Tuition Rate

1. Active duty members, reservists or guard members currently serving in a branch of the United States military, which includes the U.S. Air Force, Army, Navy, Marine Corps and Coast Guard or the spouse or dependent child(ren) of military members. Eligibility for family members includes (a) those that qualify under the existing IRS definition of a qualifying dependent and/or (b) possess a current military benefits identification card (excludes military retirees).

Individuals must submit documentation verifying their eligibility for the Military discounted tuition rate. If not already on file with Central Michigan University's Global Campus, acceptable means of verification include:

1. Present your active duty or active duty dependent military ID to your nearest CMU education center.
2. Alternatively, active military members including eligible family members, reservists or guard members may submit a verification letter from the military members command reflecting their status as well as their end of service date.

Veteran Award

Consideration for the Central Michigan University Veteran Award is available to honorably discharged veterans from the U.S. Military Service who have regular admission as an undergraduate or graduate in one of CMU's on-campus, off-campus, or online standard degree programs.

Applicant Requirements:

- Complete the Veteran Award Application: <https://www.cmich.edu/veterans/Pages/Veteran-Award.aspx>.
- Provide a copy of your DD-214 member-4 copy verifying honorable discharge or, documentation from the U.S. Department of Veteran's Affairs indicating eligibility for educational benefits. Do not email documents.
- File the 2017-18 Free Application for Federal Student Aid (FAFSA)
- Undergraduates must be enrolled in a minimum of 9 credit hours per semester.
- Graduates must be enrolled in a minimum of 6 credit hours per semester.

Due Dates for Fall and Spring semesters

- November 1 for Fall only enrollment.
- March 1 for Fall and Spring enrollment.
- The Summer Veteran Award Application will be available March 2018.

Awarding Criteria

The CMU Veteran Award is a need-based award for eligible veterans admitted to CMU after August 16, 2016. Current students who are already receiving the veteran's tuition rate are not eligible for this award. Eligibility is based on the students Expected Family Contribution (EFC) from the 2017-2018 Free Application for Federal Student Aid (FAFSA). Applications will not be considered if the FAFSA is not on file with CMU's Financial Aid Office. The amount of an award will vary dependent on student EFC and grade level. Students must maintain enrollment requirements each semester to retain the award:

- For an undergraduate, this is 9 credit hours per semester.
- For a graduate, this is 6 credit hours per semester.
- Enrollment will be verified at the time of awarding.

Awards made for two semesters are subject to adjustment based on changes in credit hours enrolled. Dropping without tuition charges, after the award is credited to the student account, will result in the reversal of the award for the semester. This may result in a bill back to your student account. Withdrawal from classes during the semester will result in the loss of eligibility for the Veteran Award in the subsequent semester. Students must meet the Satisfactory Academic Progress (SAP) standards for Federal Student Financial Aid regardless of whether or not financial aid is being used.

Veterans' Educational Benefits

A student who is a veteran, a member of the armed forces, or spouse or dependent of a veteran or current service member may be entitled to educational benefits through the United States Department of Veterans Affairs (VA). Eligibility for such benefits is determined by VA.

VA strictly enforces policies governing enrollment certification and payment of veterans' educational benefits. Students receiving VA educational benefits need to be aware of the following information that will affect receipt of benefits while enrolled at Central Michigan University.

Audit Grades. Enrollment certification is prohibited for audited courses.

Eligible Courses. Only courses that count toward completion of a student's stated educational objectives may be certified with VA. To ensure compliance with this VA regulation:

- Main Campus undergraduate students must officially declare a major upon earning 56 credit hours.
- Global Campus undergraduate students must consult with their academic advisor upon admission to CMU and develop an appropriate program plan.
- All graduate students must consult with their academic advisor upon admission to CMU and develop an appropriate program plan. **Note:** Students changing or adding a degree or certificate program as a dual objective must execute a new program plan. As part of the new program plan (change) process, students utilizing VA educational benefits must have their completed coursework re-evaluated by his/her advisor to ensure previously completed courses are appropriately included in the student's revised program plan. Students are also advised that any change in degree or certificate program requires the student to submit a formal application.

Enrollment Certification Request. Students approved for GI Bill® Educational Benefits and wishing to receive those benefits at CMU must submit a Central Michigan University GI Bill® Enrollment Certification Request (ECR) form EACH SEMESTER. For the student's convenience, this form is online at <http://www.cmich.edu/veterans/ECR>.

- ECRs for students taking Michigan and/or online courses will be processed by staff in Mt. Pleasant, Michigan. For more information, please visit www.cmich.edu/veterans/ECR.
- ECRs for students taking non-Michigan courses will be processed at the student's local program center. For U.S. center locations please visit: <http://global.cmich.edu/locations>.

Enrollment Changes. Students must promptly notify their School Certifying Official of any schedule changes (i.e., dropping, adding, or withdrawing from a course).

Incomplete (I) and Deferred (Z) Grades. An incomplete or deferred is considered nonpunitive and must be converted to a punitive grade within one year. VA will be notified at the end of the term of nonpunitive grades; repayment of benefits may be required.

Prior Learning Credit. VA will not reimburse students for the cost of prior learning assessment credit.

Repeat Courses. Only courses that are failed or for which the grade does not meet minimum requirements for graduation may be certified with VA if they are repeated.

Satisfactory Academic Progress. Students must maintain satisfactory progress according to published standards established and enforced by the University. Federal regulations mandate that benefits be discontinued when satisfactory progress has ceased. Accordingly, CMU must discontinue certification of enrollment and inform VA. Students have a right to appeal the termination of benefits with VA. For additional information, see the Satisfactory Academic Progress in the Financial Aid Section of the Bulletin.

Transfer Credit. Students must provide CMU with an official transcript from all previous institutions attended. If this requirement is not met during the student's first term of enrollment, CMU will not certify enrollment for any future terms. The student will receive a Transfer Credit Evaluation showing all previous credits approved for transfer to CMU.

To be considered for transfer credit students must provide an official Joint Service Transcript (JST) with the American Council on Education (ACE) Recommendation. CMU follows the ACE Recommendations as it relates to military experiences and training; to be considered for transfer, students should provide official transcripts or official documentation that includes an ACE Recommendation.

Federal Financial Aid for the Military Community

Federal Financial Aid and other educational assistance programs are available to service members, veterans, and other eligible family members to help cover the cost of tuition. The following is an overview of Title IV Federal Student Aid and benefit programs through the Departments of Veterans Affairs and Defense.

Title IV Federal Student Aid

What is the maximum amount of Federal grant and loan aid available to students under Title IV of the Higher Education Act of 1965 (Title IV)?

The Federal government offers a variety of grants and loans to students. The Federal Student Aid Gateway (<http://studentaid.ed.gov/>) provides detailed information about Title IV Federal Financial Aid programs and loans and how you can apply for these programs.

Grants and Scholarships are often referred to as "gift aid" because these programs provide students with financial aid that does not have to be repaid. Federal Grants and Scholarships (<http://studentaid.ed.gov/types/grants-scholarships>) including Federal Pell Grant, Teach Grant, Federal Supplemental Educational Opportunity Grants & the Iraq and Afghanistan Service Grants.

The Federal Direct Student Loan Program (<http://studentaid.ed.gov/types/loans>) provides students with subsidized and unsubsidized loans (<http://studentaid.ed.gov/types/loans/subsidized-unsubsidized>) based on a student's year in college as either a dependent or independent undergraduate or at the graduate degree level.

The amount (<http://studentaid.ed.gov/types/loans#how-much-money-can-i-borrow-in-federal-student-loans>) a student can borrow is determined by their grade level and prior student loan borrowing.

In addition to subsidized and unsubsidized loans some students may qualify for a Federal Direct PLUS loan (<http://studentaid.ed.gov/types/loans/plus>) based on the cost of attendance (<http://studentaid.ed.gov/fafsa/next-steps/how-calculated>).

How can you qualify for loans and other Title IV assistance?

The Free Application for Federal Student Aid or FAFSA (<http://studentaid.ed.gov/fafsa>) is required for the school to determine your eligibility for Title IV financial aid. Undergraduate dependency (<http://studentaid.ed.gov/fafsa/filling-out/dependency>) status for federal aid is determined by the questions on the FAFSA.

Title IV eligibility is automatically packaged by CMU, usually within 10 business days of receiving the FAFSA as long as there are no flags on student data. Once a student receives their award notification they have the option of declining all or part of the loan. Student may either use the Federal Student Loan Adjustment Form found on the Financial Aid Forms page <http://global.cmich.edu/financial-aid/forms.aspx> or contact the Global Campus Financial Aid Office via email at globalfa@cmich.edu.

Why may Title IV student loans be more favorable than private educational loans?

"Student loans can come from the federal government or from private sources such as a bank or financial institution. Loans made by the federal government, called federal student loans, usually offer borrowers lower interest rates and have more flexible repayment options than loans from banks or other private sources." See <http://studentaid.ed.gov/types/loans/federal-vs-private> to compare the terms and conditions of federal student loans and private lender loans.

CMU Withdrawal Information and Satisfactory Academic Progress

Refer to the CMU Withdrawal page for Return of Title IV Financial Aid Refund and Satisfactory Academic Progress Policy information:

https://www.cmich.edu/fas/fsr/student_acct_university_billing/Pages/Withdrawal-Information.aspx

Also refer to Military Drop/Withdrawal Refund Policy for exceptions.

Additional Information on Title IV Federal Financial Aid

Refer to the CMU Global Campus Financial Aid Manual (<https://www.cmich.edu/global/finances/financialAid/Documents/FinancialAidManual.pdf>) or contact GCFA via email at globalfa@cmich.edu or by phone at 1-800-664-2681, option #2.

A number of tools are available to assist you in understanding and evaluating your options as a student:

- **College Navigator** - <http://nces.ed.gov/collegenavigator/>
- **CMU Net Price Calculator** - <https://netconnect.cmich.edu/netpricecalculator/>
- **College Scorecard** - <https://collegescorecard.ed.gov/>
- **GI Bill® Comparison Tool** - <https://www.vets.gov/gi-bill-comparison-tool/>
- **FAFSA4caster** - https://fafsa.ed.gov/FAFSA/app/f4cForm?locale=en_EN
- **Paying for College** - <http://www.consumerfinance.gov/paying-for-college/>

Upon admission to CMU the Financial Aid Shopping Sheet is also available to students through Central Link.

Departments of Veterans Affairs and Defense

What types of education benefit programs are offered by the Departments of Veterans Affairs and Defense?

If you are currently serving in the military, you may be eligible for funding offered through the Department of Defense Tuition Assistance program (<http://www.benefits.va.gov/gibill/>).

- Check your eligibility status and the amount for which you qualify with your service prior to enrolling.
- If you served on active duty, you might be eligible for education benefits offered by the Department of Veterans Affairs. For example, the Post-9/11 GI Bill® (http://www.benefits.va.gov/gibill/post911_gibill.asp) provides financial support for educational and housing expenses to individuals with at least 90 days of aggregate service after September 10, 2001, or individuals discharged with a service-connected disability after 30 days. You must have received an honorable discharge to be eligible for the Post-9/11 GI Bill®.
- If you are the spouse or child of a service member who is serving on active duty Title 10 orders in the paygrades of E1-E5, O1-O2, or W1-W2, you may be eligible for financial assistance from the Department of Defense for education, training, and/or the occupational license and credentials necessary for a portable career.
- If you are the spouse or child of a service member, you may be eligible for transfer of the service member's Post-9/11 GI Bill® benefits to you.

Additional Information on Military Educational Benefits

- CMU Programs for the Military Community (<https://www.cmich.edu/global/military>)
- CMU Veterans' Resource Center (<https://cmich.edu/veterans>)

Transfer Credit for Military Training and Experience

- a. **Military service school experiences.** Granting of academic credit for military service school experiences will be guided by the evaluations prepared by the American Council on Education and published in the "Guide to the Evaluation of Educational Experiences in the Armed Services." All Military Service School experiences that are recommended for undergraduate level credit will transfer to Central Michigan University. Acceptability of credit for military service school experiences to fulfill CMU major or minor requirements is at the discretion of the individual department.
- b. **Military occupational specialties.** Granting of academic credit for military occupational specialties will be guided by the evaluations prepared by the American Council on Education and published in the "Guide to the Evaluation of Educational Experiences in the Armed Services." All Military Occupational Specialties that are recommended for undergraduate level credit will transfer to Central Michigan University. Acceptability of credit for military occupational specialties to fulfill CMU major or minor requirements is at the discretion of the individual department.
- c. **Servicemembers Opportunity Colleges (SOC) courses.** Undergraduate courses from another college or university that is recognized as a Service Member Opportunity College institution for either the army (SOCAD), navy (SOCNAV), or marine corps (SOCMAR) may transfer to Central Michigan University subject to the following conditions:
 1. transferable courses completed with a grade of C- or better or the equivalent must be accepted;
 2. grades and honor points or quality points are not transferable to or recorded on the CMU permanent record. The Program Plan is a record of all of the student's credit (including military experience) and where that learning fits into her or his degree plan.

Army Tuition Assistance

The Army portal is exclusively the reference point for all enrollment, withdrawal and drop transactions in terms of Army tuition assistance.

Refund

Up to 12.5% of Course Completion	100%
12.501% to 25% of Course Completion	75%
25.001% to 50% of Course Completion	50%
50.001% and thereafter	0%

Re-Admissions

Military Service members whose enrollment is interrupted or precluded due to military service requirements will be promptly readmitted with the same academic status as he/she had when last attending and/or admitted to CMU.

- *Notification of military service.* The student (or an appropriate officer of the armed forces or official of the Department of Defense) must give oral or written notice of such service to the school as far in advance as is reasonable under the circumstances.
- *Notification of intent to return to school.* The student must also give oral or written notice of her intent to return to the school within three years after the completion of the period of service.

The cumulative length of the absence and of all previous absences from the school for military service may not exceed five years. Only the time the student spends actually performing service is counted.

To be readmitted to CMU Global Campus, students should submit an updated application; an application fee is not charged and any official transcripts previously submitted do not need to be resubmitted. Once readmitted and prior to registering, students should work with their Academic Advisor to update their program plan; this is to ensure they are registering for the correct courses.

Withdrawal To Enter Military Service

See the Index for the page number.

Military Drop/Withdrawal Refund Policy

Students who currently serve in the active duty military, guard units, the military reserve, and/or family members whose educational pursuits are interrupted by military orders or unforeseen military obligations must submit documentation verifying their eligibility for the military refund exception. If not already on file with Central Michigan University, acceptable means of verification include:

Present your active or dependent military identification to your nearest CMU education center along with a copy of official military orders indicating the specific time period and nature of the military service obligation; or alternatively,

Active military members including eligible family members, reservists or guard members may submit a verification letter from the military member's command reflecting their status of their military obligation and service dates.

Additional exceptions to the course refund policy shall be considered for military members whose military duties or responsibilities impair or prevent their ability to participate in class and complete the course requirements. Where possible, **exceptions must be requested prior to the last class session.** A copy of TDY orders or other appropriate confirmation of the assignment that precluded completion of the course must accompany the withdrawal exception request.

Student Short-Term Military Service Policy

Policy. Central Michigan University recognizes that those students who are actively serving in the Reserves or National Guard are required by their military contract to attend to military orders requiring mandatory training or serve at the request of the Governor of their state to respond to natural disasters or other occurrences in which the use of the National Guard is in the best interest of the state. Failure to attend these orders is punishable under law. The University therefore provides the following rights to students required by their military contract to respond to military orders through the Student Short-Term Military Service Policy.

Procedure. Central Michigan University will not penalize students for complying with mandatory military orders and will give the opportunity to earn equivalent credit and to demonstrate evidence of meeting the learning outcomes for missed assignments or assessments in the event of a schedule or class conflict due to mandatory military orders. It is the responsibility of the student to inform the instructor at the earliest possible time of the existing schedule or class conflict.

Students are eligible for up to fifteen (15) days of short-term, military required absence per academic year with no more than ten (10) academic calendar days taken consecutively. Total absences, including travel, may not exceed 1/3 of the course meetings for any course.

Students may be granted additional absences to account for travel considerations, to be determined by the distance of the verified military service from the CMU campus where the student is registered, as follows: Within a 150 mile radius of campus or center: no additional excused absence days; Between a 150 - 300 mile radius of campus or center: one additional excused absence day; Beyond a 300 mile radius of the campus or center: two additional excused absence days; Outside the continental United States: four additional excused absence days.

A student must contact the office of the Associate Vice President for Student Affairs to request that a notice of the leave be sent to instructors as soon as he or she is informed of the dates of military service. The student must provide documentation of the mandatory military service in the form of orders or equivalent documents as proof of legitimate absence to the office of the AVP for Student Affairs as soon as these documents are available. When documentation is presented to the office of the AVP for Student Affairs a verified absence notification will be sent to the student's instructors.

With a verified absence notification for the office of the AVP of Student Affairs, instructors will not penalize the student for missing class and will provide the opportunity to earn equivalent credit and to demonstrate evidence of meeting the learning outcomes for missed assignments or assessments or will negotiate with the student for additional time to complete assignments or alternative dates for required assessments.

Should a student not be satisfied with the agreed upon plan, he or she shall provide, within 10 days, a written statement to the instructor clearly explaining their objection and suggesting an alternative accommodation. If the instructor and student cannot expediently resolve this written objection, then the student may appeal for further review or consultation of his or her case to the Department Chair of the course or courses in question. In a case where grades are negatively affected, the student may follow the established grade appeals process.

In courses with extensive laboratory exercises, group projects, group performances, or participation requirements, equivalent exercises or assessments may not be possible as determined by the instructor and subject to review by the Dean of the college offering the course, or their designee. In such a case, the student may be eligible for retroactive withdrawal. The student should always consult with the instructor to determine the potential impact of any absence. Students should also contact Central Michigan University's Office of Scholarships and Financial Aid and the Veterans' Resource Center to determine if retroactive withdrawal has any impact on financial aid awards or Veteran Administration education benefits.

For a full copy of this policy (including procedures for faculty and information on available counseling), see *Policy 7-12* on the General Counsel website, https://www.cmich.edu/office_president/general_counsel/Pages/default.aspx.

Release of Information

The University will only release non-directory information regarding the education progress of military members or other covered individuals utilizing Veterans Education Benefits/military tuition assistance upon proper authorization by the student. For additional information, refer to the Family Educational Rights and Privacy Act section of the Bulletin.

Endowed Scholarships and Awards

See the Scholarships and Financial Aid section for awards and scholarships specifically for students in the military.

Curriculum and Course Changes

All changes in curriculum and all course substitutions must be approved by the academic advisor and, in the case of MSA students, the MSA director. Deviations from the authorized program plan must be in writing and signed by the appropriate academic advisor and the MSA director. Students who take courses which have not been approved by their academic advisor do so at the risk that those courses may not apply to their degree.

Curriculum and course changes may require approval from the Veterans Administration if a student is to continue to be eligible for veterans educational benefits. Students should consult their program administrator.

CMU Online Courses

Those students applying veterans educational benefits toward tuition of a course should contact CMU's Veterans' Resource Center for information regarding certification and restrictions.

CMU Department of Military Science and ROTC

See the Undergraduate Bulletin for information.



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.

A	4.0 points per semester hour	Superior
A-	3.7 points per semester hour	
B+	3.3 points per semester hour	
B	3.0 points per semester hour	
B-	2.7 points per semester hour	
C+	2.3 points per semester hour	
C	2.0 points per semester hour	
E	0.0 points ¹	Failing
CR	Credit ²	
NC	No Credit	Not included in
I	Incomplete	computing
N	No Grade Submitted	grade points or
W	Withdrawn	for graduation
X	Audit	credit
Z	Deferred Grade	

¹ Does not count toward graduate degree; does 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>).

Accommodation of Religious Obligations

It is Central Michigan University policy to permit students to be absent from classes or examinations for reason 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.

Student Bereavement Policy

Policy. It is the policy of CMU to allow appropriate support to students in the event of a death of a student's loved one, including but not limited to time off and other support as defined in the Procedure included below.

Procedure. As soon as practicable after learning of the death of a family member, students should notify the Office of Student Affairs (989-774-3346, or studentaffairs@cmich.edu) of the passing. It is important that documentation of the passing (e.g., obituary; service card) is sent to the Office of Student Affairs as soon as possible following the death. The Office of Student Affairs will determine the sufficiency of the submitted documentation and retains the right to request additional documentation if it deems the original documentation insufficient. This information will be kept on file in the event that faculty or university personnel request verification. This is intended

(Continued)

to eliminate the need for individual faculty to request and require verification of the event giving rise to the bereavement from the grieving student. The Office of Student Affairs will then notify appropriate members of the faculty of the absence via email.

Students are given up to three (3) consecutive calendar days off to attend funeral and/or memorial services and to provide support to family members. If additional days are needed, due to travel or other reasons, that information must be provided in the initial report to the Office of Student Affairs. Approval for additional days (if necessary) will be granted (or denied) by the Associate Vice President for Student Affairs and adjusted when the notice is sent to faculty. The adjusted amount of approved leave (if any) shall be communicated to appropriate faculty members at the time the notice is sent.

Students are expected to stay in contact with the appropriate faculty members to ascertain how the opportunity for equivalent credit will be determined for missed course assignments. Such determinations shall be at the sole discretion of the faculty member, but shall be reasonable when considering the circumstances of each leave. The Provost, working with the Vice President for Enrollment and Student Services will resolve any disputes arising from an allegation that a faculty member's determination of a bereavement accommodation is unreasonable.

All missed course assignments shall be eligible to be made up and include, but are not limited to: exams, quizzes, presentations, and other required assignments. Once again, ongoing communication with appropriate faculty is very important during this time. Failure of a student to maintain adequate communication with the faculty may result in a failing grade for any or all course assignments missed as a result of leave granted pursuant to this Policy.

For a full copy of this policy (including procedures for faculty and information on available counseling), see *Policy 3-40* on the General Counsel website, https://www.cmich.edu/office_president/general_counsel/Pages/default.aspx

Student Short-Term Military Service Policy

Policy. Central Michigan University recognizes that those students who are actively serving in the Reserves or National Guard are required by their military contract to attend to military orders requiring mandatory training or serve at the request of the Governor of their state to respond to natural disasters or other occurrences in which the use of the National Guard is in the best interest of the state. Failure to attend these orders is punishable under law. The University therefore provides the following rights to students required by their military contract to respond to military orders through the Student Short-Term Military Service Policy.

Procedure. Central Michigan University will not penalize students for complying with mandatory military orders and will give the opportunity to earn equivalent credit and to demonstrate evidence of meeting the learning outcomes for missed assignments or assessments in the event of a schedule or class conflict due to mandatory military orders. It is the responsibility of the student to inform the instructor at the earliest possible time of the existing schedule or class conflict.

Students are eligible for up to fifteen (15) days of short-term, military required absence per academic year with no more than ten (10) academic calendar days taken consecutively. Total absences, including travel, may not exceed 1/3 of the course meetings for any course.

Students may be granted additional absences to account for travel considerations, to be determined by the distance of the verified military service from the CMU campus where the student is registered, as follows: Within a 150 mile radius of campus or center: no additional excused absence days; Between a 150 - 300 mile radius of campus or center: one additional excused absence day; Beyond a 300 mile radius of the campus or center: two additional excused absence days; Outside the continental United States: four additional excused absence days.

A student must contact the office of the Associate Vice President for Student Affairs to request that a notice of the leave be sent to instructors as soon as he or she is informed of the dates of military service. The student must provide documentation of the mandatory military

service in the form of orders or equivalent documents as proof of legitimate absence to the office of the AVP for Student Affairs as soon as these documents are available. When documentation is presented to the office of the AVP for Student Affairs a verified absence notification will be sent to the student's instructors.

With a verified absence notification for the office of the AVP for Student Affairs, instructors will not penalize the student for missing class and will provide the opportunity to earn equivalent credit and to demonstrate evidence of meeting the learning outcomes for missed assignments or assessments or will negotiate with the student for additional time to complete assignments or alternative dates for required assessments.

Should a student not be satisfied with the agreed upon plan, he or she shall provide, within 10 days, a written statement to the instructor clearly explaining their objection and suggesting an alternative accommodation. If the instructor and student cannot expediently resolve this written objection, then the student may appeal for further review or consultation of his or her case to the Department Chair of the course or courses in question. In a case where grades are negatively affected, the student may follow the established grade appeals process.

In courses with extensive laboratory exercises, group projects, group performances, or participation requirements, equivalent exercises or assessments may not be possible as determined by the instructor and subject to review by the Dean of the college offering the course, or their designee. In such a case, the student may be eligible for retroactive withdrawal. The student should always consult with the instructor to determine the potential impact of any absence. Students should also contact Central Michigan University's Office of Scholarships and Financial Aid and the Veterans' Resource Center to determine if retroactive withdrawal has any impact on financial aid awards or Veteran Administration education benefits.

For a full copy of this policy (including procedures for faculty and information on available counseling), see *Policy 7-12* on the General Counsel website, https://www.cmich.edu/office_president/general_counsel/Pages/default.aspx

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. In 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.

Student Academic Division Complaint Tracking Procedures

The purpose of this document is to outline a procedure for tracking student complaints that come to the academic colleges and academic support units. Complaints to be resolved by the academic colleges or support units are those that are not governed by other complaint or appeal procedures. Students need to follow policies and procedures that currently exist. Those policies can be found in their Academic Bulletin (undergraduate, graduate, or Global Campus) (<https://bulletins.cmich.edu>).

Definition. A complaint expresses dissatisfaction with an academic action believed to be unfair or inconsistent with policy or guidelines.

Procedure. A record of complaints that are resolved at the level of the academic colleges or academic support units will be documented and retained in each academic college or support unit. Annually, each academic college and support unit will review the complaints in an effort to identify trends and to improve the learning environment. A summary of the complaints that occurred in the previous academic year will be compiled by each academic college and support unit, and submitted annually to the Provost's Office on or before July 31.

For a complete copy of this procedure, see https://www.cmich.edu/office_president/general_counsel/Documents/p05007.pdf

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, transpositional 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 dean 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 Applications Processing. 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 (B grade) and shall receive credit in the course. NC indicates that the student has performed at a level lower than a B and shall not receive credit. 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

(Continued)

- of the correct official to whom the request should be addressed.
- 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.

If the University decides not to amend the record as requested by the student, the University will notify the student of the decision and advise 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.

- 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 his or her professional responsibility. 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 honors and awards received, including selection to the Semester Honors or President's list, honorary organization, or the GPA range for the selection.

- 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.

- 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)

Incomplete Grade. An "I" (Incomplete) grade 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. An incomplete grade does not indicate enrollment for the period of time in which the work is done. 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 a grade of "I" also submits a formal statement to the department chairperson 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 make arrangements for completing 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 "I" grade. 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. An "I" may not be removed by registering again for the course.

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

Exceptions to these regulations can be made only when requested by the student and approved by the instructor or the department chairperson and the dean of the college, and certified by the dean of the college to the Registrar.

Deferred Grades (Z)

The "Z" (deferred) grade may be recorded for students registered for independent study, for thesis, International 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, on the proper form, a statement to the department chairperson 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

Any current or former student who does not have a financial hold may request an Official Transcript from Central Michigan University.

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How to Request a Transcript. Central Michigan University has partnered with the National Student Clearinghouse (NSC) to provide online ordering for CMU transcripts. This partnership allows students to order transcripts 24 hours a day, seven days a week and track their orders via text message or email. Transcripts ordered through the NSC are typically sent to a recipient within one hour, though it could take up to 1-2 business days if your record requires manual processing (students who attended CMU prior to 2000). The NSC is the only method through which students may request CMU transcripts.

All transcript ordering will take place through the NSC's website. Electronic transcripts sent directly from the NSC to another educational institution, employer, etc. will be considered official. In order to request an unofficial transcript, one simply needs to have the transcript sent directly to their email address.

Electronic transcripts are the preferred method of transcript transmission between institutions. Students will find that the process is much more efficient and effective than ordering traditional paper-based transcripts. The ordering process begins on the Registrar's Office's website at www.cmich.edu/ess/registrar.

Any current or former student who does not have financial holds may request a Central Michigan University transcript.

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 Applications Processing 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 Applications Processing 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), Applications Processing, 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.

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 (never attended or the last date attended).
3. Students will receive W grades 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 receive 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 approved, the Registrar's Office shall notify the instructor of this action.

Student Initiated Withdrawals

Students may withdraw from all courses through the 10th 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. Summer complete semester withdrawals must be initiated with the assistance of the Registrar's Office.

Students withdrawing from the university between the 10th week and the Friday of the 14th week of the semester must contact the Registrar's office. W's will be assigned for passing work of D- 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 students 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:

- engage or threaten to engage in behavior that poses a danger of causing physical harm to self or others, or
- 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.

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:

- The student who is unable to complete the first half of a session shall be entitled to a full refund of fees.
- 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 at: <https://www.cmich.edu/global/cmuonline/about/assessment/s/default.aspx>.

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: <https://www.cmich.edu/global/cmuonline/proctoring/Pages/default.aspx>.

CMU Online proctors exams at the Park Library and Global Campus offices. 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 using a CMU Center 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 (989) 774-4461 or by email at cmu.online.proctor@cmich.edu.

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 Applications Processing. 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 Applications Processing.

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 Applications Processing. 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.

Additional Academic Program

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 graduate degree program; that is, CMU. The Host Institution is where the student wishes to be a guest.

The student and academic advisor initially decide if the course(s) are appropriate to the student's program of study and not available at his/her Home Institution. Then the advisor discusses the plan with the appropriate faculty members at the Host Institution. The Host Department is consulted to ensure that space is available for enrollment. Next the student obtains a MIGS application from Graduate Studies at CMU. The academic advisor and the Vice President/Dean of the Office of Research and Graduate Studies sign the application to indicate that the student is qualified and eligible, and Applications Processing forwards the application to the Host Institution for completion. Once the admission has been approved by the Host Department, the MIGS Liaison Officer at the Host Institution issues admissions documents and provides registration instructions, and forwards a copy of the admission letter to the Home Institution.

Policies. The following policies apply to students participating in the MIGS program:

1. Students on a MIGS enrollment pay tuition and other fees normally charged by the Host Institution for the services rendered;
2. All credits earned under a MIGS enrollment will be accepted by CMU as if offered by CMU;
3. Grades earned in MIGS courses will be applied toward the student's grade point average for the purpose of determining academic standing and eligibility for graduation;
4. A student may combine a part-time enrollment at CMU with a part-time MIGS enrollment, with approval of the student's academic advisor;
5. Enrollments are limited to six credit hours for master's or specialist's degree students or nine credit hours for doctoral degree students; and
6. The student is responsible for arranging to have transcripts certifying completion of work under a MIGS enrollment forwarded to CMU.

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 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 240 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;

(Continued)

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 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.)

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.

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/doctoral project/dissertation process anew. The department may require a more detailed prospectus.

Each student who writes a thesis/doctoral project/dissertation/journal article must enroll for such credit. Letter grades are not used in the evaluation of the thesis/doctoral project/dissertation/journal article; therefore, the student's grade point average is not affected by credit earned for these. In all departments the thesis/doctoral project/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/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.

Final Stages of Thesis, Doctoral Project, Dissertation or Journal Article Preparation

The final draft of the defended, committee-approved thesis/doctoral project/dissertation/journal article must be submitted to Graduate Studies for approval according to the deadlines set forth by Graduate Studies. Typically these dates can be found on the inside cover of the Graduate Bulletin and within the *Guidelines for the Preparation of Theses, Doctoral Projects, Dissertations, and Journal Articles*. Failure to meet this deadline or any departmentally stipulated deadline may result in the student's graduation being delayed until the following semester. Students and Committee Chairs should consult the *Guidelines for the Preparation of Theses, Doctoral Projects, Dissertations, and Journal Articles* for the current process and University expectations.

Field Study

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.

Requirements for Graduation

Academic and Retention Standards

In order to obtain a graduate degree, a student must have at least a 3.0 (B) cumulative graduate 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.

All students are expected to raise their cumulative graduate GPA to a 3.0 within two semesters of being placed on probation. When they are successful in achieving this goal, they will be removed from probation. If a student does not raise his/her cumulative graduate GPA to a 3.0 within two semesters of being placed on probation, the student will be dematriculated. If the student is in a degree program, the relevant department may specifically request an exception to policy. If Graduate Studies concurs, the student will be granted one more semester to raise his/her cumulative graduate GPA to a 3.0. However, three semesters beyond the first probation period is the limit on extension to the probation policy.

Given the time it takes to implement these procedures, it is possible that a student will be dematriculated after he/she has registered for classes and perhaps even started attending them. If that is the case, the student will be dropped from the classes.

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 be 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 Degree Progress 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 Center 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, indicating what requirements the student must complete. 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. 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*.

Departments and Programs

School of Accounting

College of Business Administration

Dr. Lori Olsen, Chair

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 McGilsky, Ph.D., CPA, Tax Accounting

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 Art and Design

College of Communication and Fine Arts

Mr. Jonathon Russell, Chair

132 Wightman Hall, 989-774-3025

Rachael Barron-Duncan, Ph.D., Art History

Larry Burditt, M.F.A., Graphic Design

Jeremy Davis, M.F.A., Sculpture

Scott de Brestian, Ph.D., Art History

Jesse Dominguez, M.F.A., Painting

Brian Elder, M.F.A., Painting

Ren Hullender, Ph.D., Art Education

Clark Most, M.F.A., Graphic Design

Johanna Paas, M.F.A., Printmaking

Jonathon Russell, M.F.A., Graphic Design

Kris Sanford, M.F.A., Photography

Greg Stahly, M.F.A., Ceramics

David Stairs, M.F.A., Graphic Design

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.

Department of Biology (BIO, MAR)

College of Science and Engineering

Dr. Tracy Galarowicz, Chair

2100 Biosciences, 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 spore 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

Sarah Learman, Ph.D., genetics, biotechnology, biochemistry

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

Kevin Pangle, Ph.D., predator-prey interactions, phenotypic plasticity, Great Lakes food webs

Wilene Pangle, Ph.D., behavioral ecology, science education

John I. Scheide, Ph.D., mechanism and regulation of ion transport in cells and tissues of vertebrate and invertebrate species

Shasta Sabo, Ph.D., neuroscience; molecular and cellular mechanisms of synapse formation and neuronal development; pathogenesis of neurodevelopmental disorders, such as autism spectrum disorders; live fluorescence imaging

Jennifer Schisa, Ph.D., cell and molecular effects of stress and aging

Nancy E. Seefelt, Ph.D., ecology and evolution of vertebrates, ecological modeling, ornithology

Michelle L. Steinhilb, Ph.D., genetic models of human neurodegenerative 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, experimental design

Rebecca Uzarski, Ph.D., toxicology, cell biology

Mallory Wacker, Ph.D., Innate immunology; molecular mechanisms of inflammation, cellular and molecular biology of human phagocytes; host-pathogen interactions

Daelyn Woolnough, Ph.D., spatial ecology of aquatic and terrestrial systems

Dave Zanatta, Ph.D., aquatic ecology, molecular ecology, conservation 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 activities 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 Department 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 laboratory 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 Biology Department. The deadline for applications is February 1 each year for full consideration.

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

Biology Graduate Scholarships

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 to be used for a research project while at the CMU Biological Station on Beaver Island.

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 was a faculty member in the CMU Department of Biology.

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.

Michigan Graden Club, Inc. Scholarship

This scholarship is awarded to an outstanding full-time biology undergraduate junior or senior, or a graduate student with interests in any of a variety of botanical or land management subjects. Applicant must have taken a general botany course, maintain a minimum 3.0 GPA overall with a minimum 3.25 GPA in biology courses, and a minimum of 12 credit hours each semester. At least one additional plant course must be taken.

Master of Science (M.S.) in Biology

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 6 to 9 credit hours in BIO 798 (Thesis), one (1) 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

ADMISSION REQUIREMENTS SNAPSHOT	
GPA: 3.0 (and 3.0 in major)	Entrance Exam: GRE
Commitment of faculty advisor	
<i>See Admission Requirement Details Below</i>	

To be eligible for Regular Admission to the graduate program in biology, 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 must submit general GRE scores, statement of interests, transcripts, and three letters of recommendation as specified in the Biology Department Web page (<http://www.cmich.edu/colleges/cst/biology/Pages/Graduate-Programs.aspx>). 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 department graduate committee.

Fifteen credit hours (seminar and thesis or research in biology included) 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)

Note: Also requires oral defense of thesis.

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

Biology - Plan B (36 hours)

Thirty-six (36) 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 and Community 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 Biochemistry, Cell and Molecular Biology

These degrees are interdisciplinary programs. 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

Dr. Heather Polinsky, 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

Kevin Corbett, Ph.D., Bowling Green State University; Film Studies, Screenwriting

Christopher Csont, M.F.A., Boston University, Screenwriting

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

Mark Poindexter, Ph.D., University of Minnesota; Media Theory and Criticism, International and Comparative Media

Heather Polinsky, Ph.D., (School Director) 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 Stohman, 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 a concentration 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.

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

ADMISSION REQUIREMENTS SNAPSHOT

GPA: 2.7
 Entrance Exam: N/A
 Internat'l Application Deadline: July 1 (Fall), Oct. 1 (Spring)
 See Admission Requirement Details Below

To receive regular admission to the program, a student must attain an undergraduate grade point average of 2.7 on a 4.0 scale. Additional preparatory course work or particular courses may be required. **All students applying to the Electronic Media Production concentration in BCA must submit a skills-based resume and a demo reel of their best audio and/or video production work with their application.**

International applicants must present a TOEFL score of at least 550 (213 CBT or 79 Internet or IELTS of 6.5).

Degree Requirements

Select one of the following concentrations:

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)

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)

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 I 3(1-4)
 BCA 561 - Radio Operations II 3(1-4)
 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 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: 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)

Required Courses II (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 hours 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 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)

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

Total: 33 semester hours

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 (3-6 hours)

Select from the following:

BCA 503WI - Critiquing Mass Media 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 519 - Electronic Media Programming 3(3-0)

BCA 524 - Producing Television News 3(1-4)

BCA 529 - Internship in Electronic Media-Film 2-6(Spec)

BCA 533 - Advanced Electronic Media Design 3(2-2)

BCA 540WI - Recording Industry & Business 3(3-0)

BCA 560 - Radio Operations I 3(1-4)

BCA 561 - Radio Operations II 3(1-4)

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)

Note: BCA 560 and 561 are offered in Summer only.

Total: 33 semester hours

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)

Note: BCA 542 is offered in Summer only.

Required Courses III (3 hours)

BCA 730 - Plan B Project Research 3(3-0)

Electives (6 hours)

BCA 506WI - Series Script Writing For Visual Media 3(3-0)

BCA 508WI - Screenwriting for Cinematic Narrative 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

Dr. 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.

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

ADMISSION REQUIREMENT SNAPSHOT

GPA: See below Entrance Exam: GMAT (see details below)
 Internat'l Application Deadline: March 15 (Fall), November 15 (Spring)
 See Admission Requirement Details Below

Admission Requirements

Minimum GPA: 2.7; Minimum GMAT: 450.

To be considered for admission to the MBA program, an applicant must first be admitted to Graduate Studies. The application should be submitted online at least six weeks prior to the beginning of the first semester of anticipated enrollment in classes.

GMAT requirements will be waived for applicants who meet one of the following conditions:

1. Applicants with a Doctorate Degree obtained from U.S. universities.
2. Applicants with a Masters' Degree obtained from U.S. universities with an overall GPA of 3.0.
3. Applicants with an undergraduate degree with no work experience: Degree obtained from U.S. universities with an overall GPA of 3.0.
4. Applicants with an undergraduate degree with no work experience: Degree obtained from U.S. universities with an overall GPA of 3.25 for the last 60 provided the overall undergraduate GPA is at least 2.7.
5. Applicants with an undergraduate degree with five (5) years professional work experience: Degree obtained from U.S. universities with an overall GPA of 2.9.
6. Applicants with an undergraduate degree with five (5) years professional work experience: Degrees obtained from U.S. Universities with an overall GPA of 3.0 for the last 60 hours, provided the overall undergraduate GPA is at least 2.7.

GMAT will not be waived for applicants who earned their academic degree from foreign universities:

1. Applicants who have all their academic degrees from foreign universities.
2. Applicants who only have a bachelor's degree and that degree is granted by a foreign university.

Regular Admission. To be granted regular admission to the Master of Business Administration program, an applicant must meet the university requirements for admission to Graduate Studies; if necessary, possess an acceptable GMAT score; meet the minimum GPA, and have successfully completed the prerequisite courses or equivalent. Applicants who need to complete the prerequisite courses may be granted non-degree admission only.

Conditional Admission. Applicants who have satisfied the GMAT requirement (if necessary), but are lacking only prerequisites are allowed to enroll in a maximum of 12 credit hours of MBA degree requirements while completing prerequisite requirements.

Any exceptions to the above admission requirements must be approved by the Graduate Studies Committee of the College of Business Administration.

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.

MBA 503 - Professional Business Communications 2(2-0)
 MBA 504 - Using Financial Accounting Information 2(2-0)
 MBA 505 - The Economic Environment of Business 2(2-0)
 MBA 506 - Legal Environment of Business 2(2-0)
 MBA 507 - Introduction to Marketing Management 2(2-0)
 MBA 508 - Management and Organization 2(2-0)
 MBA 509 - Production/Operations Management 2(2-0)

MBA 510 - Financial Management and Analysis 2(2-0)

MBA 511 - Statistics for Managerial Decisions 2(2-0)

Degree Requirements II (27 hours)

MBA Program Core Courses

MBA 610 - Managing Information Systems in a Global Economy 3(3-0)

MBA 620 - Managerial Accounting: A Management Perspective 3(3-0)

MBA 630 - Managing and Leading Individuals and Groups in Organizations 3(3-0)

MBA 640 - Data Analysis for Managers 3(3-0)

MBA 650 - Marketing-Based Management 3(3-0)

MBA 660 - Global Business and Sustainability 3(3-0)

MBA 670 - Financial Analysis and Risk Management 3(3-0)

MBA 680 - Global Economic Environment 3(3-0)

MBA 690 - Strategic Management: Integrative Experience 3(3-0)

Plan B Requirement. The Plan B requirement is fulfilled through successful completion of MBA 690.

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

Health Systems Leadership

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 6 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 6 hours of the 8 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.

Graduate Certificate in Enterprise Systems (SAP)

Minimum Totals for Graduation: 16 hours

This program is offered through CMU Online only.

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

The Graduate Certificate in Enterprise Systems is designed for regularly admitted graduate students who desire to acquire advanced knowledge and skills in the enterprise software, SAP. If admission requirements to the MBA program are met and the MBA core courses are taken by the students, credits successfully earned with this certificate program may be used towards the MIS (SAP emphasis) concentration in the MBA program. Students will not be allowed to use the same course for two different concentrations. To be considered for regular admission, an applicant must have:

1. Admission into the graduate college.
 2. Computer literacy as demonstrated by BIS 104 or CPS 100 or equivalent.
-

Required Courses (13 hours)

BIS 647 - Enterprise Systems for Management using SAP Software 3(3-0)

BIS 656 - Business Intelligence using SAP Software 3(3-0)

BIS 658 - Configuration & Implementation for Global Systems using SAP Software 3(3-0)

BUS 698 - Integration of Business Processes for Management using SAP Software 4(Spec)

Electives (3 hours)

BIS 657 - ABAP Programming for ES 3(3-0)

BUS 697 - Special Topics in Business 1-12(Spec)

Total: 16 semester hours

Note: Students will take BIS 647 as their first course, then BIS 658. The third course in this sequence is BUS 698. BIS 656, BIS 657, and BUS 697 may be taken in any sequence.

Department of Business Information Systems

College of Business Administration

Dr. Anil Kumar, Chair

305 Grawn Hall, 989-774-3554

Emil Boasson, Ph.D.

James Cappel, Ph.D.

Kenneth Desloover, MS

Jerry Dimaria, DBA

Paul Dunn, MSA

Shankari Ghosh, MS

Nancy Hicks, Ph.D.

Zhenyu Huang, Ph.D.

Mark Hwang, Ph.D.

Brent Jensen, MS

Anil Kumar, Ph.D.

Chris McBride, MS

Denise McBride, MS

Kevin McCarron, MBA

James Melton, Ph.D.

Robert Miller, Ph.D.

James Scott, Ph.D.

Vishal Shah, Ph.D.

Stephen Tracy, MBA

Jiao Wu, Ph.D.

Course Designer:

BIS - Business Information Systems

Master of Science (M.S.) in Information Systems

Emil Boasson, Director of MSIS Program

322 Grawn Hall; 989-774-3588

Minimum Totals for Graduation: 36 hours

The Program

The mission of the Master of Science in Information Systems Program (MSIS) is to prepare students to be effective information systems professionals. Graduates from the program will be able to:

- Demonstrate the ability to collaboratively develop information systems to solve business problems.
- Demonstrate the ability to provide accurate information to key stakeholders.
- Demonstrate competency in core business knowledge.
- Demonstrate effective business writing and oral communication skills.

Degree Requirements:

Students are required to complete a minimum of 36 graduate credits and pass a comprehensive examination.

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

ADMISSION REQUIREMENT SNAPSHOT

GPA: 2.7 (or 3.0 in the last two years of study)

Application Deadline: See below.

See Admission Requirement Details Below

Admission is valid only for the semester stated in Letter of Admission or Certificate of Admission.

Placement Exam

All entering MSIS students are required to take a placement examination. Results from the exam are used to help design an initial course work curriculum. The exam tests a student's fundamental knowledge in computer literacy and business processes.

A student who passes the exam may register for courses immediately. A student who does not pass a component(s) of the exam may be required to take one or two foundation course(s) as determined by the director of the MSIS Program. Foundation courses are in addition to the regular courses required for the MSIS degree.

Admissions Process and Deadlines for Master of Science in Information Systems

Who may apply	Application Due Date*	Decision Notification
<i>Fall Admission, classes begin late August:</i>		
All Applicants	June 15*	July 15
<i>Spring Admission, classes begin January:</i>		
All Applicants	October 15*	November 15
*Completed Applications Only		

The admissions committee reviews completed applications according to the preceding schedule. Therefore, it is prudent to apply early. International applicants are encouraged to apply even earlier as visa process usually takes time.

Degree Requirements

Required Courses (18 hours)

BIS 601 - Information Systems 3(3-0)

BIS 605 - Communication in Professional Contexts 3(3-0)

BIS 628 - Application Development 3(3-0)

BIS 636 - Systems Analysis and Design 3(3-0)

BIS 638 - Database Management for Business Systems 3(3-0)

BUS 501 - Project Management Fundamentals 3(3-0)

MSIS Program Tracks (9 hours)

A planned course of study in one of the following tracks approved by the graduate advisor. Students selecting a track must complete the required nine hours in that track.

Enterprise Systems using SAP Software Track (9 hours)

BIS 647 - Enterprise Systems for Management Using SAP Software 3(3-0)

BIS 657 - ABAP Programming for ES 3(3-0)

BIS 658 - Enterprise System Configuration Using SAP Software 3(3-0)

Cybersecurity Track (9 hours)

Required Course I (3 hours)

BIS 510 - Network & Systems Security Fundamentals 3(3-0)

Required Courses II (6 hours)

Select two of the following:

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)

Project Management Track (9 hours)

BUS 503 - Business Process Improvement 3(3-0)

BUS 505 - Application of Project Management Principles 3(3-0)

BUS 507 - Advanced Project Management Methodologies 3(3-0)

Electives (6 hours)

Six hours of graduate-level elective courses are required for the completion of the MSIS program. These courses must come from BIS, BUS, or other College of Business Administration graduate-level courses approved by the graduate advisor.

Plan B Requirement (3 hours)

Plan B Requirement is met by the successful completion of BIS 698 and by passing the comprehensive examination. The comprehensive exam is taken in a student's final semester and covers material from the core MSIS program courses. If the exam is not passed the first time, it can be retaken once.

BIS 698 - Information Systems Project 3(3-0)

Total: 36 credit hours

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

Master of Business Administration (MBA)

See the College of Business Administration for information.

Department of Chemistry and Biochemistry

College of Science and Engineering

Dr. Mary M.J. Tecklenburg, Chair

268 Dow, 989-774-3981

<https://www.cmich.edu/colleges/cst/chemistry/Pages/default.aspx>

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. Fahlman, 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

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 Hall Tomasik, 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 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 programs. 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 chemical industry or as teachers in community colleges or universities. 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. Additionally, biochemistry research is conducted in the Bioscience building, which includes specialized rooms for isotope studies and a Biosafety level-3 room for bacterial pathogen research.

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.

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

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

ADMISSION REQUIREMENT SNAPSHOT

GPA: 2.7 (and 2.7 in Chemistry)
 Entrance Exam: GRE – General
 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 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.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.

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
 Internat'l 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.

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.A. program involves maintaining a minimum 3.0 cumulative grade point average in graduate courses and completion of faculty directed creative scholarship in the teaching of chemistry and a scholarly paper.

Foundation Courses (0-10 hours)

CHM 511 - Advanced Analytical Chemistry 4(2-4)

CHM 531 - Advanced Inorganic Chemistry 3(3-0)

CHM 541 - Intermediate Organic Chemistry 3(3-0)

Note: CHM 511, 531, and 541 are required unless the student has taken the equivalent courses in an undergraduate program.

Chemistry Electives (8-18 hours)

At least 6 credit hours must be earned in Chemistry courses at the 600 level. Chemistry electives must be approved by the advisor and the Graduate Program Committee.

Internship and Practicum (6 hours)

CHM 781 - Chemistry Teaching Practicum 2(Spec)

CHM 793 - Chemistry Teaching Internship 1-9(Spec)

Scholarship (6 hours)

CHM 794 - Experimentation in the Teaching of Chemistry 1-6(Spec)

Total: 30 semester hours

M.S. and Ph.D. in Biochemistry, Cell and Molecular Biology

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.

Department of Communication and Dramatic Arts

College of Communication and Fine Arts

Dr. William Dailey, Chair

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 Daugherty, M.F.A., Theatre, Interpretation and Dance

Tisha Dejmancee, Ph.D., Communication

Nancy Eddy, TID Area Coordinator, M.F.A., Theatre, Interpretation and Dance

Edward Hinck, Ph.D., Communication

Diane Krider, Ph.D., Communication

Alysa 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 Schaefer Hinck, Ph.D., Director of Graduate Studies; Communication

Keeley Stanley-Bohn, 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, COM Area Coordinator, 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

(Continued)

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 PBT¹ (250 CBT², 100 iBT³) 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.

¹ PBT = Paper-Based Test

² CBT = Computer-Based Test

³ iBT = internet-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 661 - 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 Sciences & Disorders

The Herbert H. and Grace A. Dow College of Health Professions

(Audiology, Speech Language Pathology)

Dr. Mark Lehman, Chair

989-774-1323, 2186 Health Professions

Rebecca Affoo, Assistant Professor, CCC-SLP; M.Cl.Sc., The University of Western Ontario; Ph.D., The University of Western Ontario

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

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, FAAA; 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

Amanda Luna-Bailey, Clinical Supervisor, CCC-SLP, M.A., Western Michigan University. Aural Rehabilitation, Cochlear Implants, Auditory Processing, and Augmentative & Alternative Communication

Jenna Marr, Clinical Supervisor, CCC-SLP, M.A., Central Michigan University. Pediatric through young adult speech and language disorders, autism spectrum disorders (assessment/intervention/interdisciplinary collaboration)

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; FAAA; 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.

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

Katie Squires, Assistant Professor, CCC-SLP; M.S., Nova Southeastern University; Ph.D., Utah State University. Child Language and Literacy

Michael Stewart, Professor and Director of Audiology Division; CCC-A, FAAA; M.A., Western Michigan University; Ph.D., Michigan State University. Hearing aids, hearing conservation, clinical supervision, private practice

Katie Strong, Assistant Professor, CCC-SLP, M.A., Kansas State University; Ph.D., Western Michigan University; Adult cognitive-communication disorders, aphasia, clinical education

Janet Sturm, Professor; CCC-SLP; Ph.D., University of Nebraska - Lincoln. Child language disorders, augmentative and alternative communication, literacy

Alissa Vanderlaan, Clinical Supervisor, CCC-A; Au.D., Western Michigan University, Neurodiagnostics, amplification, pediatrics, vestibular

Suzanne Woods, Professor and Director of Speech-Language Pathology Division; CCC-SLP; M.A. in Speech-Language Pathology and Educational Administration, Central Michigan University; Ph.D., Michigan State University. Fluency, programs for special populations, neurogenics, phonology, school age settings

Yunfang Zheng, Assistant Professor; CCC-A; M.D., Suzhou Medical College, Sc.D., Montclair State University. Audiology diagnostics (pediatric and adult), amplification, aural rehabilitation, cochlear implants

Course Designators:

CDO - Communication Disorders

ASL - American Sign Language

The Programs

The Department of Communication Sciences & 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

(Continued)

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://www.capcsd.org/csdcas-student-page/>. 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 Sciences & 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 Sciences & 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: <https://www.cmich.edu/colleges/CHP/admissions/Documents/Technical%20Standards%20SLP%20Masters.doc>.

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)

CDO 632 - Counseling Issues in Communication Disorders 3(3-0)
 CDO 638 - Adult and Pediatric Swallowing and Feeding Disorders 3(3-0)
 CDO 704 - Language Disorders in Preschool Children 3(3-0)
 CDO 705 - Cognitive-Communicative Disorders of Traumatic Brain Injury 3(3-0)
 CDO 708 - Language Disorders in School-Age Children 3(3-0)
 CDO 713 - Voice/Resonance Disorders/Laryngectomy Rehabilitation 3(3-0)
 CDO 714 - Motor Speech Disorders 3(3-0)
 CDO 717 - Aphasia 3(3-0)
 CDO 722 - Cognitive-Communicative Disorders of Dementia 3(3-0)
 CDO 734 - Applied Speech Science 3(3-0)
 CDO 735 - Augmentative and Alternative Communication 3(3-0)
 CDO 736 - Speech Sound Disorders in Children 3(3-0)

CDO 739 - Stuttering 3(3-0)
 CDO 749 - Clinical Practicum in Speech-Language Pathology or
 Audiology 1-15(Spec)

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 Sciences & 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.

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.

(Continued)

Degree Requirements**Required Courses I (33 hours)**

The following courses should be taken in the first year:

- 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 785 - 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 audiologic 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

Dr. Patrick Kinnicutt, Chair

413 Pearce Hall, 989-774-3774

https://www.cmich.edu/colleges/cst/comp_sci/Pages/default.aspx

Jesse Eickholt, 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 Liao, 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 Algorithms, 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)

Entrance Exam: GRE

Internat'l 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:

CPS 585 - Applied Data Engineering 3(3-0)

CPS 685 - Pattern Recognition and Data Mining 3(3-0)

ITC 520 - Foundations of Computer Security 3(3-0)

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 course work. 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

Dr. Andrea Jasper, Chair

321 EHS Building, 989-774-3205

Ellen Armbruster, Ph.D., Counseling

Allison Arnekrans, Ph.D., Counseling

Szu-Yu Chen, Ph.D., Counseling

Dawn Decker, Ph.D., Special Education

Laura M. Frey, Ph.D., Special Education

JoDell Heroux, Ph.D., Special Education

Andrea Jasper, Ph.D., Special Education

Jennifer Klemm, 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

Course Designators:

CED - Counselor Education

SPE - Special Education

Master of Arts (M.A.) in Counseling

Minimum Totals for Graduation: 60 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 and national certified counselors. Full-time counselor education faculty hold doctoral degrees in counselor education or a related field. Teaching excellence is a top priority of the faculty.

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

ADMISSION REQUIREMENT SNAPSHOT

GPA: 2.7 Entrance Exam: GRE
 Application Deadline: February 1 for Summer/Fall admission OR
 September 1 for Spring admission
 See Admission Requirement Details Below

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 (please use the CMU designator code #1106 when having your GRE scores sent to the university);
- 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]).

The GRE assesses verbal reasoning, quantitative reasoning, and analytical writing. Testing centers, test dates and seating availability can be found here: <https://mygre.ets.org/greweb/action/RegPortal>. When selecting a test date, make sure your scores will be reported in time for your application deadlines of February 1st or September 1st (use 1106 as your institution code). For computer-delivered tests, scores reports are sent to your designated score recipients approximately 10–15 days after your test date, but can take up to six weeks for paper-based scoring. CMU must receive the official score report from the testing company, rather than from the applicant.

The written statement should consist of a 2-3 page APA formatted essay detailing the following: (1) an explanation of why the applicant wants to enter the Counseling program/profession, (2) what skills the applicant possesses that would make the applicant successful in the graduate program in Counseling, and (3) how the Counseling program is congruent with the applicant's career goals.

Two letters of recommendation are required for your application. One should be a professional reference from an academic instructor, current/past supervisor, colleague etc. The second should be a personal reference from a mentor, advisor, volunteer manager, etc. Letters must include an original signature. Letters written from family members or friends are not acceptable. For more information, visit www.cse.cmich.edu.

The applicant's cumulative undergraduate grade point average (GPA) (2.7 minimum), 2 letters of recommendation, written statement of purpose and general plans for graduate study, and GRE score all are considered in determining admission. Students who have below a 2.7 minimum undergraduate GPA are still encouraged to apply and will receive consideration. 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.

If an applicant has met all of the requirements and is invited on campus for the interview process by department faculty, the applicant will participate in a ½ day in-person interview on the main campus in Mount Pleasant, MI. Attendance at the interview is mandatory and the dates of the interview will be made available in advance for you to make accommodations to be there.

Upon successful completion of the initial screening process and in-person interview, the applicant will be recommended for admission. This decision will be sent to Graduate Studies and if approved, the applicant will be admitted 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 a petition for reclassification (available through the College of Graduate Studies), which will be reviewed by the Counselor Education faculty, using established department criteria to determine the student's suitability for regular admission.

Program Requirements

The Addiction Counseling, Clinical Mental Health Counseling, and School Counseling concentrations require each candidate to successfully complete a minimum of 60 credit hours. 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 concentrations:

Counseling: Addiction Counseling Concentration

This concentration prepares students interested in qualifying for licensure as a Professional Counselor (LPC) in Michigan and who wish to work in the addiction field. Potential work settings would include: community-based social service agencies, institutions of higher education, criminal justice institutions, counseling personnel in public and private schools, and private practice.

Core Courses (36 hours)

CED 610 - Career Counseling 3(3-0)
 CED 620 - Introduction to Multicultural Issues in Counseling 3(3-0)
 CED 630 - Ethics & 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 665 - Personal and Professional Development Across the Lifespan 3(3-0)
 CED 677 - Counseling Theories 3(3-0)
 CED 690 - Counseling Practicum 1-6(Spec)
 CED 695 - Research in Counseling 3(3-0)
 CED 699 - Diagnosis & Treatment Planning in Counseling 3(3-0)

Additional Requirements (12 hours)

CED 641 - Introduction to Counseling for Addictions 3(3-0)
 CED 642 - Neuropsychopharmacology 3(3-0)
 CED 643 - Etiology of Addiction 3(3-0)
 CED 644 - Addiction Oriented Systems and Methods of Care 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 60.

Plan B Requirement (6 hours)

Satisfied by CED 691 (6 hours) and Comprehensive Examination.

CED 691 - Internship 1-6(Spec)

Total: 60 semester hours

Counseling: Clinical Mental Health Counseling Concentration

This concentration prepares students interested in qualifying for licensure as a Professional Counselor (LPC) in Michigan. Potential work settings would include: community-based social service agencies, institutions of higher education, counseling personnel in public and private schools, and private practice.

Core Courses (36 hours)

CED 610 - Career Counseling 3(3-0)
 CED 620 - Introduction to Multicultural Issues in Counseling 3(3-0)
 CED 630 - Ethics & 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 665 - Personal and Professional Development Across the Lifespan 3(3-0)

CED 677 - Counseling Theories 3(3-0)
 CED 690 - Counseling Practicum 1-6(Spec)
 CED 695 - Research in Counseling 3(3-0)
 CED 699 - Diagnosis & Treatment Planning in Counseling 3(3-0)

Additional Requirements (12 hours)

CED 603 - Introduction to Clinical Mental Health Counseling 3(3-0)
 CED 641 - Introduction to Counseling for Addictions 3(3-0)
 CED 679 - Crisis and Trauma Counseling 3(3-0)
 CED 686 - Psychopathology 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 60.

Plan B Requirement (6 hours)

Satisfied by CED 691 (6 hours) and Comprehensive Examination.

CED 691 - Internship 1-6(Spec)

Total: 60 semester hours

Counseling: School Counseling Concentration

This concentration is designed for students who are interested in a school counseling endorsement or school counseling licensure. Students with a valid Michigan teaching certificate may seek a school counseling endorsement on their teaching certificate. Upon completion of the degree program, these students may apply through CMU's EHS Center for Student Services to add a counseling endorsement to their teaching certificate. Students who do not have a valid Michigan teaching certificate may apply for school counseling licensure through CMU's EHS Center for Student Services upon completion of the degree program. In addition, graduates will meet the academic requirements for licensure as a Professional Counselor (LPC) in Michigan.

Core Courses (36 hours)

CED 610 - Career Counseling 3(3-0)
 CED 620 - Introduction to Multicultural Issues in Counseling 3(3-0)
 CED 630 - Ethics & 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 665 - Personal and Professional Development Across the Lifespan 3(3-0)
 CED 677 - Counseling Theories 3(3-0)
 CED 690 - Counseling Practicum 1-6(Spec)
 CED 695 - Research in Counseling 3(3-0)
 CED 699 - Diagnosis & Treatment Planning in Counseling 3(3-0)

Additional Requirements (12 hours)

CED 604 - Introduction to School Counseling 3(3-0)
 CED 615 - Postsecondary Planning for School Counselors 3(3-0)
 CED 645 - School Counseling Seminar 3(3-0)
 CED 651 - Counseling Children and Adolescents 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 60.

Plan B Requirement (6 hours)

Satisfied by CED 691 (6 hours) and Comprehensive Examination.

CED 691 - Internship 1-6(Spec)

Total: 60 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 550WI - Teaching Diverse Students in Educational Settings 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 and Historical Trends in Special Education 3(3-0)

SPE 679 - Behavioral and Curricular Interventions for Individuals with Mild Disabilities 3(3-0)

SPE 695 - Research for 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 - Special Education Graduate Capstone 3(3-0)

AND

Comprehensive Examination

Total: 33 semester hours

Additional Endorsements in Special Education

For specific details and requirements, please visit the Counseling and Special Education webpage at: www.cse.cmich.edu.

Autism Spectrum Disorder

Learning Disabilities

Department of Earth and Atmospheric Sciences

College of Science and Engineering

Dr. Lawrence Lemke, Chair

314 Brooks Hall, 989-774-3179

https://www.cmich.edu/colleges/cst/earth_atmos/Pages/default.aspx

Martin Baxter, Ph.D., Synoptic Meteorology

Anthony Chappaz, Ph.D., Geochemistry/Water Chemistry

Daria Kløver, 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

Dr. Gregory Falls, Chair

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 cog-nate 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

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.

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

Graduate Certificate in College Teaching**Minimum Totals for Graduation: 15 hours**

Note: This program is offered through Global Campus only.

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, and the professoriate. Students enrolled in the Graduate Certificate in College Teaching will take 15 credit hours, selected with their advisor from the courses listed below.

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 resumé 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.

Individuals interested in teaching and in post-secondary education settings should know that to be eligible to teach at a community college, they must first earn a master's degree in an academic discipline and have completed a minimum of 18 graduate credit hours in each discipline that they hope to teach. Individuals hoping to teach at a four-year institution typically must earn at least a master's degree to teach undergraduate students and a doctoral degree to teach graduate students. In addition, some professional programs at a four-year institution require 18 graduate credit hours in the academic discipline. This Graduate Certificate in College Teaching is not a substitute for any of the above noted educational requirements.

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

Note: This program is offered through Global Campus only.

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 Council for the Accreditation of Educator Preparation (CAEP).

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.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.

- Applicants must meet the requirements for admission to Graduate Studies.
- Regular admission in the program requires an undergraduate grade point average of at least 3.0 (on a 4-point scale).
- 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;
 - 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;
 - 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
 - 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.
- 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 656 - 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: Rural Education Leadership (6 hours)

EDL 620 - Administration Within Diverse Populations 3(3-0)

EDL 669 - Rural School Leadership 3(3-0)

Emphasis Area: Special Education Supervisor (12 hours)

EDL 663 - Human Resources Administration 3(3-0)

SPE 640/EDL 675 - Administration of 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)

Note: You may only count one of SPE 640 or EDL 675, not both.

Professional Portfolio

Students are required to complete a Professional Portfolio that consists of evidence of significant scholarship and ability relating to competence in administration and leadership. The portfolio is developed and maintained by the student during the graduate educational experience. Portfolios should include evidence of his or her competence in the standard of the Educational Leadership Constituents Council (ELCC) standards.

The portfolio is composed of the student's resume and professional platform.

- Resumé - Detailed educational and professional experiences.
- Professional Platform - A series of personal statements that provide performance-based evidence that demonstrates mastery of the knowledge and skills required for effective leadership (ELCC, 2011). The platform provides the foundation that guides the student's thinking and decisions he or she makes about educational leadership issues and speaks to the performance outcomes necessary to effectively lead an organization.
- Supporting Documents - The portfolio also includes relevant documents that the student has created throughout his or her graduate experience that support the professional platform and serve as key

(Continued)

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.

School of Engineering and Technology

College of Science and Engineering

Dr. Terrance Lerch, Director

100 ET Building, 989-774-3033

https://www.cmich.edu/colleges/cst/engi_tech/Pages/default.aspx

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

ADMISSION REQUIREMENT SNAPSHOT

GPA: 3.3

Entrance Exam: GRE

See Admission Requirement Details Below

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:

- Accepting only students with:
 - 3.3 GPA (conditional admission between GPA 3.0 and 3.3) and 720/156+ GRE Quantitative for minimum admission
 - 563/223/84+ TOEFL for international students
 - Strong reference letters and statement of purpose by applicants
- 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, and 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:

- Students must select courses in consultation with an engineering advisor.
- Students may not take courses required for this degree Credit/No Credit (except the EGR 798 course).
- At least 24 credits must be taken at CMU to graduate with this degree .
- If a student does not continue to 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.
- 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)
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

Dr. Nicole Sparling, Chair

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

Steven Bailey, Ph.D., Rhetoric and Technical Communication, Director of Composition

Jeffrey Bean, M.F.A., Creative Writing and Poetry

Ari Berk, Ph.D., Myth, Folklore, Native American Literature

Carlin Borsheim-Black, Ph.D., Curriculum, Instruction, and Teacher Education

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

Desmond Harding, Ph.D., British Literature

Cathy Hicks-Kennard, Ph.D., Linguistics

Melinda Kreth, 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

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 Designer:

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, 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 6 hours from other departments may be included.

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

ADMISSION REQUIREMENT SNAPSHOT

GPA: 3.0 (and 3.0 in major) Entrance Exam: N/A
 Internat'l 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. 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 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

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

ADMISSION REQUIREMENT SNAPSHOT

GPA: 3.0 (and 3.0 in major) Entrance Exam: N/A
Internat'l 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.

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
Internat'l 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 - Young Adult Literature 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 TESOL Teaching English to Speakers of Other Languages

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
 Internat'l Application Deadline: July 1 (Fall), Oct. 1 (Spring)
 See Admission Requirement Details Below

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)

Total: 30 semester hours

Note: Students must pass a comprehensive examination. A Plan B paper is required

Department of Entrepreneurship

College of Business Administration

Dr. Jeff Thomas, Chair

Grawn 170; 989-774-3270

Joseph Affholter, Ph.D.

Deborah Gray, Ph.D.

Mark Potts, J.D.

Spenser Robinson, D.B.A.

Jeff Thomas, J.D.

Course Designator:

ENT - Entrepreneurship

Master of Entrepreneurial Transactions (M.E.T.)

Minimum Totals for Graduation: 36 hours

Note: This program is only offered online at this time.

The Master of Entrepreneurial Transactions program prepares students to add value to high growth ventures. Students will learn how to: organize and finance new ventures; form and motivate entrepreneurial teams; identify and protect inventions, brands and other forms of intellectual property; manage growth and risks; and harvest economic gains (e.g., by selling what they helped build).

This program is ideal for students who would like to launch their own venture while earning a relevant and rigorous Master degree. Full-time students should be able to complete the program in one year. Candidates may include recent college graduates as well as professionals who would like to give their entrepreneurial dreams a shot while mastering complex transactions that involve entrepreneurship, law and finance.

Upon graduation, many students will likely continue to run and grow the ventures they launched during their studies. However, some graduates may pursue roles at other emerging ventures, careers in entrepreneurial finance, or positions at traditional firms that value the transferable knowledge and skills that will be acquired.

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

Candidates must meet the requirements for admission to Graduate Studies. Candidates must also submit a 1-page Summary of Entrepreneurial Goals directly to the Entrepreneurship Department. The Summary of Entrepreneurial Goals should describe why the candidate is interested in the Master of Entrepreneurial Transactions program.

Required Courses (36 hours)

ENT 600 - Business Foundations for Entrepreneurs 3(3-0)

ENT 605 - Foundations of Entrepreneurship 3(3-0)

ENT 620 - New Venture Formation & Governance 3(3-0)

ENT 625 - New Venture Hires, Filings & Reports 3(3-0)

ENT 630 - Seed Financings & Securities Regulation 3(3-0)

ENT 640 - Intellectual Property for Entrepreneurs 3(3-0)

ENT 650 - Crowdfunding 3(3-0)

ENT 660 - Technology for Entrepreneurs 3(3-0)

ENT 670 - Venture Capital 3(3-0)

ENT 680 - Growth & Risks at Emerging Ventures 3(3-0)

ENT 690 - Entrepreneurial Acquisitions & Exits 3(3-0)

ENT 695 - Entrepreneurial Transactions Capstone 3(3-0)

Total: 36 semester hours

Department of Finance and Law

College of Business Administration

Dr. Nancy White, Chair

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

Adam Epstein, J.D., Law and Public Policy

James Felton, Ph.D., Finance

John B. Mitchell, D.B.A., 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 Geography & Environmental Studies

College of Science and Engineering

Dr. Mark Francek, Chair

296B Dow Science

989-774-2798

<https://www.cmich.edu/colleges/cst/geography/Pages/default.aspx>

Brian Becker, Ph.D., Director, M.S.GISci; Director, Environmental Studies Program, GIS and Remote Sensing, 989-774-1529

Marcello Graziano, Ph.D, Economic Geography

Benjamin Heumann, Ph.D., Director, Center for Geographic Information Science

Stacey Kerr, Ph.D, Human Geography

Bin Li, Ph.D., Geographic Information Systems

Matt Liesch, Ph.D Cultural/Human, Human Environmental Interactions

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 Geographic Information Science graduate program provides students with high quality training in a cutting edge field combining geography, information science, statistics, remote sensing and environmental studies. The wide diversity of faculty expertise in the program enables students to pursue their own research interests by applying geospatial technologies (e.g. GIS, spatial statistics, cartography, unmanned aerial systems remote sensing) to surface hydrology, atmospheric processes, cultural and natural resource management, demography, historical change, location analysis, transportation/land use planning and regional economics. Program graduates are highly competitive in the job market; and most past graduates obtained high quality jobs upon graduation or continued on to pursue a Ph.D.

The M.S. in GISci is a program available either through a Plan A option (thesis) or Plan B option (non-thesis). The Plan A option requires students to propose, complete, and defend an MS Thesis; while Plan B requires students to propose, complete and defend a research project and complete an additional course. For both options, a total of 33 graduate credit hours are required to graduate, of which 15 credits have to be earned from courses at the 600 level or above. More detailed information is available in the Department office.

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

ADMISSION REQUIREMENT SNAPSHOT

GPA: 3.0 (and 3.25 in major) *Entrance Exam: GRE*

Application Deadline: March 15 (Fall), Oct. 15 (Spring)

See Admission Requirement Details Below

To receive full consideration for financial support beginning in a fall semester, all application materials must be received in the Department of Geography & Environmental Studies no later than March 15/Oct 15. Applicants should allow approximately one month for materials submitted to the Office of Research and Graduate Studies to be processed and forwarded to the department. Details regarding the application process and the program may be found at <https://www.cmich.edu/colleges/cst/Geography/Pages/Graduate-Programs.aspx>.

Students entering the M.S. GISci program are required to have a sound knowledge of the fundamental concepts of cartography, GIS, Health Sciences and remote sensing. It is also expected that M.S. GISci students have a basic knowledge of a computer language and statistics as these are skills necessary to understand, manipulate, and develop the analytical methods and algorithms that are the foundations of advance 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: 180) with minimum grade of B.

Mathematics and Statistics

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 (3.0/4.0) 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 - Applications of 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 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 toward 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 toward 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

Dr. Jeffery Betts, Chair

2219 Health Professions Building, 989-774-3541

Steven Berkshire, Ed.D., Division Director, Health Administration, and Program Director, DHA Program

Jeffery Betts, Ph.D., Exercise & Health Sciences

Andrea Bombak, Ph.D., Community Health

Jodi Brookins-Fisher, Ph.D., Division Director, Community Health

Mark Cwiek, J.D., Health Administration

Nailya DeLellis, Ph.D., Health Administration

Jeffrey E. Edwards, Ph.D., Division Director of Exercise and Health Sciences

Salma Haidar, Ph.D., Community Health

Roger Hammer, Ph.D., Exercise & Health Sciences

Jeff Inungu, M.D., Dr.P.H., Program Director, Master of Public Health

Lana Ivanitskaya, Ph.D., Health Administration

Shayesteh Jahanfar, Ph.D., Community Health Sciences

Roop Jayaraman, Ph.D., Exercise & Health Sciences

James Johnson, Ph.D., Health Administration

Bernard Kerr, Ed.D., Director, Master of Health Administration

Tina Lewis Kopka, Ph.D., Health Administration

Karen Lomond, Ph.D., Program Director, M.S. in Exercise Physiology

Mark Minelli, Ph.D., Community Health

Rachael Nelson, Ph.D., Exercise & Health Sciences

Albert Nowak, Jr., MPA, Internship Coordinator, Health Administration

Paul O'Connor, Ph.D., Exercise & Health Sciences

William Saltarelli, Ph.D., Exercise & Health Sciences

Naveen Sharma, Ph.D., Exercise & Health Sciences

Frank Snyder, Ph.D., Community Health

Asa Wilson, Ph.D., D.H.A., Health Administration

Dimitrios Zikos, Ph.D., 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

Master of Science (M.S.) in Exercise Physiology

Minimum Totals for Graduation: 30 hours

The Exercise Physiology degree program is designed to prepare students for several professional avenues. Health and Fitness practitioners will work in environments such as fitness facilities and community organizations. Strength and conditioning specialists work with athletes for performance enhancement on professional, intercollegiate, or secondary school athletic programs. Clinical physiologists offer medically supervised exercise programs for populations with morbidities such as cardiovascular or pulmonary. Graduates have also gone on to pursue terminal doctoral degrees in the exercise sciences and other students have used the master's program as a launching point for admission into post-graduate allied health professions such as physician assistant, physical therapists, and medical school.

The Graduate Exercise Physiology degree program takes about two years to complete. Each student in the program is required to complete a minimum of 30 graduate credit hours, which include:

- required core (9 hours)
- required courses (9 hours)
- elective courses (6-9 hours)
- one of two capstone research experiences, Plan A or Plan B.

(Continued)

Credit hours in the electives vary depending on whether a Plan A thesis (6 credits) or Plan B research study (3 credits) is selected.

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

Admission Requirement Snapshot

GPA: 3.0 Entrance Exam: GRE
Application Deadlines: Apr. 1 (Fall), Aug. 1 (Spring), Feb. 1 (Summer)
See Admission Requirement Details Below

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. Applicants must have a minimum undergraduate overall grade point average of 3.0. Applicants who possess an undergraduate GPA less than 3.0 may be considered for conditional admission.
2. Applicants must have completed at least one course in exercise physiology (CMU equivalent: HSC 308).
3. Applicants must submit general Graduate Record Exam (GRE) scores.
4. International applicants whose native language is not English must demonstrate their English language competency using one of the methods outlined by the College of Graduate Studies (<https://www.cmich.edu/colleges/ehs/program/nutr/Pages/TOEFL-English-Requirements.aspx>).
5. Applicants must submit an application, submit transcripts, from all academic programs attended, and submit two reference letters.

Retention Requirements:

1. Students must achieve a 3.00 GPA to graduate and may not have more than two C or C+ grades in required classes to graduate.
2. Students who may be admitted conditionally must demonstrate during the first semester that 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 classes 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.

Required Core (9 hours)

HSC 632 - Cardiopulmonary Exercise Physiology 3(3-0)

HSC 633 - Neuromuscular Physiology of Exercise 3(3-0)

HSC 634 - Experimental Design in Exercise Science 3(3-0)

Required Courses (9 hours)

HSC 635 - Biomechanics of the Musculoskeletal System 3(3-0)

HSC 637 - Advanced Exercise Physiology 3(2-2)

HSC 638 - Endocrine and Metabolic Responses to Exercise 3(3-0)

Research Requirements (3-6 hours)

Select either Plan A (Thesis) or Plan B (Directed Research):

Plan A Thesis (6 hours)

HSC 798 - Thesis 1-6(Spec)

Plan B Directed Research (3 hours)

HSC 797 - Directed Research in Exercise Physiology 1-6(Spec)

Electives (6-9 hours)

Select hours in consultation with an advisor. A student must have a minimum grade of C in each elective course.

Total: 30 semester hours

Master of Public Health (M.P.H.)

Minimum Totals for Graduation: 48 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, biostatistics, environmental health, rural health, public health leadership, program planning and 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. While the program is not yet CEPH accredited, the curriculum is designed to meet the standards of the accrediting body. The intent is to attain CEPH accreditation.

The MPH degree is part of the continuum of health sciences and community health education offered at Central Michigan University; this includes undergraduate majors in Public Health and Environmental Health. All students in the program must complete a culminating experience. There are two options for doing so, depending on previous experience of students.

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

ADMISSION REQUIREMENT SNAPSHOT

GPA: 3.0 Entrance Exam: GRE, GMAT, or MCAT
International Deadline: July 1 (Fall), Oct. 1 (Spring)
See Admission Requirement Details Below

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. Bachelor degree from an accredited institution of higher learning. Students must provide official documents including official transcripts of classes completed. Students who have graduated from a Council for Education of Public Health (CEPH) certified program will have priority consideration for admission.
2. A GPA of 3.0 on a 4.0 scale 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:
 - Educational experience;
 - Professional goals and objectives;
 - Work history;
 - Professional experiences, memberships, and participation in professional activities.
4. Personal statement (1-2 pages) that conveys the applicant's reasons for pursuing a graduate degree in public health; and how admission to the CMU program relates to the applicant's professional aspirations.
5. Two letters of reference that can attest to the applicant's ability and likelihood of success in a graduate program.
6. Submit GRE, GMAT, or MCAT examination scores.
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, biology, and 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, IELTS, or other English proficiency exam is required if a graduate is from a non-English speaking country. Applicants must be able to study and communicate in English, and achieve the minimum score required by the CMU College of Graduate Studies.

Students who take the IELTS exam must achieve a minimum IELTS overall score of 5.5 for conditional admission or 6.5 or higher for regular admission. Students who take the TOEFL exam must achieve an 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. Applicants 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 cumulative 3.00 GPA and a B or better in all program courses to graduate.
2. Students who may be admitted conditionally must demonstrate during the first semester that they can achieve a 3.00 GPA.
3. Students who do not maintain a 3.00 GPA will be placed on academic probation. Continued academic probation in multiple terms will result in dismissal from 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 MPH courses are sequenced to start in each fall semester of the academic calendar. Students admitted in the spring program should take courses that might not have stringent prerequisites or with the permission of the instructor. 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.

Foundational Courses (19 hours)

MPH 640 - Biostatistics in Public Health 4(3-1)
 MPH 642 - Health Education Theories 3(3-0)
 MPH 646 - Epidemiology for Public Health 3(3-0)
 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)

Required Courses (14 hours)

MPH 644 - Rural Health 3(3-0)
 MPH 654 - Public Health Leadership 3(3-0)
 MPH 655 - Program Planning and Evaluation 3(3-0)
 MPH 670 - Methods in Public Health Research 3(3-0)
 MPH 790 - Applied Practice Experience 2(Spec)

Required Culminating Experience (6 hours)

Select one of the following:
 MPH 796 - Integrative Learning Experience 1-6(Spec)
 MPH 798 - Thesis 1-6(Spec)

Public Health Practice Concentration (9 hours)

MPH 664 - Public Health Communication and Informatics 3(3-0)
 MPH 666 - Substance Abuse Services 3(3-0)
 MPH 667 - Maternal and Child Health 3(3-0)

Total: 48 semester hours

Master of Health Administration (M.H.A.)

Minimum Totals for Graduation: 51 hours

Note: This program is available through online or Global Campus locations only.

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 accredited by the Commission on Accreditation for Healthcare Management Education (CAHME), the curriculum is designed to meet the standards of this 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 may also be 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.

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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. Students must meet the accounting competency requirement before they may enroll in MSA 602, Financial Analysis, Planning and Control, a required course for this degree. Accounting competency may be achieved in any one of the following ways:
 - a. Successful completion (final grade of "C" or better) of CMU's ACC 201 or ACC 203 course
 - b. A transcript showing completion of an equivalent accounting course in the last seven (7) years
 - c. Achieving 70% or higher on CMU's accounting competency exam (only two attempts are permitted)
 - d. Demonstrating accounting proficiency through experience (submit an accounting experience summary).
9. 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 9 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 9 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 6 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)

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)
 MGT 643 - Human Resource Management 3(3-0)

MHA 601 - Statistics for Health Professionals 3(3-0)
 MHA 602 - Managerial Epidemiology 3(3-0)
 MHA 603 - Health Informatics and Quality Improvement 3(3-0)
 MHA 604 - Quantitative Decision-Making for Health Administration 3(3-0)
 MHA 605 - International Health Systems, Policy and 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)

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 curricular 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 this program cannot be granted prior experience credit toward semester credit hour degree requirements. 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 regionally 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 begin on the dissertation in the third year after the passing the comprehensive examination. Those choosing the five-year option will normally enroll in one (1) course per term and generally begin the dissertation in the fourth year after passing the comprehensive examination.

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 programming, 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.

Retention and Graduation Requirements:

Students must maintain a 3.00 GPA for graduation with no more than two (2) grades of C or C+ in the required courses for the degree. Students are only allowed to repeat a course twice to earn a higher grade. Students must pass the comprehensive examination in order to declare candidacy for the degree. A student may not register for dissertation credits until they have declared candidacy. Students may only repeat the comprehensive examination twice.

Required Courses I (24 hours)

- DHA 700 - Leadership Strategies for Healthcare Policy and Organizations 3(3-0)
- DHA 702 - Probability and Statistics for the Health Professions 3(3-0)
- DHA 704 - Population Health 3(3-0)
- DHA 705 - Seminar in Public Health 1(1-0)
- DHA 706 - Quantitative Analysis in Health Organization 3(3-0)
- DHA 708 - Organizational Theory and Behavior for the Health Professions 3(3-0)
- DHA 709 - Seminar in Health Dynamics: Current Issues, Trends and Change 1(1-0)
- DHA 710 - Qualitative Analysis in Healthcare 3(3-0)
- DHA 712 - Research Methods and Practice for the Health Professions 3(3-0)
- DHA 713 - Seminar in Health Services Research 1(1-0)

Required Courses II (27 hours)

- DHA 714 - Health Systems Thinking and Practice 3(3-0)
- DHA 716 - Communication in Health Organizations 3(3-0)
- DHA 717 - Seminar in Healthcare Dynamics: Stakeholder Relations 1(1-0)
- DHA 718 - Healthcare Law, Regulations and Ethics 3(3-0)
- DHA 720 - Health Economics 3(3-0)
- DHA 721 - Seminar in Healthcare Policy and Politics 1(1-0)
- DHA 722 - Health Informatics 3(3-0)
- DHA 724 - Fiscal Responsibility and Accountability for Health Entities 3(3-0)
- DHA 725 - Seminar in Strategic Planning for Health Organizations 1(1-0)
- DHA 726 - Applied Leadership 3(3-0)
- DHA 728 - Comparative Health Systems 3(3-0)

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.

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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)
SOC 506/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

Dr. Gregory Smith, Chair

Powers Hall 111A, 989-774-3374

Michelle Cassidy, Ph.D., American Indian history, 19th century United States

Jennifer Liu Demas, Ph.D. East Asian history

Lane Demas, Ph.D., African American history

Kathleen Donohue, Ph.D., United States political and cultural history

Carrie Euler, Ph.D., late medieval and early modern Europe

Solomon Getahun, Ph.D., sub-Saharan Africa

Mitchell Hall, Ph.D., recent U.S.

Doina Harsanyi, Ph.D., European history, France

Eric Johnson, Ph.D., modern Europe

Jay Martin, museum studies, public history

Tara McCarthy, Ph.D., U.S. women and gender post 1870

Timothy O'Neil, Ph.D., modern Europe

John Robertson, Ph.D., Ancient Near East and Egypt, Islamic and Modern Middle East

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

Andrew Wehrman, Ph.D., U.S. colonial 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 Friedrich Schiller University, Jena, Germany; Newcastle University, Newcastle-upon-Tyne, United Kingdom; 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: 3.0 (and 3.0 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 3.0 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.

Retention Standards

Maintenance of a GPA average of 3.0 or higher.

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 6 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.

Plan B - Seminars

Either (1) two seminars or (2) one seminar and 3 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 approval of a CMU history professor.
2. Six (6) hours of history coursework completed with at least a 3.00 GPA in those courses and a 3.00 overall GPA.

Retention Standards:

1. Maintenance of a 3.0 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(3-0)
- HST 717 - Seminar in the History of Twentieth Century America 3-6(3-0)
- HST 723 - Seminar in American Diplomatic History 3(3-0)

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.

Overview

This degree requires two years of study: one year at Central Michigan University and one year of post-baccalaureate study in history at a partner institution. It serves two distinct groups of students:

1. Partner Students. Students coming to CMU from partner institutions as part of a graduate exchange agreement with the Department of History ("partner students") must apply for and enroll in the Joint MA as their primary CMU degree program.
2. Joint PhD Students. Students who apply for the Joint PhD program in history are automatically enrolled in the Joint MA, whose requirements comprise the first two years of study in the Joint PhD. With the exception of partner students as defined above, students may not apply directly for admission to the Joint MA, although they are eligible to receive the degree after completing its requirements as part of the Joint PhD program.

While both groups of students have the same degree requirements, distinct admissions criteria and transfer policies apply to each group as detailed below.

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

General Admission Requirement Snapshot (all students)	
GPA: 3.3	Entrance Exam: GRE
Application Deadline: Jan. 3 (Fall)	
See Admission Requirement Details Below	

1. Bachelor's degree or equivalent with at least 20 hours of history or related courses with a GPA of 3.3 or higher.
2. GRE (for native English-speakers); GRE or TOEFL (for non-native English-speakers). GRE subject-area tests in history are not required.

2. All language requirements.
3. Oral and written comprehensive examinations in multiple fields of History.
4. Approval of dissertation prospectus by the Department of History and Graduate Student Services.

Retention Expectations and Requirements:

Students are expected to meet the following requirements to continue in the program. Exceptional cases will be reviewed by the Department of History.

1. Students must maintain at least a 3.5 GPA (or its equivalent at foreign institutions).
2. All requirements for the Joint M.A. must be completed by the beginning of the third year. Incomplete grades will not be accepted for credit toward these requirements.
3. Students should plan to achieve doctoral candidacy as early as possible during or before the third year, and must achieve doctoral candidacy by the end of the third year.

Degree Requirements

A minimum of 72 hours of post-BA coursework in history or cognate fields is required for this degree.

Part I: Joint MA Requirements (36 hours)

With the exception of students who have already earned a Joint MA in history from CMU, all students are automatically enrolled in the Joint MA upon matriculation in the Joint PhD and must complete all degree requirements for the Joint MA during their first two years in the program. This means that:

1. The degree requirements for the first two years in the Joint PhD are identical to the requirements for the Joint MA.
2. Joint PhD students are eligible to receive the Joint MA after completing these requirements, enroute to completing their doctoral degree.

See Joint MA degree requirements for details.

Part II: Doctoral Requirements (36 hours)

Doctoral Courses and Credits

In addition to completing all requirements for the Joint MA, students must complete a minimum of 36 hours of additional coursework in support of required examinations and the doctoral dissertation. Since previous preparation for examinations and the dissertation will vary substantially from student to student, students and advisors will select coursework from a combination of the following courses and categories, subject to stated minimum and/or maximum hours and the overall minimum of 36 hours.

HST 890 - Doctoral Readings 1-9(Spec)

Up to 9 hours in preparation for comprehensive examinations.

HST 898 - Dissertation 1-36(Spec)

12-36 hours for dissertation preparation, research, and writing. A maximum 3 hours of HST 890 may be taken before achieving doctoral candidacy for the purpose of developing the dissertation prospectus.

Other Comprehensive Examination electives. Up to 9 hours of relevant graduate history colloquia or other courses in addition to or instead of HST 890, in preparation for comprehensive examinations.

Research language electives. Up to 9 hours (equivalent) of intensive language coursework, if demonstrably required for dissertation research. Credit may be applied to the student's record in lieu of up to 9 hours of elective dissertation credit (HST 898).

Comprehensive Examinations

All students must pass oral and written examinations in multiple fields of history by the end of their third year in the program. Students ordinarily take these examinations after the Partner Year but may take them at any time before the end of the third year, subject to the approval of their advisor and examiners. 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 or comparative): e.g. Indigenous History; Colonialism; 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.*

Language Requirements

Candidates for the PhD in history must demonstrate either (a) reading knowledge of two languages other than English or (b) reading knowledge of one language other than English plus an appropriate research tool such as statistics. There are two exceptions to this rule:

1. Students whose only major field is United States history need to demonstrate reading knowledge of only one language other than English.
2. Students for whom English is not their first language need to demonstrate reading knowledge of one language other than English or an appropriate research tool such as statistics.

Completion of the language requirement is defined as reading proficiency at least at a level sufficient to conduct graduate-level research.

Completion of the language requirement may be fulfilled in one of the following ways:

1. An examination in which the candidate will translate with the aid of a dictionary, at least two passages totaling no less than 500 words within two hours.
2. An alternative approved by the Graduate Studies Committee.
3. Intensive language study abroad in a program approved by the department's Graduate Studies Committee.

Dissertation Standards and Policies

The Ph.D. from CMU requires completion of a doctoral dissertation that makes significant contribution to knowledge, contains a significant transnational or 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 residence will select a committee of two 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 two 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.

Previous Degrees and Transfer Credits

Students with a Joint MA from CMU

Students who have completed the Joint MA as part of an exchange agreement between the Department of History and a partner institution must apply in the usual way for admission to the Joint PhD; these applications will be evaluated using the same criteria as other applicants. If admitted to the Joint PhD program, however, students who already have a Joint MA need only complete degree requirements for the doctoral phase of the program (*see Degree Requirements, Part II: Doctoral Requirement*).

All Other Students

All other students admitted to the Joint PhD program may transfer up to 18 hours of graduate coursework toward the Joint MA phase of the degree. See the Joint MA for details on transfer policies.

Total: Part I (36 hours) + Part II (36 hours): 72 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

Dr. Tanya Domina, Chair

EHS 228; 989-774-3218

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

Usha Chowdhary, Ph.D., Textile Analysis, Functional and Socio-Cultural Aspects of Clothing

Kimberly Davis, Ph.D., Early Childhood Development and Learning

Tanya Domina, M.S., M.B.A., Design and Retailing Technologies

Jeffrey Fisher, Ph.D., C.E.C., Nutrition and Dietetics

Cheryl Geishardt, Ph.D. Human Development and Family Studies

Megan Goodwin, Ph.D., Child Development

Mikiyasu Hakoyama, Ph.D., Human Development & Family Studies

Roschelle Heuberger, Ph.D., R.D., Human Nutrition

Leslie Hildebrandt, Ph.D., R.D., Human Nutrition

Holly Hoffman, Ph.D., Child Development

Ann Jay, M.S., R.D., F.A.D.A., Human Nutrition and Dietetics

Rawia Khasawneh, Ph.D., R.D., 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

Linda Traum, Ph.D., Early Childhood Development and Learning

Najat Yehia, Ph.D., Nutrition

Ling Zhang, Ph.D., Sustainable Creative Design, Design Theory, Design Process Model

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

Minimum Totals for Graduation: 30-36 hours

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..

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

ADMISSION REQUIREMENT SNAPSHOT

GPA: 3.0 (in the last 60 hours undergraduate course work)

Entrance Exam: N/A

Application Deadline: March 1 (Fall Admission)

August 1 (Spring Admission)

See Admission Requirement Details Below

Note: Complete application materials must be received by the date indicated. Applicants interested in being considered for a graduate assistantship should apply for admission by the deadline. Late applications may not be considered for a graduate assistantship.

Students applying for the M.S. degree should have a minimum of 12 hours of undergraduate coursework in fashion merchandising and design or closely related area.

Students accepted for the M.S. program who lack supporting course work generally are required to make up these deficiencies by taking undergraduate course work in fashion merchandising and design. **Equivalent work experience in the field may be counted as supporting coursework toward minimum admission requirements.**

Admission to the graduate program in Apparel Product Development and Merchandising Technology includes meeting the following criteria:

1. Submission of the CMU application form for admission to the Graduate School, found at <https://apply.cmich.edu/>.
2. An earned baccalaureate degree from an accredited institution.
3. Three letters of recommendation, including two from faculty. If it is not possible to obtain faculty references, references should be from professionals who can address your capacity to succeed as a graduate student.
4. One official transcript (with institution's seal) sent directly from each institution attended.
5. A minimum grade point average of 3.0 on a 4.0 scale in the last 60 hours of undergraduate course work.
6. 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.
7. Non-refundable application fee.

Degree Requirements

Foundational Course (3 hours)

FMD 604 - Scholarship in Textiles and Clothing 3(3-0)

Plan Options

Note: In order to be eligible to apply for graduate assistantships, students must choose Plan A option.

Select from the following options:

Plan A - Thesis/Creative Scholarship (27 hours)

- 6 hours of graduate courses related to Research Methods and/or Statistics.
- 12 hours of FMD graduate level courses
- 3 hours of supporting courses outside FMD
- Select one of the following for 6 hours:
 - FMD 796 - Creative Scholarship 1-6(Spec)
 - FMD 798 - Thesis 1-6(Spec)

Plan B - Internship (33 hours)

- 15 hours of FMD graduate level courses
- 12 hours of supporting courses outside of FMD
- 6 hours of the following:
 - FMD 635 - Advanced Internship in Textiles & Apparel 1-6(Spec)

Plan C - Course Work (33 hours)

- 18 hours of FMD graduate level courses
- 15 hours of supporting courses outside FMD

Plus written and oral examination over course work administered by the student's advisor and committee members.

The comprehensive exam will be designed to measure outcomes related to the student's program rather than outcomes which are limited to particular courses. The component, format and time set for the comprehensive examination will be determined by the major advisor in consultation with other faculty on the student's committee. The exam may require the student to answer a detailed question, write a research proposal on a particular topic, describe a process for developing a product, complete a case analysis, provide a critical review of a manuscript, or solve a particular problem. Students may use their course materials and other sources of information in answering the exam question.

The comprehensive examination will be administered during the fall (First full week of November) or spring semester (First full week of April) in which the student plans to complete the courses required on their program of study. Students are responsible for notifying their advisor during the first week of their final semester indicating their intent to take the comprehensive written examination that semester.

The faculty comprising the student's supervisory committee will have two weeks to review the exam responses. The student will be notified of the outcome shortly thereafter. An oral defense of the written exam may be scheduled if deemed necessary by the major professor or committee members. Plagiarism of any kind or other violations of academic integrity will result in failure of the exam and possible dismissal from the program. Students who do not receive a passing grade will retake the written exam the next semester.

Total: 30-36 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 Master's Degree Program are identical to those of the Master of Science in Apparel Product Development and Merchandising Technology, but allow the student to apply 12 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

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.

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 (Plan A Thesis Option)

Year Four (Fall)

- *FMD 604 (3)
- *One 500-level required on the APDMT program (3)
- 9 hours of undergraduate courses

Year Four (Spring)

- *Two 500-level 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 (6)
 - 9 hours of undergraduate courses

Year Five (Fall)

- One 600-level required on the APDMT program (3)
- Graduate course in Research Methods (3)
- FMD 798 Thesis (3)

Year Five (Spring)

- Graduate Course in Statistics (3)
- One Graduate Elective (3)
- FMD 798 Thesis (3)

*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.

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

ADMISSION REQUIREMENT SNAPSHOT

GPA: 3.0 (in the last 60 hours undergraduate course work)
 Entrance Exam: N/A
 Internat'l Application Deadline: July 1 (Fall), Oct. 1 (Spring)
 See Admission Requirement Details Below

1. An undergraduate grade point average of at least 3.0 (on a 4-point scale) in the last 60 semester hours of course work.
2. 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.
3. An essay (2-3 pages, double-spaced) including a discussion of the applicant's goals and how completion of the program will facilitate his or her achievement of those goals. A portion of this essay should focus upon the unique qualifications the student will bring to the degree program. In addition, the essay must include the student's choice of options (I, II, or III, see program course listing). Also the student will provide a generalized description of the subject matter of the thesis (Plan A) if Option I is chosen or for Options II or III a description of the significant scholarship (e.g. project, extensive paper) the student intends to perform to meet the requirements for Plan B. This essay replaces the written statement requested as part of the application to the Office of Research and Graduate Studies. This essay replaces the written statement requested as part of the application to the Office of Research and Graduate Studies.

(Continued)

4. Three (3) letters of recommendation from former professors or professionals in the field of nutrition and dietetics or other health-related professional.
5. Evidence of successful completion of an undergraduate statistics course is strongly recommended
6. Per University policy, conditional admission may be considered for applicants with backgrounds or grade point average deficiencies. Courses taken to make up admission deficiencies may not be counted toward graduate degree requirements. Regular admission status should be requested upon completion of all deficiencies.
7. Up to 15 semester hours of graduate credit may be transferred in from another institution with approval of advisor.
8. Up to a total of 15 credit hours can be applied to the MS in Nutrition and Dietetics Program through Credit by Examination or transfer of course credits from another accredited institution pending approval of coursework.
9. FNS 799 capstone coursework must be completed as the final course in the student's program and may not be taken if there is outstanding coursework, or in the same semester as other courses.

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(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 and Biostatistics 3(3-0)
 FNS 798 - Thesis in Nutrition and 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(Spec)
 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 and Biostatistics 3(3-0)
 FNS 790 - Independent Study in Dietetics 2-6(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 and Biostatistics 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: As of Spring, 2018, this program is on hiatus. No students will be admitted to this program. Contact the Department of Human Environmental Studies for more information.

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 and Biostatistics 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 Journalism

College of Communication and Fine Arts

Dr. Timothy Boudreau, Chair

454 Moore Hall, 989-774-3196

Sean Baker, Ph.D., Visual/Digital Communication, Research

Tim Boudreau, Ph.D., Press and Society, Research

Lori F. Brost, Ph.D., Press and Society, New Media, Electronic Media, Pop Culture, Research

Elina Erzikova, Ph.D., Public Relations, Research

Kenneth McDonald, B.A., Graphic Design, Visual Communication

Carol McGinnis, M.A., Advertising, Multimedia, Press and Society, Research

Kent Miller, M.A., Photojournalism

Richard Ren, Ph.D., Integrative Public Relations, Research

Edgar Simpson, Ph.D., Public Affairs Reporting, Research

Alice A. Tait, Ph.D., AHANA (African American, Hispanics, Asians, Native Americans)/Women and Mass Media, Mass Communication Theory and Research, Interpersonal and Public Communication

James Wojcik, M.A., Public Relations

Jiafei Yin, Ph.D., News Editorial, Media History and International Communications, Research

Course Designator:

JRN - Journalism

Graduate-level courses offered by the Department of Journalism may be appropriate as electives on various graduate degree curricula.

Department of Management

College of Business Administration

Dr. Luis Perez-Batres, Chair

200 Smith Hall, 989-774-3450

Mahmood S. Bahae, 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

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

Dr. Richard Divine, Chair

100 Smith Hall 989-774-3701

Concha Allen, Ph.D., Marketing/Professional Sales

Steven H. Dahlquist, 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

Dr. Thomas Gilsdorf, Chairperson

214 Pearce Hall, 989-774-3596

<https://www.cmich.edu/colleges/cst/math/Pages/default.aspx>

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. Dumitrescu, 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
Thomas Gilsdorf, Ph.D., Washington State University, functional analysis, ethnomathematics
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
Christ-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)

Entrance Exam: GRE Recommended

Internat'l 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 - Theory of Groups and Rings 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)

Perspectives in Math Requirement (3 hours)

Select one of the following:

MTH 673 - History of Advanced Mathematics 3(3-0)

MTH 761 - Methods for Teaching College Mathematics 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 graduate 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 course work, 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.

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 632:

MTH 525 - Modern Algebra II 3(3-0)

MTH 632 - Introduction to Real Analysis and Its Applications 3(3-0)

Note: MTH 525 and 632 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 - Theory of Groups and Rings 3(3-0)

Note: MTH 533 and 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)

MTH 698 - Plan B Project 1-2(Spec)

MTH 798 - Thesis 1-6(Spec)

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)

MTH 698 - Plan B Project 1-2(Spec)

MTH 798 - Thesis 1-6(Spec)

Year 5 - Summer (3 hours)

Computational Mathematics Requirement or Perspectives in Mathematics Requirement (3 hours)

(M.A. degree conferred)

Master of Science in Applied Statistics and Analytics

Minimum Totals for Graduation: 30 - 36 hours

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

ADMISSION REQUIREMENT SNAPSHOT

GPA: 3.0

Application Deadline: See page 26.

See Admission Requirement Details Below

Admission Requirements:

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 Graduate Studies at CMU. In addition, the

(Continued)

candidate must have completed a minimum of 12 semester hours of mathematics and/or statistics courses that include the following: MTH 133 (Calculus II) or the equivalent, one course in linear algebra, and one course in statistics or probability. A grade point average of 3.0 in mathematics and statistics course work is required.

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. The university policy provided by the Office of Research and Graduate Studies supersedes the program policy, if any conflict occurs.

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 686 - Big Data Analytics 3(3-0)

STA 691 - Advanced Data Mining Techniques 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 hours program (27 hours of coursework and 3 hours of Practicum/Internship).

1. Prior to the fourth year, students will complete the pre-requisite 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 Designs 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)

Year 5 - Spring (6 hours)

- Applied Statistics Track: Courses must include STA 678 (3 hours) and an elective (3 hours).
- Analytics Track: Courses must include ITC 686 (3 hours) and STA 691 (3 hours).
 STA 678 - Categorical Data and Survival Analysis 3(3-0)
 STA 691 - Advanced Data Mining Techniques 3(3-0)
 ITC 686 - Big Data Analytics 3(3-0)

Year 5 - Summer (3 hours)

- Both Applied Statistics and Analytics Tracks: STA 695 (3 hours)
 STA 695 - Practicum/Internship 3(Spec)

(M.S. degree conferred)

Graduate Certificate in Actuarial Science

Minimum Totals for Graduation: 15 - 16 hours

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: MTH 233 (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/statistics and conduct independent research effectively in their areas of expertise or (b) to prepare students with advanced knowledge and applications in mathematics/statistics to work effectively in non-academic environments.

- For students who are interested in teaching at universities, the program has a unique component of two courses on teaching pedagogy in addition to two semesters of teaching internships.
- For students who are interested in industrial jobs, the program has a component of professional internship to provide students work experience in a non-academic environment.
- For students who are interested in the Concentration in Mathematics, this concentration features choices for broad or in-depth coursework in different branches of pure and applied mathematics.
- For students who are interested in the Concentration in Collegiate Mathematics Education, in addition to the unique feature of teaching pedagogy and teaching internships, this concentration also includes coursework in the theory of learning and research methodology.
- For students who are interested in the Concentration in Statistics, this concentration consists of coursework covering a broad background of advanced knowledge and applications in Statistics.

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	
<i>See Admission Requirement Details Below</i>	

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 degrees 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 - Theory of Groups and Rings 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 Modules and Fields 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 520 - 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 3-9(Spec)
 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 Modules and Fields 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)

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 6 hours of internship of which at least 3 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.

MTH 766 - Internship: College Teaching 3-6(Spec)

MTH 795 - Advanced Practicum/Internship 3-6(Spec)

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

College of Medicine

Dr. George Kikano, Dean

CMED South; 989-774-7547; www.cmich.edu/med

Rachel Brown, Associate Dean, Student Affairs and Diversity & Inclusion Officer, MBBS, MPhil University of London, UK

Frederick Creighton, Assistant Dean/Clinical Operations, M.A., Central Michigan University

Dan Griffin, Assistant Dean, Foundational Science Education, Ph.D., University of Minnesota

George Kikano, Dean and Senior Associate Dean/Clinical Affairs, M.D., American University of Beirut

Marie Matte, Associate Dean/Compliance, Evaluation & Assessment, Ph.D., Capella University

Edward McKee, Senior Associate Dean/Research, Ph.D., Pennsylvania State University

Susan Parsons, Assistant Dean/Finance, B.A., Central Michigan University

Georgette Russell, Assistant Dean/Faculty & Staff Affairs, M.S., Colorado Technical University

Kurt Smith, Assistant Dean/Technology, B.S., Michigan Technological University

Vicki Stouffer, Assistant Dean, Development, MBA, University of Findlay

Tina Thompson, Senior Associate Dean, Academic Affairs, Ph.D., Texas Christian University

Steven Vance, Assistant Dean/Clinical Education; M.D., Michigan State University

Faculty

Faculty from the three disciplines (Foundational Sciences, Medical Disciplines and Surgical Disciplines) will be participating in instruction. Please see the College of Medicine website at www.cmich.edu/colleges/cmcd for a complete listing of faculty and additional information.

Course Designator:

MED - College of Medicine

Doctor of Medicine (M.D.)

Minimum Totals for Graduation: 235-241 hours

The Central Michigan University College of Medicine 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). The College of Medicine will take a holistic approach to admissions. We seek to admit students who have personal characteristics and interests that align with the college'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 and 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 740 - Neurosciences and Behavior: Wellness and Disease 10(Spec)

MED 750 - Musculoskeletal/Dermal: Wellness and Disease 8(Spec)

MED 760 - Gastrointestinal: Wellness and Disease 8(Spec)

MED 770 - Hematology/Oncology: Wellness and Disease 8(Spec)

MED 780 - SYNAPSE 6(Spec)

Required Core Clerkships - Years III and IV (80 hours)

To be taken in Year III only: (36 hours)

MED 800 - Comprehensive Community Clerkship 36(Spec)

May be taken in either Year III or IV: (30 hours)

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 850 - Clerkship: Pediatrics 6(Spec)

To be taken in Year IV only: (14 hours)

Select MED 930, plus one of MED 910 or 920, for a total of 14 hours:

MED 910 - Surgery Sub-Internship 8(Spec)

MED 920 - Internal Medicine Sub-Internship 8(Spec)

MED 930 - Clerkship: Emergency Medicine 6(Spec)

Elective Clerkships (36-42 hours)

Select one or combination of the following, to equal minimum of 24 weeks (36 hours):

To be taken in Year III only:

MED 797 - Special Topics: Medical Clerkship Elective 1-30(Spec)

To be taken in Year IV only:

MED 997 - Special Topics: Medical Clerkship Elective 1-42(Spec)

To be taken in Year IV only:

MED 999 - Capstone 6(Spec)

Total: 235-241 semester hours

Note: MED 600, 610, and 620 are to be delivered longitudinally across the first two years of the College of Medicine curriculum. Total credit hours indicated are for the entire 2-year course.

College of Medicine students are required to take a minimum of 24 weeks of electives. These courses/clerkships will be taken as MED 797 Special Topics or MED 997 Special Topics courses, one of which may be the 4-week MED 999 Capstone, and all must be approved by the College of Medicine Office of Curriculum.

Scholarships

The Fabiano Family Foundation Medical School Scholarship

Established in 2015 by the Fabiano Family Foundation. Income from the endowment will support a scholarship for a medical student with proven financial need from one of the following counties: Isabella, Saginaw, Midland, Bay, Genesee, Lapeer, Tuscola, Gratiot, Clare, Mecosta, Roscommon, Crawford, Otsego, Cheboygan, Emmet and Charlevoix. The applicant should have a stated purpose, written in an essay, as to why they are pursuing a primary care physician role and why they intend on staying in the Michigan area.

Flagg Medical School Endowed Scholarship

Support two scholarships. Student selection will be need based and recipients must be committed to practice Pediatrics or Family Medicine and be in good academic standing.

Founding Dean's College of Medicine Scholarship

Established in 2014 by Dr. Ernest and Wendy Yoder. Dr. Yoder was the Founding Dean of the CMU College of Medicine. The endowment will support a renewable award for a full-time student enrolled in the College of Medicine who is a resident of the rural Michigan area (defined as a town in Michigan with a population of less than 2,000 residents). A written essay is required that would express why the student has a proven financial need.

Rollin M. Gerstacker Endowed Medical Scholarship

Established in 2012 by the Rollin M. Gerstacker Foundation. Income from the endowment will support a full-time third or fourth year student enrolled in the College of Medicine in high academic standing. Applicant should have a demonstrated commitment to advancing the Central Michigan University College of Medicine's mission and value statements. 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. Kessler Family Medical Student Endowed Scholarship

Established in 2015 by Roger '58, '89 and Phyllis Kessler. 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 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/or 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 College 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 and Elizabeth 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.

Stark and Moreno Families Medical School Scholarship

Established in 2016 by Jim '75 and Naomi Stark. Income from the endowment will support a renewable award for a full-time student enrolled in the CMU College of Medicine and a resident of one of the following counties: Lenawee, Jackson or Isabella. Recipient must have expressed financial need which is evident through required essay.

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.

School of Music

College of Communication and Fine Arts

Dr. 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
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
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
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

ADMISSION REQUIREMENT SNAPSHOT	
GPA: 3.0	Entrance Exam: N/A
Internat'l 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:

Curriculum In Each Area	Hours Credit Applicable Toward Graduation	Maximum Hours
Master of Music	1-8	8
Master of Arts (Music concentration)	1-2	4

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.

Department of Philosophy and Religion

College of Humanities and Social & Behavioral Sciences

Dr. Guy M. Newland, Chair

288 Anspach 989-774-3793

James B. Coleman, Ph.D., Ethics

Gary Fuller, B.Lit., Philosophy of Mind

Hugh T. Halman, Ph.D., Islam

Roger D. Hatch, Ph.D., Religion and Society

Hope May, Ph.D., Ancient Philosophy

John Meixner, Ph.D., Philosophy of Science, Logic

Merlyn E. Mowrey, Ph.D., Ethics and Feminist Thought

Guy M. Newland, Ph.D., History of Religions, Tibetan Buddhism

Robert Noggle, Ph.D., Ethics

William W. Reader, Th.D., Biblical Studies, Greek

Mark Shelton, Ph.D., Ethics

David L. Smith, Ph.D., Modern Religious Thought

Greg Spinner, Ph.D., Judaism, History of Religions

Robert Stecker, Ph.D., Aesthetics

John Wright, Ph.D., History of Modern Philosophy 18th Century

Course Designators:

PHL - Philosophy

REL - Religion

Graduate-level courses offered by the Department of Philosophy & Religion may be appropriate as electives on various graduate degree curricula.

Department of Physical Education and Sport

The Herbert H. and Grace A. Dow College of Health Professions

Dr. H. Ray Allen, Chair

SAC 194; 989-774-6679

E-mail: allen1hr@cmich.edu

H. Ray Allen, Ph.D., Pedagogy

Daniel E. Ballou, Ph.D., Sport Administration

Judy P. Chandler, Ph.D., Special Physical Education

Rick C. Ferkel, Ph.D., Curriculum and Instruction

Kevin M. Fisher, Ph.D., Kinesiology

Scott Hirko, 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.

Course Designator:

PES - Physical Education and Professional Courses

Master of Arts (M.A.) in Sport Administration

Minimum Totals for Graduation: 36-39 hours

This is a 36 to 39 hour graduate program designed specifically to meet the Commission on Sport Management Accreditation (COSMA) 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.

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

ADMISSION REQUIREMENT SNAPSHOT

GPA: 3.0

Entrance Exam: N/A

Internat'l Application Deadline: July 1 (Fall), Oct.1 (Spring)

See Admission Requirement Details Below

Admission

To be considered for admission to the Master of Arts in Sport Administration degree program, a student must meet the general requirements for admission to Graduate Studies at CMU.

In addition, the applicants for the MA in Sport Administration must submit three letters of recommendation, and a resume, along with all other application materials. Based upon the undergraduate GPA, resume, professional experience, and the three letters of recommendation, the candidate may be accepted for regular or conditional admission. For regular admission, the minimum undergraduate GPA must be 3.0 or higher on a 4.0 scale. For conditional admission, the minimum undergraduate GPA must be at least 2.5 on a 4.0 scale.

Required Courses (36-39 hours)

PES 602 - Sport Event Management: Theory & Application 3(Spec)

PES 603 - Administration of Sport and Athletics 3(3-0)

PES 610 - Philosophical & Ethical Issues in Athletics 3(3-0)

PES 625 - Athletic Facility Design and Management 3(3-0)

PES 635 - Quantitative Applications & Data Based Decision Making in Sport 3(3-0)

PES 640 - Sport and the Law 3(3-0)

PES 645 - Financial Management of Sport 3(3-0)

PES 650 - Sport Marketing 3(3-0)

PES 665 - Applied Research in Sport Management 3(3-0)

PES 675 - Human Resource Management in Sport Organizations 3(3-0)

PES 685 - Integrated Capstone Project in Sport Management 3(Spec)

PES 699 - Internship in Sport Management 3-6(Spec)

Total: 36-39 semester hours

Department of Physics

College of Science and Engineering

Dr. Christopher Tycner, Chairperson

Dow 203, 989-774-3321

<https://www.cmich.edu/colleges/cst/physics/Pages/default.aspx>

Veronica Barone, Ph.D., Computational Physics, Molecular Modeling

Alfredo Estrade, Ph.D., Experimental Nuclear Physics and Nuclear Astrophysics

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 Mellinger, 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 wing of 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 (3) 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

ADMISSION REQUIREMENT SNAPSHOT

GPA: 2.7

Entrance Exam: GRE General & Physics scores recommended

Internat'l Application Deadline: July 1 (Fall), Oct.1 (Spring)

See Admission Requirement Details Below

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)

Note: 3 hours of Seminar are required for graduation.

Plan Option (15 hours)

Select one of the following plans:

Plan A (Thesis Option)

Select PHY 798 for a total of 6 hours; plus 3-9 hours of electives from AST 562, AST 563, or any PHY courses at the 500 level or 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

Dr. David K. Jesuit, Chair

247 Anspach Hall, 989-774-3442

Prakash Adhikari, Ph.D., Comparative Politics

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

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

Emma Powell, Ph.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

ADMISSION REQUIREMENT SNAPSHOT

GPA: 2.8

Entrance Exam: N/A

Internat'l Application Deadline: July 1 (Fall), Oct. 1 (Spring)

See Admission Requirement Details Below

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 (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)

PAD 623 - Public Policy Processes and Evaluation 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 640 - Seminar in Comparative Politics 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)

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)
 PAD 785 - Strategic Leadership 3(3-0)
 PSC 515 - Comparative Public Policy 3(3-0)
 PSC 516 - Environmental Politics and Policy 3(3-0)
 PSC 555 - International Law I 3(3-0)
 PSC 556 - International Law II 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 583 - Survey Research 3(3-0)
 PSC 615 - Politics and Regulation of Health Care Policy 3(3-0)
 PSC 642 - Problems and Processes of International Development I 3(3-0)
 PSC 651 - Comparative Political & Economic Systems 3(3-0)
 PSC 761 - Seminar 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. 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, international relations, or public and nonprofit administration.
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)

Students and alumni from the MPA program at Central Michigan University will:

- Pursue the public interest with accountability and transparency.
- Serve professionally with competence, efficiency, and objectivity.
- Act ethically so as to uphold the public trust.
- Demonstrate respect, equity, and fairness to dealings with citizens and fellow public servants.

Universal Competencies

To implement its Vision and Mission statements, the MPA program at Central Michigan University has adopted the following set of NASPAA required competencies in its curriculum.

Students in the MPA program at Central Michigan University will develop and enhance their ability:

- To lead and manage in public governance.
- To participate in and contribute to the policy process.
- To analyze, synthesize, think critically, solve problems, and make decisions.
- To articulate and apply a public service perspective.
- To communicate and interact productively with a diverse and changing workforce and citizenry.

Program Requirements

The requirements for the MPA degree consist of 37 hours of course work. First, completion of a set of nine core courses presents an understanding of essential components of the discipline. Then, with the approval of an advisor, the student creates a degree emphasis in one of two ways:

- a. by selecting a specific concentration in either Nonprofit Management or State and Local Government; or
- b. by selecting a set of generalized courses with the General Concentration.

Advisors may make substitutions to the course requirements to fit the student's focus and the availability of course work. However, students can only take up to 6 hours of credit at the 500 level, and for the entire program students can only take 9 hours of credit outside of PSC or PAD.

The pre-service student will also complete an internship of 3 hours (PAD 795) in place of an elective course.

Before enrollment in PAD 730 Public Service Competencies, students will consult with their advisor to determine the date(s) of their public service competency assessment.

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

Admission Requirement Snapshot	
GPA: 2.8	Entrance Exam: N/A
Internat'l Application Deadline: July 1 (Fall), Oct. 1 (Spring)	
See Admission Requirement Details Below	

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)

- PAD 610 - Foundations of Public Administration 3(3-0)
- PAD 623 - Public Policy Processes and Evaluation 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 773 - Administration and Ethics in Public Service 3(3-0)
- PAD 775 - Organization Theory and Behavior 3(3-0)
- PAD 780 - Public Sector Research Methods 3(3-0)

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)

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 790 - Advanced Readings I 1-6(Spec)

Note: In the Nonprofit Management Concentration, students are allowed to select three additional hours of electives. For pre-service students, the required internship substitutes for the elective course.

Total: 37 semester hours

State and Local Government Concentration

Required Courses IV (6 hours)

PAD 655 - Managing Modern Local Government 3(3-0)
 PAD 661 - Administration and Policy in American State Government 3(3-0)

Restricted Electives (3-6 hours)

Select courses from among any of the following, chosen in consultation with an advisor:

PAD 585 - Public Sector Information Technology Management 3(3-0)
 PAD 712 - Implementation and Reform of Public Programs 3(3-0)
 PAD 785 - Strategic Leadership 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

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 in American government.

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.

Upon completion of the certificate program, students will be able to:

- Assess the current state of citizen participation in public life.
- Evaluate factors that affect citizens' willingness and ability to participate in public life.
- Identify citizen engagement techniques used by government to enhance authentic participation in democratic processes, civil society and political institutions.
- Identify the techniques used by citizens and advocacy groups to engage their community, political groups, and governmental institutions.
- Demonstrate the ability to effectively use techniques that promote deliberation and democratic decision-making.
- Use social science research methods to assess the effectiveness of various citizen engagement techniques.

Required Courses (12 hours)

PAD 795 - Internship in Public Administration 1-6(Spec)
 PSC 513 - Citizen Engagement in Public Life 3(3-0)
 PSC 681 - Qualitative Research in Political Science and Public Administration 3(3-0)

Note: Six (6) 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:

PSC 583 - Survey Research 3(3-0)
 PSC 680 - Methodology of Political Research 3(3-0)
 PSC 682 - Techniques of Political Research 3(3-0)
 PSC 794 - Practicum in Public Polling 1-12(Spec)

Electives II - Elected Institutions and Processes (0-6 hours)

Select two courses:

PAD 661 - Administration and Policy in American State Government 3(3-0)
 PSC 514 - American Public Policy Making 3(3-0)
 PSC 520 - American National Government and Politics 3(3-0)
 PSC 761 - Seminar in American State Government 3(3-0)

Note: Select 3 credits of PAD 661 OR PSC 761, not both.

Electives III - Appointed Institutions and Processes (0-6 hours)

Select two courses:

PAD 585 - Public Sector Information Technology Management 3(3-0)
 PAD 610 - Foundations of Public Administration 3(3-0)
 PAD 713 - Public Budgeting and Finance 3(3-0)
 PAD 773 - Administration and Ethics in Public Service 3(3-0)

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 (15 hours)

PAD 585 - Public Sector Information Technology Management 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)

Total: 15 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

Dr. Katrina Rhymer, Chair

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-modulated 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 attention and perception, embodied cognition, peripersonal space, action, tool-use, visual learning and memory, visual search, eye-tracking, emotional processing, cognitive aging and individual differences

Sarah Domoff, Ph.D., Bowling Green State University. Child media use, obesity prevention, health disparities, media effects

Daniel Drevon, Ph.D., Central Michigan University. Academic and behavioral interventions based on applied behavior analysis, single-case design, psychoeducational assessment

Gary Dunbar, Director, Neuroscience Program, Ph.D., Clark University. Behavioral neuroscience, stem cell and pharmacological treatment of brain damage and neurodegenerative diseases

Stephanie Fredrick, Ph.D., Northern Illinois University. Peer victimization and cyberbullying, social support, and their relation to internalizing distress

Bryan Gibson, Ph.D., University of Utah. Self presentation, smoker-nonsmoker interaction, psychology of gambling

Kyunghee 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

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., universit  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

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

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 is a CMU training clinic which offers free psychological services, including psychotherapy and psychological assessment, to CMU students, faculty, and staff, and community residents. Services are provided by CMU psychology graduate students who are training at the PTCC, and all services are supervised by Psychology Department faculty. In addition, speciality services are offered through the PTCC, including the Trauma and Anxiety Disorders Clinic, Neuropsychology Clinic, School Psychology Clinic, and Learning Acceleration Clinic. For further information about the PTCC or to request services, please call 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. 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.

Experimental Psychology

Master of Science (M.S.) in Experimental Psychology

Minimum Totals for Graduation: 36 hours

The Master of Science in Experimental Psychology program at Central Michigan University is a broad yet flexible program designed to develop individual scholarship. Students are exposed to a variety of content areas, while concentrating on a major area of study. Throughout their program, all students are expected to be actively involved in research with a faculty member. The program's primary emphasis is to prepare students for doctoral study or research positions in the public or private sector.

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

ADMISSION REQUIREMENT SNAPSHOT

Entrance Exam: GRE

Application Deadline: January 15 (Fall)

See Admission Requirement Details Below

The Master of Science degree in Experimental Psychology is based upon the satisfactory completion of a minimum of 36 semester hours of graduate work.

When applying for the Master of Science degree in Experimental Psychology, applicants must send three letters of reference and official GRE scores directly to the Department of Psychology. Fifteen semester hours of undergraduate psychology or the equivalent as determined by the department are required for admission. Students who are deficient in certain subject areas such as statistics (PSY 211) or methodology (PSY 285, PSY 385) will be expected to make up these deficiencies in addition to the normally prescribed graduate course work for the degree. A maximum of nine credit hours earned during non-degree status may be applied toward the MS degree.

Degree Requirements

Required Courses (14 hours)

PSY 511 - Statistics in Psychology 3(3-1)

PSY 609 - History and Systems of Psychology 3(3-0)

PSY 690 - Research Seminar: Experimental Psychology 1-3(Spec)

PSY 798 - Thesis 1-12(Spec)

Note: 2 hours of PSY 690; 6 hours of PSY 798.

In addition to course work, a student must complete an oral examination over the thesis.

Additional Requirement I (3 hours)

Select one course from the following:

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)

Additional Requirement II (3 hours)

Select one course from the following:

PSY 587 - Physiological Psychology 3(3-0)

PSY 687 - Physiological Foundations 3(3-0)

Additional Requirement III (3 hours)

Select one course from the following:

PSY 589 - Cognitive Psychology 3(3-0)

PSY 680 - Learning 3(3-0)

PSY 681 - Sensation and Perception 3(3-0)

Additional Requirement IV (3 hours)

Select one course from the following:

PSY 624 - Advanced Developmental Psychology 3(3-0)

PSY 630 - Advanced Social Psychology 3(3-0)

Cognate Courses (0-6 hours)

To be chosen in consultation with an advisor.

Electives (4-10 hours)

To be chosen in consultation with an advisor.

Total: 36 semester hours

Information concerning additional requirements can be obtained by contacting the Experimental MS program director.

(Continued)

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.

Doctor of Philosophy (Ph.D.) in Applied Experimental Psychology**Minimum Totals for Graduation: 54 hours**

The objective of the Ph.D. program in Applied Experimental Psychology is to develop individuals with strong applied experimental research skills for positions in business, industry, allied health, government agencies and in academia. The program is designed to provide advanced training in psychological processes (e.g. biological, cognitive, behavioral, social, personality) and quantitative-methodological procedures (e.g. statistics, experimental design, computer applications) and their utilization in an applied setting. The program will provide students with specialized applied training, including a pre-doctoral internship. The program uses a mentor system, matching students with faculty members who have interest in closely related areas. The current areas of training include: human factors (ergonomics, psychophysiology, attention and perceptual processes); behavioral medicine (with emphasis on developmental disabilities and infant disorders); applied cognitive science (with special emphasis on memory, cognitive modeling, decision making, forensic psychology); applied social psychology (social cognition, personality judgments, individual differences, and attitudes); applied developmental psychology (with emphasis on adjustment in adolescent and aged individuals); and applied behavioral neuroscience (with specific emphasis on testing potential pharmacotherapies for neurodegenerative diseases, such as Huntington's and Parkinson's diseases); and behavior analysis (with special emphasis on applied behavior analysis, behavioral pharmacology, behavioral pediatrics, organizational behavior management and the experimental analysis of behavior).

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS**ADMISSION REQUIREMENT SNAPSHOT**

Entrance Exam: GRE
Application Deadline: January 15 (Fall)
See Admission Requirement Details Below

Applicants to the Program are expected to have a baccalaureate degree and at least 15 hours of psychology. The foundation of the program is the M.S. Program in Experimental Psychology. The first two years of the program are identical to those of the M.S. Program in Experimental Psychology. Students accepted into the program must complete all of the requirements of the M.S. Program in Experimental Psychology or its equivalent. The emphasis in third and fourth years is on advanced specialized training, including generating high quality applied research and gaining practical experience through internships.

Program Requirements

Admission to doctoral candidacy is based on satisfactory grades, completion of thesis requirements, and passing a comprehensive examination over PSY 800 project at the end of the third year. Before applying for pre-doctoral internship training, students must have a doctoral dissertation proposal accepted by their dissertation committee. The doctoral degree is awarded upon successful completion of a pre-doctoral internship, as well as the successful defense of a doctoral dissertation.

Degree Requirements**Required Courses (30 hours)**

PSY 789 - Seminar in Applied Experimental Psychology 1-9(Spec)
 PSY 800 - Research in Applied Experimental Psychology 1-12(Spec)
 PSY 898 - Doctoral Dissertation: Design 1-12(Spec)
 PSY 899 - Doctoral Dissertation: Implementation 1-12(Spec)

Note: A minimum of 15 credit hours from the combination of PSY 898 and PSY 899 is required.

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.

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS**ADMISSION REQUIREMENT SNAPSHOT**

Entrance Exam: GRE

Application Deadline: December 1 (Fall)

See Admission Requirement Details Below

Admission

Admission requirements and a detailed description of the Clinical Ph.D. program can be obtained from the Department of Psychology. In addition to grades and GRE scores, the admissions committee is attentive to letters of recommendation, personal statements, and relevant professional experiences. The admissions committee selects students who have general academic preparation in psychology and psychology-related research methodology.

Program Requirements

Admission to doctoral candidacy is based on satisfactory grades, completion of thesis requirements, and passing a Clinical Qualifying Examination at the end of the third year. Before applying for pre-doctoral internship training, students must have a doctoral dissertation proposal accepted by their dissertation committee. The doctoral degree is awarded upon successful completion of a pre-doctoral internship, as well as the successful defense of a doctoral dissertation.

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 680 - Learning 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)

Note: Student must choose between PSY 589 and PSY 680.

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 send 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 - Advanced Personnel Psychology 3(3-0)

PSY 736 - Interventions in Social Systems 3(3-0)

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 - Advanced Personnel Psychology 3(3-0)
 PSY 736 - Interventions in Social Systems 3(3-0)
 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****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 diversity. Similarly, the program strives to promote understanding of, and responsiveness to, the special needs of individuals with disabilities.

Specialist in Psychological Services

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

Admission Requirement Snapshot	
GPA: 3.0	Entrance Exam: GRE
Application Deadline: December 15 (Fall)	
See Admission Requirement Details Below	

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.

(Continued)

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.

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).

Required Course 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 550WI - Teaching Diverse Students in Educational Settings 3(3-0)

Required Courses IV (3 hours)*Human Development*

- PSY 624 - Advanced Developmental Psychology 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)

Note: Course substitutions can be made in Required Courses III through VI with the approval of the student's advisor and program director.

Additional Required Courses for the Specialist Degree (36 hours)**Additional Required Courses II (30 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 A: School Services 3(3-0)
- PSY 766 - Seminar: Consultation Skills 3(Spec)
- PSY 780 - Behavior Therapy 3(2-2)
- 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: December 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

Mr. Robert Frost, Chair

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

Dr. René R. Shingles, Chair

HPB 1216, 989-774-2378

John M. Andraka, P.T., DPT, OCS, CSCS

Elaine Betts, P.T., Ph.D.

John Blamoun, M.D.

Alan Brown, PA-C, M.S., ADN-RN, EMT-P

Raju Chowdhary, P.T., MHS, NCS, GCS

Michael Fillenworth, MSPA, PA-C

Sana Gaffney, PA-C, MPAS, B.S.N.

Jessica Gardon Rose, PA, M.Ed.

Karen Grossnickle, P.T., M.S.

Ahmad Hakemi, M.D.

Linda Hall, P.T., M.S., DPT

Debra Kimball-Christie, PA-C

Lixin Li, Ph.D., MD

John E. Lopes, Jr., DHSc, PA-C

Peter Loubert, P.T., Ph.D.

Scott Massey, Ph.D., PA-C

Elizabeth Mostrom, P.T., Ph.D.

Jan Perkins, P.T., Ph.D.

Jennifer Sansom, P.T., MPT, M.S., Ph.D.

René R. Shingles, Ph.D., AT, ATC

Deb Silkwood-Sherer, P.T., M.S., DHS, HPCS

Ksenia Ustinova, P.T., Ph.D.

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, 2017 (for the 2018 entering class, which is a firm deadline)
 See Admission Requirement Details Below

Admission Requirements for 2018 Entering Class

The application deadline for the 2018 entering class is September 1, 2017, 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, 2017. The GRE code for electronic mailing from ETS to CASPA is: 0518. 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 (both paid for and volunteer) by September 1, 2017;
- 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;

Please reference the PA Admission website to review all of the admission and application requirements: https://www.cmich.edu/colleges/CHP/hp_academics/physician_assistant/admissions/Pages/default.aspx.

Prerequisite Courses for Physician Assistant Program

Listed below are the prerequisite courses that must be completed by December 31 of the application year. Only two can be outstanding at the time of application. Students completing the prerequisites at other universities are encouraged to contact The Herbert H. and Grace A. Dow College of Health Professions Graduate Admissions Office (989-774-1730) to insure the prerequisites taken are course equivalencies. Applicants can also review our course equivalency web pages at: https://www.cmich.edu/colleges/CHP/hp_academics/physician_assistant/admissions/Pages/Course-Equivalencies.aspx. However, 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 I 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 III 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, 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 (D.P.T.). 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 Entrance Exam: GRE
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://www.cmich.edu/colleges/CHP/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://www.cmich.edu/colleges/CHP/hp_academics/physical_therapy/Pages/Application-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.
5. Complete undergraduate degree with a minimum GPA of 3.0.
6. Students must submit their GRE scores.

Admission into the Doctoral Program in Physical Therapy is competitive. Students should contact The Herbert H. and Grace A Dow College of Health Professions Admissions office for specific information or questions on this process. 989-774-1730.

Retention and Dismissal

Students will be placed on probation for:

1. Any grade below a C (2.0) or NC (NC) in any course required in the PT professional curriculum will result in a student being placed on probation.
2. A semester GPA below 3.0 for courses required in the PT curriculum will result in a student being placed on probation.
3. A cumulative GPA below 3.0 for any semester will result in a student being placed on probation.

Students may be dismissed from the program for:

1. Two consecutive semesters of probation.
2. Failure to satisfactorily complete remedial work required to be taken off probation.
3. Failure to satisfactorily complete a repeated course at a level of CR (credit) or C or above.
4. Student shows multiple academic or clinical deficits to a degree that makes it unlikely the student will be able to succeed in the remainder of the curriculum.
5. Accumulative GPA below 3.0 (graduate) in the professional portion of the physical therapy curriculum for two semesters.
6. Failure (NC) of clinical affiliation/internship courses.
7. Students who display a lack of professional conduct and/or any behavior patterns that may jeopardize the safety or well-being of patients or others; this includes students who do not demonstrate satisfactory performance or progress in Generic Abilities in academic or clinical courses.
8. Students who participate in unethical or illegal activity including, but not limited to, academic dishonesty or violations of the APTA Code of Ethics and Guide for Professional Conduct.

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 & Pharmacology 2(2-0)
PTH 626 - Neuroanatomy in Physical Therapy 3(3-0)
PTH 635 - Examination and Diagnosis I 2(1-2)
PTH 645 - Foundations of Patient Care 5(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(1-3)
PTH 636 - Examination and Diagnosis II 2(1-2)
PTH 646 - Therapeutic Interventions 5(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 5(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. a prospective research project or
- b. 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, SCJ)

College of Humanities and Social & Behavioral Sciences

Dr. Rachel Caspari, Chair

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 Cochran, 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

www.tepd.cmich.edu

Dr. Elizabeth VanDeusen MacLeod, Chair

421 EHS Building, 989-774-3975

Abalo Adewui, Ed.D., curriculum and instruction

Lorraine Berak, Ph.D., educational administration, labor and industrial relations

Meghan Block, Ph.D., literacy

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

Raymond Francis, Ed.D., curriculum and instruction/emphasis in clinical supervision

Troy Hicks, Ph.D., curriculum, teaching, and educational policy

Tamara Jetton, Ph.D., curriculum and instruction

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

Elizabeth VanDeusen-MacLeod, Ph.D., reading education

Jennifer Weible, Ph.D., learning, design, and technology

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 four graduate 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 Reading and Literacy (K-12); and, (4) 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/>.

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

Admission Requirement Snapshot

GPA: 2.7

Entrance Exam: N/A

Internat'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 ZS 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(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

Note: EDU 780 is offered on the Mt. Pleasant campus only and should be the last course taken to fulfill the Plan B requirements before taking the comprehensive written examination.

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 tenure and 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
Internat'l Application Deadline: July 1 (Fall), Oct. 1 (spring)
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.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 course work 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 Literacy Assessment and Intervention 6(Spec)
EDU 636 - Classroom Reading and Writing Instruction 3(3-0)
EDU 641 - Literacy in the Disciplines 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 - Young Adult Literature 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

This program is offered through Global Campus.

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
Internat'l Application Deadline: July 1 (Fall), Oct. 1 (spring)
See Admission Requirement Details Below

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

(Continued)

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 to 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 - Managing Classrooms and Learning Environments 3(Spec)
 EDU 566 - Independent Study in Elementary Education 1-6(Spec)
 EDU 709 - Innovative Uses of Technology 3(3-0)
 (or courses selected in consultation with graduate advisor.)

Total: 33 semester hours (minimum)

Graduate Certificate in Educational Technology

Minimum Totals for Graduation: 15 hours

Please note: This program is on hiatus as of Fall, 2017

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: https://www.cmich.edu/office_provost/InternationalAffairs/recruitment/Documents/TOEFL%20Exempt%20countries.pdf

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

Department of World Languages and Cultures

College of Humanities and Social & Behavioral Sciences

Dr. N. Christine Brookes, Chair

305 Pearce Hall, 989-774-3786

Maria Chouza-Calo, 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

Graduate-level courses offered by the Department of World Languages and Cultures may be appropriate as electives on various graduate degree curricula.

Interdepartmental and Interdisciplinary 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

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 educators, 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 9 semester hours, which includes an integrating experience (Capstone Project, Field Study, or Thesis). An additional 21-25 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: Kaleb G. Patrick, Ed.D., Director, 195 Ojibway Court, EHS 314, Mt. Pleasant, MI 48859; 989-774-3144, maed@cmich.edu.

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

ADMISSION REQUIREMENT SNAPSHOT

GPA: 3.0 for the Curriculum and Instruction Concentration
2.7 for the Training & Development Concentration or Community College Concentration
Entrance Exam: N/A

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.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 for the MA in Education 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 3.0 or higher (on a 4.0 scale) for the *Curriculum and Instruction Concentration* and 2.7 or higher (on a 4.0 scale) for the *Training and Development Concentration* or the *Community College Concentration*. 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 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 (21-25 semester hours of which must be in the area of concentration/emphasis).
2. Earned a minimum of 18 semester hours from Central Michigan University.
3. Submitted evidence of scholarship by meeting the Plan A or Plan B requirements.

Degree Requirements

Program Core I (3 hours)

EDU 590/SPE 510 - Advanced Technology in Education 3(2-3)

Program Core II (6-9 hours)

Select one of the following options:

Option 1 (9 hours)

For a concentration in Community College, select EDU 600 and one of EDL 797 or 798:

EDL 600 - Research for Educational Leadership 3(3-0)
EDL 797 - Field Study 1-6(Spec)
EDL 798 - Thesis 1-6(Spec)

Option 2 (6 hours)

For Concentrations in Curriculum & Instruction or Integrated Science, select:

EDU 660 - Methods of Educational Research 3(3-0)
EDU 776 - Seminar: Issues in Education 3(3-0)

Option 3 (6 hours)

For a Concentration in Training & Development, select:

EDL 600 - Research for Educational Leadership 3(3-0)
EDL 797 - Field Study 1-6(Spec)

Note: EDU 776 Seminar: Issues in Education, EDL 797 Field Study, or EDL 798 Thesis - 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 student affairs administration, teaching, or training and development 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 (18 hours)

Select from the following:

EDL 676 - Administration of Community Colleges 3(3-0)
EDL 705 - The Ontario College System 3(3-0)
EDL 751 - Program Evaluation and Review 3(3-0)
EDL 757 - Student Development Theory 3(3-0)
EDL 760 - Leadership Theory and Practice 3(3-0)
EDL 778 - Contemporary Issues in Higher Education 3(3-0)

Emphasis (3 hours)

Select one of the following emphases:

Administration/Student Affairs Emphasis (3 hours)

EDL 763 - The Academic Profession 3(3-0)

College Teaching Emphasis (3 hours)

EDL 680 - Teaching in Higher Education Settings 3(3-0)

Training and Development Emphasis (3 hours)

EDL 612 - Methods and Techniques of Training and Development 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 (18 hours)

EDU 602 - Strategies and Techniques for Teaching 3(3-0)
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 705 - Theory and Practice in Curriculum Development 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

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 (21 hours)

EDL 612 - Methods and Techniques of Training and Development 3(3-0)
EDL 620 - Administration Within Diverse Populations 3(3-0)
EDL 624 - Planning for Instruction in Nontraditional Settings 3(3-0)
EDL 626 - The Adult Learner 3(3-0)
EDL 710 - Action Research 3(3-0)
EDL 751 - Program Evaluation and Review 3(3-0)
EDL 760 - Leadership Theory and Practice 3(3-0)

Total: 30 semester hours

Master of Science in Administration (M.S.A.)

College of Graduate Studies

Dr. Patricia Chase, 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 MAIN CAMPUS STUDENTS)

ADMISSION REQUIREMENT SNAPSHOT

GPA: 2.7 *Entrance Exam: N/A*
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 60 semester hours of graded coursework toward the bachelor's degree). At least 60 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 6 hours taken before admission to the MSA program may be counted toward the degree.

Competencies

Students are recommended to take the following courses and/or acquire knowledge in the following two courses:

- Principles of Statistics
- Financial Accounting

Several MSA administrative core courses (MSA 600 and MSA 602) have competency-based prerequisites. The prerequisites will be waived for students with regular admission status during the first advising session. Students receiving conditional admission status may be required to demonstrate accounting and/or statistics competency. The competency may be satisfied in the following ways:

1. Pass a competency assessment. Competency assessments may be taken twice and must be passed with at least 70% accuracy. Students are limited to two attempts; or
2. 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
3. Take the CLEP Financial Accounting test and submit official results of 50 or better. Take the DSST Principles of Statistics exam and submit official results of 400 or better.

The free competency assessment is administered online, and each takes approximately 90 minutes to complete. To prepare for the competency assessment, students can complete a free, online self-paced review workshop that allows students to independently review the Accounting or Statistics subject matter in preparation for the competency assessment. The review materials will serve as a refresher and provide working knowledge on the subject matter that will be utilized in future MSA coursework. Review of this material is recommended for all MSA students prior to taking MSA 600 and MSA 602. For more information on competency requirements and competency assessment preparation, see <https://www.cmich.edu/global/advising/Pages/msa-competencies.aspx>.

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 authorization 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. Conditionally admitted students should review their admission letter as they may be required to complete accounting and statistics competency requirements within their first 9-12 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 Master of Science in Administration degree students are required to take six core courses: MSA 600, MSA 601, MSA 602, MSA 603, MSA 604, and MSA 698 or 699.

To qualify for graduation, candidates for the Master of Science 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/2017/gr/administrative/academic/graduation.asp?yr=2017&level=GR&loc=onc>) for the Graduate Bulletin or <https://bulletins.cmich.edu/2017/cel/academic/graduation.asp?yr=2017&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.
4. Successfully completed these required courses: MSA 600, MSA 601, MSA 602, MSA 603, MSA 604, and MSA 699 or 698.
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 the Registrar's Office 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 does not 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.

*Student appeals for concurrent admission into the Accelerated MSA Program are submitted to 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)

(Continued)

150 Interdisciplinary and Interdepartmental Programs

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

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)
MSA 618 - International and Comparative Employment Relations 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 506 - Evaluation, Coaching and Mentoring 3(3-0)
MSA 608 - Succession Planning 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 607 - Program Management in Complex Organizations 3(3-0)
MSA 660 - Marketing Administration 3(3-0)
MSA 677 - Disruption, Innovation, Transformation and Change 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)

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

Health Services Administration

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 611 - Healthcare Administration and Ethical Compliance 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 507 OR 611 and only 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 538WI - 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 Health Fields 3(3-0)

HSL 641 - Health Economics and Policy Implication 3(3-0)

MSA 501 - Managing Change with Emotional Intelligence 3(3-0)

MSA 608 - Succession Planning 3(3-0)

MSA 647 - People and Project Administration 3(3-0)

MSA 660 - Marketing 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)

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)

MSA 618 - International and Comparative Employment Relations 3(3-0)

Note: Students may not count both ECO 515 and MGT 646 on a certificate or degree program.

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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 506 - Evaluation, Coaching and Mentoring 3(3-0)
 MSA 608 - Succession Planning 3(3-0)
 MSA 647 - People and Project Administration 3(3-0)
 PSY 536 - Personnel Psychology 3(3-0)
 PSY 636 - Advanced 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)
 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

Note: No more than a total of 15 hours of College of Business courses may be used on the program plan.

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)

Required Courses II (3 hours)

Select one of the following:
 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 - Information Systems Process Management 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.

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

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 560 - International Marketing 3(3-0)
 MSA 510 - Global Leadership Perspectives
 MSA 618 - International and Comparative Employment Relations 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 I 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 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

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)

Select one of the following:

MSA 677 - Disruption, Innovation, Transformation and Change 3(3-0)
 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 506 - Evaluation, Coaching and Mentoring 3(3-0)
 MSA 510 - Global Leadership Perspectives 3(3-0)
 MSA 607 - Program Management in Complex Organizations 3(3-0)
 MSA 608 - Succession Planning 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 677 - Disruption, Innovation, Transformation and Change 3(3-0)
 MSA 696 - Special Topics 3(3-0)
 PAD 785 - Strategic Leadership 3(3-0)
 PHL 518 - Professional Ethics 3(3-0)
 PSY 531 - Group Dynamics 3(3-0)
 PSY 535 - Organizational Psychology 3(3-0)

Plus one specialized course determined by the MSA Director

Note: Students may not count both ECO 515 and MGT 646 on a certificate or degree program.

Note: Students may only count MSA 677 or PAD 785 as an elective if not counted as a required course above.

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

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 698 - 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)
 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: 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,

(Continued)

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 698 - 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 607 - Program Management in Complex Organizations 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)

Note: MSA 681 and MSA 690 are only available to students admitted to Central Michigan University's Mount Pleasant campus.

Total: 36 semester hours

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:

- 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)
- 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:

- 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

Recreation & Park Administration

The Recreation, Parks, and Leisure Administration concentration 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 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)

- RPL 611 - Evaluation in Recreation and Leisure Services 3(3-0)
- RPL 618 - Issues in Leisure 3(3-0)

Electives (9-12 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.

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

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)
 MSA 506 - Evaluation, Coaching and Mentoring 3(3-0)
 MSA 608 - Succession Planning 3(3-0)
 MSA 677 - Disruption, Innovation, Transformation and Change 3(3-0)

Total: 36 semester hours

MSA Graduate Certificates

The following MSA Graduate Certificates are offered:

- Acquisitions Administration
- Administrative Essentials
- Engineering Management
- General Administration
- Health Services Administration
- Human Resources Administration
- Information Resources Administration
- International Administration
- Leadership
- Philanthropy and Fundraising
- Project Management
- Public Administration
- Recreation and Park Administration
- Research Administration
- Training and Development

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 degrees 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

Administrative Essentials Certificate

Minimum Totals for Graduation: 18 hours

The 18 credit MSA Graduate Certificate program is designed for regularly admitted graduate students who desire advanced training in the field of administration. A maximum of six (6) semester hours from a previous or concurrent graduate degree or certificate can be transferred toward 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.

Course work 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.

The Administrative Essentials graduate certificate program is designed to develop administrative professionals with the knowledge and skills necessary to lead, support, diagnose problems and implement solutions that enhance organizational performance. Those earning this credential will be prepared for leadership positions in a variety of industries. If the graduate student decides to pursue the MSA degree, MSA 601, MSA 602, MSA 603, and MSA 604 credit may be used toward the MSA degree. Credit earned for MSA 501 and/or MSA 609 may be applied as concentration or cognate credit, depending on the student's concentration.

Note: Students may not use more than 12 credits of College of Business courses.

Required Courses (18 hours)

MSA 501 - Managing Change with Emotional Intelligence 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)
MSA 609 - Ethical and Legal Dimensions of Private Sector Organizations 3(3-0)

When appropriate, other courses may be substituted with the approval of the MSA Director.

Total: 18 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

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)

BIS 601 - Information Systems 3(3-0)
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)
CPS 603 - Computer Information Systems 3(3-0)
ECO 515 - Collective Bargaining and Labor Law 3(3-0)
EDL 610 - Grants and Fund Procurement 3(3-0)
FIN 573 - International Finance 3(3-0)
IET 500 - Production Concepts 3(3-0)
IET 524 - Technology and Environment 3(3-0)
JRN 670 - Public Relations Management 3(3-0)
MGT 643 - Human Resource Management 3(3-0)
MGT 646 - Labor Relations Issues 3(3-0)
MGT 667 - International Business 3(3-0)
MKT 555 - Market and Sales Forecasting 3(3-0)
MKT 560 - International Marketing 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 506 - Evaluation, Coaching and Mentoring 3(3-0)
MSA 510 - Global Leadership Perspectives 3(3-0)
MSA 607 - Program Management in Complex Organizations 3(3-0)
MSA 608 - Succession Planning 3(3-0)
MSA 609 - Ethical and Legal Dimensions of Private Sector Organizations 3(3-0)
MSA 618 - International and Comparative Employment Relations 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 647 - People and Project Administration 3(3-0)
MSA 660 - Marketing Administration 3(3-0)
MSA 677 - Disruption, Innovation, Transformation and Change 3(3-0)
PAD 622 - Strategic Planning for Public/Non-Profit Organizations 3(3-0)
PAD 711 - Public Personnel Management 3(3-0)
PAD 785 - Strategic Leadership 3(3-0)
PHL 518 - Professional Ethics 3(3-0)
PSC 514 - American Public Policy Making 3(3-0)
PSC 522 - Regulatory Processes and Administrative Law 3(3-0)
PSC 555 - International Law I 3(3-0)
PSY 535 - Organizational Psychology 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.

Total: 15 semester hours

Health Services Administration Certificate

Minimum Totals for Graduation: 15 hours

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 611 - Healthcare Administration and Ethical Compliance 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 507 OR HSL 611 and only 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:

- HSC 516 - Travel Course in Health Education 1-15(Spec)
- HSC 538WI - 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 Health Fields 3(3-0)
- HSL 641 - Health Economics and Policy Implication 3(3-0)
- MSA 501 - Managing Change with Emotional Intelligence 3(3-0)
- MSA 608 - Succession Planning 3(3-0)
- MSA 647 - People and Project Administration 3(3-0)
- MSA 660 - Marketing Administration 3(3-0)

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.

- 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)
- MSA 618 - International and Comparative Employment Relations 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 certificate or 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 506 - Evaluation, Coaching and Mentoring 3(3-0)
- MSA 608 - Succession Planning 3(3-0)
- MSA 647 - People and Project Administration 3(3-0)
- PSY 536 - Personnel Psychology 3(3-0)
- PSY 636 - Advanced Personnel Psychology 3(3-0)

Note: Students may not count both MGT 647 and PSY 536 on a certificate or degree program.

Total: 15 semester hours

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 - Information Systems Process Management 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)
- MSA 618 - International and Comparative Employment Relations 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)

Total: 15 semester hours

Leadership Certificate

Minimum Totals for Graduation: 15 hours

Required Course

Select one of the following:

- MSA 677 - Disruption, Innovation, Transformation and Change 3(3-0)
- 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 506 - Evaluation, Coaching and Mentoring 3(3-0)

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MSA 510 - Global Leadership Perspectives 3(3-0)
MSA 607 - Program Management in Complex Organizations 3(3-0)
MSA 608 - Succession Planning 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 677 - Disruption, Innovation, Transformation and Change 3(3-0)
MSA 696 - Special Topics 3(3-0)
PAD 785 - Strategic Leadership 3(3-0)
PHL 518 - Professional Ethics 3(3-0)
PSY 531 - Group Dynamics 3(3-0)
PSY 535 - Organizational Psychology 3(3-0)

When appropriate, other courses may be substituted with the approval of the MSA Director.

Note: Students may not count both ECO 515 and MGT 646 on a certificate or degree program.

Note: Students may only count MSA 677 or PAD 785 as an elective if not counted as a required course above.

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 607 - Program Management in Complex Organizations 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)

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)
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 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)
MSA 506 - Evaluation, Coaching and Mentoring 3(3-0)
MSA 608 - Succession Planning 3(3-0)
MSA 677 - Disruption, Innovation, Transformation and Change 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/CRM 626 - Theory and Research in Archaeology 3(3-0)
 ANT 645/CRM 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 3(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/CRM 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/CRM 521 - North American Indian Ethnohistory 3(3-0)
 ANT 540/CRM 540 - Archaeological Field and Laboratory Techniques 3(3-0)
 ANT 542/CRM 542 - Methods in Forensic Anthropology: Osteology and Skeletal Analysis 4(3-2)
 ANT 544/CRM 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 - Applications of 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 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)

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)
 HST 763 - Seminar in Latin American History 3(3-0)
 HST 795 - Seminar Abroad 3-15(Spec)
 MKT 555 - Market and Sales Forecasting 3(3-0)
 MKT 560 - International Marketing 3(3-0)
 MST 546 - Introduction to Museum Work 3(3-0)
 MST 547 - Museum Science Laboratory 3(0-6)
 MST 550 - Museum Collections Management and Care 3(3-0)
 MST 551 - Museum Education and Interpretation Techniques 3(3-0)
 MST 575 - Independent Study in Museum Studies 3(3-0)
 MST 750 - Seminar in Advanced Exhibit Design and Construction 3(3-0)
 MST 775 - Seminar in Funding and Fundraising 3(3-0)
 PAD 622 - Strategic Planning for Public/Non-Profit Organizations 3(3-0)
 PAD 711 - Public Personnel Administration Practice 3(3-0)
 PSC 516 - Environmental Politics and Policy 3(3-0)
 PSC 522 - Regulatory Processes and Administrative Law 3(3-0)
 PSC 677 - The Public Sector Role in Post-Disaster Recovery 3(3-0)
 RPL 508QR - Budgeting & Funding for Leisure Service Agencies 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 552 - Environmental Interpretation 3(3-0)
 RPL 570 - Wilderness Issues and Policy 3(3-0)
 SPE 550WI - Teaching Diverse Students in Educational Settings 3(3-0)

Total: 36 semester hours

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 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 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/CRM 626 - Theory and Research in Archaeology 3(3-0)
 ANT 645/CRM 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: 18-21 semester hours

Master of Arts (M.A.) in Humanities

College of Humanities and Social & Behavioral Sciences

Dr. Susan A. Schiller, Director

032 Anspach Hall, 989-774-3681

Course Designer:

HUM - Humanities

Minimum Totals for Graduation: 30 hours

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

Admission Requirement Snapshot

GPA: 2.7

Entrance Exam: N/A

Internat'l Application Deadline: July 1 (Fall), Oct. 1 (spring)

See Admission Requirement Details Below

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

Dr. 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., universit  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 Steinhilb, 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

ADMISSION REQUIREMENT SNAPSHOT	
GPA: 3.0	Entrance Exam: GRE
Application Deadline: December 15	
See Admission Requirement Details Below	

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 provided 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

ADMISSION REQUIREMENT SNAPSHOT

GPA: 3.0
 Application Deadline: December 15
 Entrance Exam: GRE
 See Admission Requirement Details Below

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 satisfactory 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 & Environmental Studies 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, RETENTION & TERMINATION STANDARDS

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)

Notes: You may select CPS 585 **OR** 541, but not both. CPS 541 is recommended for Computer Science Majors.

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

Doctor of Philosophy (Ph.D.) in Earth and Ecosystem Science

College of Science and Engineering

Ms. 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

ADMISSION REQUIREMENT SNAPSHOT

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,

(Continued)

- 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)

EES 701 - Earth and Ecosystem Science Colloquium 3(3-0)
EES 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)

EES 790 - Special Topics in Earth and Ecosystem Science 1-6(Spec)
EES 796 - Directed Research in Earth and Ecosystem Science 1-30(Spec)

Dissertation (12 hours)

EES 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

Ms. 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

Entrance Exam: GRE

Application Deadline: February 1

See Admission Requirement Details Below

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 February 1 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

Course Descriptions

Key to Designators

AAD	- Academic Advancement	IPR	- Integrative Public Relations
ACC	- Accounting	IPS	- International Program Studies
ACT	- Actuarial Science	ITC	- Information Technology
AFL	- Air Force Leadership	JPN	- Japanese
AMS	- American Studies	JRN	- Journalism
ANT	- Anthropology	LAR	- Liberal Arts
ARB	- Arabic	LAT	- Latin
ART	- Art	LDR	- Leadership Studies
ASL	- American Sign Language	LIB	- Library
AST	- Astronomy	MAR	- Marine Science
ATR	- Athletic Training	MBA	- Master of Business Administration
AUD	- Audiology	MDP	- Media, Design, and Production
BCA	- Broadcast and Cinematic Arts	MED	- College of Medicine
BIO	- Biology	MET	- Meteorology
BIS	- Business Information Systems	MHA	- Master of Health Administration
BLR	- Business Law and Regulation	MGT	- Management
BUS	- Business	MKT	- Marketing
CDO	- Communication Disorders	MLE	- Middle Level Education
CED	- Counselor Education and Personal Development	MMD	- Multimedia Design
CGL	- Cultural and Global Studies	MPH	- Master of Public Health
CHM	- Chemistry	MSA	- Master of Science in Administration
CHN	- Chinese	MSL	- Military Science and Leadership
CNE	- Credit, no equivalent	MST	- Museum Science
COM	- Communication	MTH	- Mathematics
CPS	- Computer Science	MTR	- Music Theatre
CRM	- Cultural Resource Management	MUS	- Music
CSD	- Communication Sciences and Disorders	NSC	- Neuroscience
DAN	- Dance	OJB	- Ojibwe
DBI	- DeafBlind Intervener	PAD	- Public and Nonprofit Administration
DHA	- Degrees in Health Administration	PED	- Sports Instructional Program (Activity)
DOL	- Doctor of Organizational Leadership	PES	- Physical Education and Professional Courses
ECE	- Early Childhood Education	PHA	- Physician Assistant
ECO	- Economics	PHL	- Philosophy
EDL	- Educational Leadership	PHS	- Physical Science
EDU	- Teacher Education	PHY	- Physics
EES	- Earth and Ecosystem Science	POR	- Portuguese
EGR	- Engineering	PSC	- Political Science
EHS	- Education and Human Services	PSY	- Psychology
ELI	- English Language Institute	PTH	- Physical Therapy
ENG	- English Language and Literature	REL	- Religion
ENS	- Environmental Science	RLA	- Recreation and Leisure Activities
ENT	- Entrepreneurship	RPL	- Recreation, Parks, and Leisure Services Administration
ENV	- Environmental Studies	RUS	- Russian
ESC	- Earth Science	SAM	- Science of Advanced Materials
EUR	- European Studies	SCI	- Sciences
FIN	- Finance	SCJ	- Social and Criminal Justice
FLN	- Foreign Language	SEP	- Sustainability and Environmental Policy
FMD	- Fashion Merchandising & Design	SLP	- Speech-Language Pathology
FNS	- Foods & Nutrition	SOC	- Sociology
FRN	- French	SPE	- Special Education
FYE	- First Year Experience	SPN	- Spanish
GEL	- Geology	SSC	- Social Sciences
GEO	- Geography	STA	- Statistics
GER	- German	SWK	- Social Work
GRK	- Greek	TAI	- Theatre and Interpretation
GRN	- Gerontology	UNV	- Prior Learning
HDF	- Human Development & Family Studies	WGS	- Women and Gender Studies
HNS	- Environmental Health and Safety		
HOA	- Hotel Administration (AT UNLV)		
HON	- Honors		
HPS	- Health Professions		
HSA	- Hospitality Services Administration		
HSC	- School of Health Sciences		
HSL	- Health Systems Leadership		
HST	- History		
HUM	- Humanities		
IET	- Industrial and Engineering Technology		
IND	- Interior Design		

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 or Graduate Level

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 website 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 unclassified 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.

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.

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.
- 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, evaluation, and control for management. Prerequisites: ACC 321; 56 semester hours completed; admission to Professional Business Studies or listed on signed major or minor. Recommended: MGT 340.

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 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 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 advantage. Topics include 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 597 count toward accounting major, minor, or concentration. Prerequisites: 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 philosophy, 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 in nonprofit 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. Prerequisite: 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. Prerequisites: 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 539, 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. Note: Prerequisites for any courses in anthropology may be waived by permission of the Department Chair and the instructor.

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 SOC 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 Ethnohistory 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 ethno-historical theory and methodology. Identical to CRM 521. Credit may not be earned in more than one of these courses. Prerequisite: Senior standing and ANT 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/injustice. 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. Identical to CRM 540. Credit may not be earned in more than one of these courses. 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. Identical to CRM 542. Credit may not be earned in more than one of these courses. 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. Identical to CRM 544. Credit may not be earned in more than one of these courses. 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 590 and WGS 590. 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. Identical to CRM 600. Credit may not be earned in more than one of these courses. Prerequisite: Permission of academic adviser.

ANT 626 Theory and Research in Archaeology 3(3-0)

Historical growth of archaeology, nature of archaeological evidence, theoretical frameworks in interpretation and explanation of the human past, research strategies and design. Identical to CRM 626. Credit may not be earned in more than one of these courses.

ANT 645 Cultural Resource Management in Archaeology 3(3-0)

Evaluation of the 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. Identical to CRM 645. Credit cannot be earned in more than one of these courses.

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. Identical to CRM 700. Credit may not be earned in more than one of these courses. 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. Identical to CRM 798. Credit may not be earned in more than one of these courses. 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 Emerging Media in Graphic Design 3(0-6)

Developments in visual communication and their application through each step of creating a complete design cycle focused on the principles of usability design. Prerequisites: ART 358, 438; 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, patterning, and color with dyes and pigments through silkscreen, batik, paints, 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 582 Seminar in Modern and Contemporary Art History 3-6(3-0)

Advanced study of a topic in modern and contemporary art history selected by instructor using readings, discussion, lecture, and research as appropriate. This course is repeatable when content is not duplicated. 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. This course is repeatable when content is not duplicated. May be offered as Writing Intensive. Prerequisites: ART 319; additional 6 hours of 300+ level art history courses; or graduate standing.

ART 589 Research Seminar in Art History 3(3-0)

Seminar supporting 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/studio adequacy beyond ART 497 is achieved.

ASL - American Sign Language

See the Department of Communication Sciences & Disorders for more information.

ASL 510 ASL Linguistics 3(3-0)

This course will examine the linguistics 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 593 Jamaica Study Abroad 3(Spec)

An international cultural and language immersion experience. Students apply their ASL skills while learning about Jamaican mainstream and Deaf culture by providing ASL instructional support in a Jamaican residential school for Deaf and Hard of Hearing children. Prerequisites: ASL 202; ASL 100 or 390; or graduate status; 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 a university ASL course. Prerequisites: ASL 202; ASL 100 or 390; and permission of instructor. Recommendations: Letter of support from university ASL course instructor.

ASL 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 4(3-2)

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 the electronic media's aesthetic properties and economic, political and societal effects. Writing Intensive. Prerequisites: BCA 210 with a C or better or signed Cinema 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 series. Writing Intensive. 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 265; limited to junior standing or above 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 news 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.

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 in each; 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-Film 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 juniors 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 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 I 3(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 601; 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.

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; Tier Two - Admission of Candidacy to Teacher Education.

BIO 509 Ichthyology 4(3-3)

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 4(3-2)

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 520 Great Lakes Mollusks 2(1-3)

An examination of the ecology, life history, taxonomy, evolution, and conservation status of freshwater mollusks (bivalves and gastropods) from the Great Lakes region. Prerequisites: BIO 212, 213 both with a grade of C- or better; or BIO 218; or graduate standing.

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 genes 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-Requirement: 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 for elemental analysis 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 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 processes 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 567WI 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 521.

BIO 597 Special Topics In Biology 1-9(Spec)

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 research design and statistical analysis needed to solve problems in laboratory and field biology. Recommended: BIO 500.

BIO 610 Biology Colloquium 1-9(Spec)

Advanced study of selected subject areas under faculty guidance through lecture and/or seminar colloquia in special competence areas of the graduate faculty. Prerequisite: permission of instructor.

BIO 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.

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(Spec)

Various advanced topics in genetics are covered which range from transmission genetics to molecular genetics and evolution. Student participation is expected. May be repeated as offered to maximum of 3 hours. Prerequisite: BIO 326.

BIO 629 Topics in Eukaryotic Molecular Genetics 1-4(Spec)

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 literatures. May be repeated as offered to a maximum of 3 hours. Prerequisites: BIO 537.

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 and Community Ecology 4(3-2)

Theoretical and empirical considerations of mechanisms affecting the dynamics of and interactions between populations in nature. Prerequisites: Graduate status in Biology or Earth and Ecosystem Science.

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: 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 680 Conservation Biology 3(3-0)

Adds 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 Phylogenetics 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 Plan A thesis research. Required of students receiving the M.S. in Biology or Conservation Biology, Plan A. CR/NC only. Prerequisite: Permission of thesis committee Chair.

BIO 790 Research in Biology 2-4(Spec)

Research experience in the laboratory and/or the field. CR/NC only.

BIO 798 Thesis 1-9(Spec)

Research resulting in written thesis. CR/NC only. Prerequisite: Plan A thesis prospectus on file in the Biology Department office.

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 535 System Administration Using SAP Basis 3(3-0)

Tasks, tools, and transactions of the SAP system administrator are explained using hands-on exercises and step-by-step guides based on real-world examples. Prerequisites: BIS 347 and BUS 301; or BIS 647 and BIS 638.

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 and Registration. 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 605 Communication in Professional Contexts 3(3-0)

Students will investigate the role of communication in professional contexts and continue to develop core abilities: audience analysis, writing, presentations, interpersonal communication, and intercultural communication. This course may be offered in an online 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 Information Systems Process Management 3(3-0)

Overview of the system development life cycle covering information gathering, process analysis, and reporting activities from the analysis phase to the maintenance and support phase. This course may be offered in an online format.

BIS 632 Business Network Systems Management 3(3-0)

Examination of the management of telecommunication issues in business applications, especially those related to business network systems. Prerequisites: Admission to the MBA program or MSIS program or permission of the MBA director or MSIS director and completion of the following courses: BIS 221 or BIS 255, ACC 201 and ACC 202 or ACC 250 and ACC 255, MTH 132 or MTH 217 and STA 282, 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(3-0)

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, implementation 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 636 Systems Analysis and Design 3(3-0)

Introduction to the systems approach to the analysis, design and development of information systems. Methods, tools and technologies are used to develop information systems prototypes. This course may be offered in an online format. Prerequisite: Admission to the MSIS Program.

BIS 638 Database Management for Business Systems 3(3-0)

A broad overview of the development and use of database systems in business. 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 transaction processing in the business supply chain. This course may be offered in an online or hybrid format.

BIS 656 Business Intelligence Using SAP Software 3(3-0)

A study of business intelligence using SAP software. Enterprise data warehousing 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 enterprise 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-verbal formats. This course may be offered in an online format. Prerequisite: Admission to the 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 688 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 698 Information Systems Project 3(3-0)

A capstone, project-oriented study of the planning, analysis, design, development, implementation and testing of information systems projects using modeling tools, databases, and advanced programming languages. This course may be offered in an online format. Prerequisites: Completed 24 hours in the MSIS Program, BIS 605, BIS 628, 636, and 638.

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 completion 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 macroenvironmental considerations and major Michigan environmental issues. Prerequisites: BLR 202 or BLR 235 or ENV 101; completion 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)

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.

BLR 600 Legal and Social Environment of Business 3(3-0)

Basic concepts concerning the interrelationship of business and its external environments. Managerial participation 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 environment 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 management, 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 undergraduate 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 business. 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 organization, 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 projects/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 contemporary 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 contemporary 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 mechanism. 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.

BUS 698 Integration of Business Processes for Management using SAP Software 4(Spec)

Examination of how business processes interact with mySAP ERP in the SAP modules including the analytical and reporting functions in mySAP ERP. CR/NC only. Prerequisites: An SAP course taken at CMU or permission of the MBA director.

CDO - Communication Disorders

See the Department of Communication Sciences & 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, 439; 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 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 and pharyngeal cancer, and pediatric feeding disorders. Prerequisites: admission to the graduate program in speech-language pathology.

CDO 639 Hypopharyngeal Visualization 2(1-2)

Demonstration and practice manipulating instruments used in visualizing hypopharyngeal structures. Assessment of laryngeal functions for voice and swallowing based on visual images. Prerequisites: 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 communication 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: Admission to the graduate program in speech language pathology; CDO 704.

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 of aphasia. 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 of dementia 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 SLP.

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 topics related to 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 Audiologic 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 videonystagmography, 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, ALR, P300, ENOG, cVEMP, oVEMP, SVV, 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 neuroanatomic 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 1-9(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 audiologic procedures including rehabilitation. Prerequisites: admission to the Au.D. program, completion of CDO 769.

CDO 853 Psychosocial Aspects of Hearing Loss 3(3-0)

Advising role of audiologists with persons having hearing impairment. Psychological, social, communication, and vocational effects of hearing impairment on children, adults, and families are emphasized. Prerequisites: admission to the Au.D. program.

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. Prerequisites: admission to the Au.D. program.

CDO 898 Doctoral Project 1-12(Spec)

Complete and present a doctoral level project. CR/NC only. Prerequisites: Admission to the Au.D. program.

CDO 995 Clinical Externship 5-23(Spec)

Full-time clinical experience with an approved preceptor in a hospital, private practice or other appropriate setting. 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 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.

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 survey 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 a 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.

CE 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.

CE 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.

CE 617 The Counseling Supervisor 3(3-0)

This course provides an overview of the empirical literature, ethics, and techniques of clinical counseling supervision. This course may be offered in an online format. Prerequisites: Graduate status.

CE 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.

CE 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.

CE 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.

CE 625 Cross-Cultural Service Learning for Counselors 3(Spec)

This is an experiential graduate level course in which students study and engage in meaningful service learning in a cross-cultural setting.

CE 630 Ethics & Consultation in Counseling 3(3-0)

This course provides a supervised discussion of legal, ethical, and consultation issues that affect the profession. This course may be offered in an online format.

CE 640 Assessment in Counseling 3(3-0)

This course prepares trainees to assist in selection, evaluation, and interpretation of various counseling assessments with emphasis on assessments appropriate to trainees' future work settings. This course may be offered in an online format. Prerequisite: Regular Admission to the M.A. in Counseling Program.

CE 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 behavior, both substance related and behaviorally focused. This course may be offered in an online format.

CE 642 Neuropsychopharmacology 3(3-0)

This course provides an introduction to the neurological, behavioral, psychological, physical, and social effects of psychoactive substances. This course may be offered in an online format. Prerequisites: CED 641; admission to M.A. in Counseling program.

CE 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.

CE 644 Addiction Oriented Systems and Methods of Care 3(3-0)

This course will address addiction oriented systems and proper methods of care, as well as assessment, testing, screening, wellness, and prevention. It provides a clearer understanding of the unique characteristics and policies of addiction focused treatment environments and modalities. This course may be offered in an online format. Prerequisite: CED 641.

CE 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.

CE 650 Theories and Techniques of Group Counseling 3(3-0)

The application of group theories and techniques, interpersonal communication skills, and the assessment of group counseling interventions. Prerequisite: Regular admission to M.A. in Counseling. Pre/Co-requisite: CED 660.

CE 651 Counseling Children and Adolescents 3(3-0)

This course provides students with specialized skills for counseling children and adolescents. It emphasizes the modification of interventions to meet the needs of young clients. Prerequisites: CED 665, 677.

CE 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.

CE 665 Personal and Professional Development Across the Lifespan 3(3-0)

This course addresses the influence of developmental and environmental factors on human behavior, including physical, social, and psychological aspects, and implications for counselors.

CE 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.

CE 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.

CE 677 Counseling Theories 3(3-0)

Examination of psychological foundations of counseling theories. The course facilitates students' development of a personal counseling theory. This course may be offered in an online format. Prerequisite: Conditional admission to the counseling program.

CE 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.

CE 680 Seminar: Professional Topics 1-12(Spec)

Investigation and in-depth study of special topics that are relevant to the field of counseling.

CE 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 counseling and therapy approaches.

CE 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 their effects. This course may be offered in an online format.

CE 685 Counseling Aspects of Grief and Loss 3(3-0)

An introduction to the dynamics of grief and loss and the counseling procedures appropriate for therapeutic intervention. This course may be offered in an online or hybrid format.

CE 686 Psychopathology 3(3-0)

This course covers the history, theoretical approaches, and current concepts in the study of psychopathology. This course may be offered in an online format. Prerequisites: CED 677, 699.

CE 690 Counseling Practicum 1-6(Spec)

Supervised counseling of individuals, families, couples and children. Observation and critique of peer counseling sessions. CR/NC only. Prerequisites: CED 660 with grade of B or better; regular admission to the M.A. in Counseling program.

CE 691 Internship 1-6(Spec)

Clinical experience in selected settings managing a client caseload under qualified supervision. CR/NC only. Prerequisites: Six credits of CED 690.

CE 695 Research in Counseling 3(3-0)

Presentation and application of designs and procedures pertinent to conducting research in the field of counseling. This course may be offered in an online format. Prerequisite: Regular Admission to the M.A. in Counseling.

CE 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 methods course.

CE 698 Thesis 1-6(Spec)

CR/NC only. For Master's degree candidates. Prerequisites: CED 695.

CE 699 Diagnosis & Treatment Planning in Counseling 3(3-0)

This course provides an overview of the diagnosable mental and emotional disorders and appropriate intervention methods. This course may be offered in an online format. Prerequisite: CED 677.

CE 750 Advanced Group Facilitation 3(3-1)

Survey of differing styles of group facilitation. Elements in the helping 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; permission of instructor.

CE 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.

CE 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.

CE 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.

CE 791 Advanced Internship in Counseling 3(Spec)

Internship with selected professionals. Opportunity to confirm professional effectiveness in helping 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 courses. Prerequisites: CHM 132 or 161; PHY 131 or 146; Tier Two - Admission of Candidacy to Teacher Education; signed major or minor in chemistry, physics or chemistry-physics (secondary education); Junior standing. Graduate students must be enrolled in a teaching masters program.

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: Tier Two - Admission of Candidacy to Teacher Education; Junior or Senior standing. Graduate students must be enrolled in a teaching masters 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 development 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 certificate. Recommended: College level Organic Chemistry and a Teaching Methods course.

CHM 511 Advanced Analytical Chemistry 4(2-4)

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(1-6)

Fundamentals of laboratory and field analysis of water and their application to environmental studies. Prerequisites: CHM 211.

CHM 521 Fundamentals of Biochemistry 3(3-0)

Structure, function, and metabolism of proteins, carbohydrates, lipids, and nucleic acids. Prerequisites: CHM 346.

CHM 522 Intermediate Biochemistry 3(3-0)

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(0-4)

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-Req: CHM 425 or CHM 521.

CHM 528 Bioanalytical Techniques Laboratory 2(1-3)

Laboratory analysis of biochemical materials using volumetric, electroanalytical, spectroscopic, and chromatographic techniques. Prerequisites: CHM 211 or graduate standing; Pre/Co-requisite: CHM 425 or 521.

CHM 531 Advanced Inorganic Chemistry 3(3-0)

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(3-0)

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 542 Structure Determination Using Spectroscopic and Related Methods 2(2-0)

Utilization of spectroscopic and related methods (UV, IR, MS, NMR, other) for the determination of molecular structure. Prerequisites: CHM 345 or graduate standing.

CHM 547 Advanced Chemistry Laboratory 2(1-3)

Advanced synthesis, separation, and structure determination of organic and inorganic compounds. Prerequisite: CHM 349, 331.

CHM 551 Materials Chemistry: Inorganics 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. 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(3-0)

Advanced development and application of physical theories using a statistical mechanic approach to understanding of molecular energetics and kinetics. Prerequisites: CHM 352 or 355; MTH 233.

CHM 561 Polymer Chemistry 3(3-0)

An introductory course on polymer synthesis, polymer theory, and basic characterization techniques. Prerequisites: CHM 346, 352.

CHM 562 Industrial Chemistry 3(3-0)

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(3-0)

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 561.

CHM 566 Introduction to Biomaterials 3(3-0)

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(1-3)

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. Corequisite: CHM 561.

CHM 568 Pharmaceutical Chemistry 3(3-0)

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(2-0)

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(1-0)

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(2-3)

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(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. Prerequisites: Permission of chemistry graduate advisor or department chairperson.

CHM 621 Advanced Biochemistry 3(3-0)

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(3-0)

This course will describe the structure, bonding, reactivity, and characterization of coordination compounds, with a discussion of solid-state characterization techniques and applications. Prerequisite: CHM 531.

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(3-0)

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(3-0)

A general survey of advanced organic reactions and syntheses; examples from the research literature are emphasized. Prerequisites: CHM 541.

CHM 651 Advanced Topics in Physical Chemistry 1-9(Spec)

A variety of specialized topics presented by experts. May be repeated as offered to maximum of 9 hours. Prerequisite: CHM 352.

CHM 655 Quantum and Computational Chemistry 3(3-0)

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(3-0)

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(3-0)

A description of polymer additives including structure, function, and effectiveness with different polymer systems; examples from the research literature are emphasized. Prerequisite: CHM 561 or SAM 710.

CHM 669 Polymer Processing 3(3-0)

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 56 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 525 Virtual Team Communication 3(3-0)

Examines communication issues and best practices for successful virtual teams. Includes processes for developing and maintaining virtual team identity/roles, leadership, performance, project planning/organization, and evaluation. This course may be offered in an online format. Prerequisites: COM 225; COM 251, 301 with a C or better; or graduate standing.

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 in 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 communicating changes into 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 conflicts through 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 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)

Prepares 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)

Exploration 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)

This course examines the theory, practice, and research related to the process of communication between people from different cultural backgrounds. This course is approved for offering in a distance learning format. Prerequisites: COM 600.

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 750 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 560 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)

Introduction to computer networks. Point-to-point, local area and wireless networks. Protocols, routing algorithms, and congestion control in networks. Prerequisites: CPS 340, 360.

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. Prerequisites: 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)

Concepts, communication, synchronization, processes, and processors in distribution systems. Distributed file systems. Distributed shared memory systems. Prerequisite: CPS 470.

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.

CRM - Cultural Resource Management

See the *Master of Arts in Cultural Resource Management in the index for more information.*

CRM 521 North American Indian Ethnohistory 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 ethno-historical theory and methodology. Identical to ANT 521. Credit may not be earned in more than one of these courses. Prerequisite: Senior standing and ANT 320 or 365 or HST 323; or graduate standing.

CRM 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. Identical to ANT 540. Credit may not be earned in more than one of these courses. Prerequisites: ANT 175 and one of the following: ANT 340, 344, 348; or Graduate standing.

CRM 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. Identical to ANT 542. Credit may not be earned in more than one of these courses. Prerequisites: ANT 173, 342, or 347; or graduate standing.

CRM 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. Identical to ANT 544. Credit may not be earned in more than one of these courses. Prerequisites: ANT 175; or Graduate standing.

CRM 600 Advanced Field Methods in Archaeology 1-6(Spec)

Advanced training in archaeological methods for graduate students. Identical to ANT 600. Credit may not be earned in more than one of these courses. Prerequisite: Permission of academic adviser.

CRM 626 Theory and Research in Archaeology 3(3-0)

Historical growth of archaeology, nature of archaeological evidence, theoretical frameworks in interpretation and explanation of the human past, research strategies and design. Identical to ANT 626. Credit may not be earned in more than one of these courses.

CRM 645 Cultural Resource Management in Archaeology 3(3-0)

Evaluation of the 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. Identical to ANT 645. Credit cannot be earned in more than one of these courses.

CRM 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. Identical to ANT 700. Credit may not be earned in more than one of these courses. Prerequisite: Permission of academic advisor.

CRM 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. Identical to ANT 798. Credit may not be earned in more than one of these courses. Prerequisites: Successful completion of 6 hours of coursework in the Cultural Resource Management MA program.

DAN - Dance

See the *Department of Communication and Dramatic Arts for more information.*

DAN 530 History of Dance 3(3-0)

Dance history from its primitive 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)

The 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 standardizing 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 healthcare 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)

Foundational 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. This course is approved for offering in a distance learning format.

DHA 721 Seminar in Healthcare Policy and Politics 1(1-0)

This seminar will examine the political, legislative and economic forces that influence healthcare policy and regulation development, implementation and consequences of policy and legislation. This course is approved for offering in a distance learning format. CR/NC only. 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 assets, 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 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 in the education of 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. Prerequisite: ECO 201 or ECO 204; ECO 202 or 203. CR/NC option available.

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 economics.

ECO 597 Special Studies in Economics 1-3(Spec)

Experimental courses to cover material of special interest to both undergraduates and graduates not covered by courses in the regular curriculum. Prerequisite: permission of instructor.

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 aggregative 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 640 Special Topics in Economic Issues 3-6(Spec)

A course organized by individual instructors on the basis of their specialized or experimental interests. Topics will vary from semester to semester.

ECO 646 Advanced Topics in Microeconomic Theory 3(3-0)

A study of advanced topics in Microeconomics such as cover uncertainty, game theory, and asymmetric information using techniques of mathematical proof and real analysis. Recommended: ECO 535, 616.

ECO 650 American Financial Institutions 3(3-0)

Interrelationships among commercial banks, savings and loan associations, finance companies, securities markets, and federal credit institutions; developments, problems, and trends in money markets.

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)

Analyses 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 600 or 700 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)

Grantsmanship skills for public and private funding. 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 and research 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)

Analyze problems and issues in administration of learning programs for students located in nontraditional settings including prisons, malls, churches, factories, and other workplace situations. 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 652 Global Education Studies 3-12(Spec)

Study of educational systems in an international context. This will be a faculty-led trip and 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 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. CR/NC only.

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(3-0)

A planned 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(3-6)

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 critically examine educational research 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 705 The Ontario College System 3(3-0)

This course focuses on the history, philosophy, programs, and practices of the Ontario College System, including comparative analyses to other college systems nationally and internationally. This course may be offered in an online format.

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 720 Survey Research Methods 3(3-0)

This course will introduce students to knowledge and skills needed to properly conduct survey research and to understand and critically evaluate survey research-based education studies. This course may be offered in an online format. Prerequisite: EDL 512 or 600 or 700.

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 problem areas. This course may be offered in an online or hybrid format.

EDL 751 Program Evaluation and Review 3(3-0)

An introduction to program evaluation theory, design, development, and implementation is provided. Content will cover strategies to plan program evaluation and program review. This course may be offered in an online 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 new faculty issues, 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)

Students will analyze the funding of higher education and the complex relationship between finance and other aspects of higher education administration. This course may be offered in an online format. Prerequisites: Admission to the MA in Higher Education Administration Program.

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 format. Prerequisites: Admission to Specialist in Education or Doctoral programs.

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, mill-ages, 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 636.

EDL 769 Negotiations in Education 3(3-0)

Theory and practice of negotiations and collective bargaining as it relates in 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 Education 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 780 District Level Leader Internship 1-15(Spec)

A planned learning experience gained through first-hand observations and operational responsibilities under the direct supervision of an executive educational leader. This course may be offered in an online format. CR/NC only. Prerequisites: Regular admission; completion of a minimum of 9 credits in a post-master's degree program in the Department of Educational Leadership; approval of internship application.

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 Education 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.

EDL 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.

EDL 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.

EDL 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.

EDL 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.

EDL 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.

EDL 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.

EDL 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.

EDL 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.

EDL 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.

EDL 897 Dissertation Colloquium 3(3-0)

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.

EDL 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.

EDL 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.

EDL 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.

EDL 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 practices 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. This course may be offered in an online format. 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 writing consistent with current research. 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 may be offered in an online format. Prerequisites: EDU 330 or graduate status.

EDU 542 Interdisciplinary Processes and Strategies in Teaching Reading, Writing, Thinking, and Learning 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. Prerequisites: 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 lessons. This course is approved for offering in a distance learning format. Prerequisites: EDU 590.

EDU 602 Strategies and Techniques for Teaching 3(3-0)

Examination, development, assessment, and use of teaching methods and strategies to engage learners at all levels of teaching or in presenting materials in workshop format. This course may be offered in an online 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)

Critical analysis, synthesis and evaluation of solutions to significant and persistent issues/problems in education in the United States. Identical to MLE 613. Credit may not be earned in more than one of these courses. This course may be offered in an online format.

EDU 614 Advanced Educational Psychology 3(3-0)

Educational psychology theories and research as tools for analyzing and evaluating teaching and learning. This course may be offered in an online format.

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 623 Understanding Literacy Research Methods 3(3-0)

Understanding and analyzing established and emerging literacy research methodologies and how each mode of inquiry can yield insights into literacy learning. This course may be offered in an online format. Prerequisites: Admission to MA in Reading and Literacy K-12 program.

EDU 624 Word Study and Vocabulary Development 3(3-0)

Teaching and learning about the structure and meaning of words based on students' developmental levels, grades K-12. This course may be offered in an online format. Prerequisite: Admission to a graduate degree program in education.

EDU 627 Using Digital Resources to Teach Literacy 3(3-0)

Critical analysis and use of new technologies and media sources as applied to literacy acquisition and instruction with integration of digital resources into literacy curriculum. This course may be offered in an online format. Prerequisites: Admission to graduate degree program in education.

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 Literacy Assessment and Intervention 6(Spec)

In this course, students will learn about the diagnostic procedures and materials; get supervised work with K-12 students or adolescents; and implement remediation procedures. This course may be offered in an online format. Prerequisite: Admission to a graduate degree program in education.

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. Prerequisites: 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 Literacy in the Disciplines 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. This course may be offered in an online format.

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. This course may be offered in an online format. Prerequisite: EDU 590.

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(3-1)

Development of Read/Write Web resources 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 with community college administrators. 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)

Planning, conducting, and interpreting findings of scientific studies in education. This course may be offered in an online 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 689 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)

Study of the history, nature and scope of curriculum planning development and instruction. This course may be offered in an online 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 tools for evaluating instruction. This course may be offered in an online 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. Students study and develop innovative instructional models utilizing technology. This course is approved for offering in a distance learning format. Prerequisites: 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)**EDU 770 Practicum in Systematic Curriculum Development 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 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. Recommended: EDU 801, 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 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.

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 PhD 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 expected. May be repeated for a total of 6 credits. Prerequisite: Admittance to the Earth and Ecosystem PhD 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 PhD 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 EGR 200; permission of E&T advisor; or Graduate Student in Engineering.

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 EGR 200; permission of E&T advisor; or Graduate Student in Engineering.

EGR 555 Engineering Acoustics 3(3-0)

Fundamentals of engineering acoustics including use of the wave equation, reflection, transmission and attenuation processes, with introduction of various acoustic applications. Prerequisites: EGR 356, 358; MTH 232; permission of E&T advisor; or Graduate student in Engineering.

EGR 570 Engineering Biomechanics 3(3-0)

Fundamental mechanics and engineering principles applied to understand biological tissues and systems. Prerequisites: EGR 253, 255, 355; permission of E&T advisor; or graduate standing in Engineering.

EGR 576 Mechanics of Composite 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 233; 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 388 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.

EGR 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.

EGR 600 Advanced Engineering Analysis 3(3-0)

Modeling and analysis of advanced engineering systems. These include linear and nonlinear, discrete and continuous systems typically found in mechanical and electrical engineering. Prerequisite: Admittance to the graduate program in engineering.

EGR 601 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.

EGR 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.

EGR 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.

EGR 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.

EGR 798 Thesis Research 1-6(Spec)

Thesis research supervised by an engineering faculty. CR/NC only. May be repeated as needed. Prerequisites: EGR 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 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. Prerequisites: ENG 234 and 6 hours of literature; or graduate standing.

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)

An introduction to the principles and theories of second language acquisition, and their implications for language teaching. Recommended: ENG 375.

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 Young Adult Literature 3(3-0)

Examination of literary texts designed for and about adolescents and adolescence. Prerequisites: Graduate status or the following: ENG 201 with a grade of C or better; ENG 234 or 381.

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)

Study of the hero in epic, myth, folktale, 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 College 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 1945 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(Spec)

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)

The role of nature, frontier, or other factors 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, the 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 hours 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: 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(Spec)

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(Spec)

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.

ENS 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.

ENT - Entrepreneurship

Contact the Department of Entrepreneurship for more information.

ENT 600 Business Foundations for Entrepreneurs 3(3-0)

Covers key business terms and principles and the applicability of these principles to entrepreneurs. Traditional MBA subjects and seminal management articles will be covered. This course may be offered in an online format. Prerequisite: admission to the Master of Arts in Entrepreneurial Transactions program.

ENT 605 Foundations of Entrepreneurship 3(3-0)

Covers key entrepreneurship terms, concepts and resources. Students create an initial portfolio of outputs for a proposed venture. Portfolios will be enhanced throughout the program. This course may be offered in an online format. Pre/Co-requisite: ENT 600 or admission to the MBA Program.

ENT 620 New Venture Formation & Governance 3(3-0)

Covers the business, legal and tactical issues surrounding the formation and governance of business entities. This course may be offered in an online format. Prerequisite: ENT 605.

ENT 625 New Venture Hires, Filings & Reports 3(3-0)

Covers post-formation organizational matters and the resources new ventures use to build teams, spot government regulations and keep stakeholders informed. This course may be offered in an online format. Pre/Co-requisite: ENT 620.

ENT 630 Seed Financings & Securities Regulation 3(3-0)

Covers the business, legal and tactical issues that arise when new ventures seek capital from friends, family members, angel investors, and others. This course may be offered in an online format. Prerequisite: ENT 620.

ENT 640 Intellectual Property for Entrepreneurs 3(3-0)

Covers the business, legal and tactical issues surrounding intellectual property. This course may be offered in an online format. Prerequisite: ENT 605.

ENT 650 Crowdfunding 3(3-0)

Covers the business, legal and tactical issues surrounding crowdfunding. This course may be offered in an online format. Prerequisite: ENT 605. Recommended: ENT 640.

ENT 660 Technology for Entrepreneurs 3(3-0)

Covers business, legal and tactical issues surrounding prevalent technology uses by entrepreneurs. This course may be offered in an online format. Prerequisite: ENT 605. Recommended: ENT 640.

ENT 670 Venture Capital 3(3-0)

Covers the business, legal and tactical issues surrounding venture capital. This course may be offered in an online format. Prerequisite: ENT 630.

ENT 680 Growth & Risks at Emerging Ventures 3(3-0)

Covers the business, legal and tactical issues related to growth strategies and risk management tools utilized by emerging ventures. This course may be offered in an online format. Prerequisite: ENT 640.

ENT 690 Entrepreneurial Acquisitions & Exits 3(3-0)

Covers the business, legal and tactical issues surrounding mergers, acquisitions, IPOs and other entrepreneurial exits. This course may be offered in an online format. Prerequisite: ENT 670.

ENT 695 Entrepreneurial Transactions Capstone 3(3-0)

Knowledge gained in other program courses is further applied by working on cases and simulations involving entrepreneurial transactions. Enhanced portfolio of outputs is also submitted. This course may be offered in an online format. Prerequisite: ENT 680. Pre/Co-requisite: ENT 690.

ENV - Environmental Studies

Contact the College of Science and Engineering for more information.

ENV 597 Special Topics 1-6(Spec)**ESC - Earth Science**

See the Department of Geography & Environmental Studies 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 673 Advanced International Financial Management 3(3-0)

This course will cover issues related to both international financial markets and the financial operations of a firm within the international environment. This course may be offered in an online format. Prerequisite: Admission to the MBA Program.

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 680 Financial Modeling 3(3-0)

Quantitative financial modeling using spreadsheets and teaching the practical application of financial theory to real-world business problems. This course may be offered in an online format. Prerequisites: MBA 670; admission to MBA program.

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 World Languages 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 Experimental CAD for Fashion 3-9(Spec)

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(1-3)

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 356, and 60 completed credit hours, 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 796 Creative Scholarship 1-6(Spec)

The design research, collection development, and defense of an acceptable creative scholarship on an approved topic. CR/NC only. Prerequisite: FMD 604.

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 1-6(Spec)

The research, writing, and defense of an acceptable thesis on an approved topic. CR/NC only. Prerequisite: FMD 604.

FNS - Foods and Nutrition

See the Department of Human Environmental Studies for more information.

FNS 512 Global Nutrition 3(3-0)

Nutritional issues faced by populations around the world and in emergencies explored in depth including assessment, prevention, and relief. This course may be offered in an online format. Recommended: FNS 271, 370.

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 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)

Overview of the etiology, differential diagnosis, medical consequences, treatment, and prevention of eating disorders. Obesity in relation to eating disorders will also be addressed. May be offered in an online format. Prerequisite: FNS 370 or graduate status.

FNS 597 Special Topics in Foods and Nutrition 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: 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 delivered in an online format. Prerequisites: Admission to the online MS in Nutrition and Dietetics program.

FNS 662 Micronutrients 3(3-0)

Advanced study of nutrition, metabolism, and function of vitamins and minerals as related to human health and disease. This course is delivered in an online format. Prerequisite: Admission to the online MS in Nutrition and Dietetics Program.

FNS 663 Advanced Eating Disorders and Nutrition 3(3-0)

Factors involved in the etiology, assessment, consequences, treatment and prevention of eating disorders. This course may be offered in an online format. Prerequisite: admission into 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 665 Medical, Scientific and Proposal Writing 3(3-0)

Medical, scientific and proposal writing using research and evidence based literature for the submission of publications or proposals to external venues. This course is offered in an online delivery format.

FNS 667 Advanced Nutrition-End of Life Issues 3(3-0)

Issues and controversies in nutrition and end of life care with respect to ethics, 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)

Professor-led student review and presentation of specific topics of current research in nutrition. This course is delivered in an online format. Prerequisites: Admission to the Master of Science in Nutrition and Dietetics.

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)

Course examines advanced concepts of diet therapy and care for a variety of clinical disorders with nutritional implications. Includes coverage of enteral and parental nutrition. This course is delivered in an online format. Prerequisites: Admission to the online Master of Science in Nutrition and Dietetics program.

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 delivered in an online format. Prerequisite: Admission to the online MS in Nutrition and Dietetics Program.

FNS 674 Dietetic Internship: Clinical Experience 5(Spec)

Application of dietary principles to human pathophysiological status through documenting and counseling individuals, assessing, educating groups, and planning in all healthcare and community settings. Prerequisite: Registration is restricted to students accepted into the 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 healthcare and community settings. Prerequisites: Registration is restricted to students accepted into the 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 principles and their implementation in all healthcare and community settings. Prerequisite: Registration is restricted to students accepted into the 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 investigating the role of nutrition in disease causation and health promotion. This course is delivered in an online format. Prerequisite: Admission to the online MS in Nutrition and Dietetics Program.

FNS 678 Research Methods and Biostatistics 3(3-0)

Presents key concepts in nutritional research methods and bio-statistics. Provides students with skills needed to evaluate and utilize research methodologies and bio-statistics related to nutrition, health and disease. This course is delivered in an online format. Prerequisite: Admission to the online MS in Nutrition and Dietetics Program.

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.

FNS 790 Independent Study in Dietetics 2-6(Spec)

Student-initiated study in an area not covered in regular courses guided by faculty or faculty committee. Prerequisites: FNS 678.

FNS 797 Special Topics in Nutrition 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.

FNS 798 Thesis in Nutrition and Dietetics 1-6(Spec)

Individual research culminating in a written thesis, and submission of the work to a peer-reviewed publication and/or scholarly exhibition. CR/NC only. This course is delivered in an online format. Prerequisite: FNS 678, permission of instructor.

FNS 799 Capstone in Nutrition and Dietetics 3(3-0)

Manuscript submission to a peer reviewed journal or significant research project completion; oral examination and e-portfolio. This course may be delivered in an online format. Prerequisite: FNS 678, permission of instructor.

FRN - French

See the Department of World Languages 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.

FRN 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 300 or above.

FRN 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.

FRN 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: At least 6 FRN credit hours at the 300 level or above; permission of the instructor and department chairperson.

GEL - Geology

See the Department of Earth and Atmospheric Sciences for more information.

GEL 502 Aqueous Geochemistry 3(3-0)

Biogeochemical processes governing the chemistry of water, with a focus on the distribution of natural and anthropogenic chemical species. Prerequisites: CHM 132; BIO 208 or CHM 211 or GEL 310; or graduate status in a CST program. Recommended: GEL 380.

GEL 505 Low Temperature Isotope Geochemistry 4(4-0)

Isotope geochemistry plays an important role in geological, biological, and environmental investigations. The isotopic geochemistry of carbon, oxygen, nitrogen and sulfur will be covered. Prerequisites: CHM 132; GEL 321 or GEL 380; or graduate status in a CST program.

GEL 550 Economic Geology 3(2-3)

Metallic and nonmetallic ore deposits, fossil fuels, and their tectonic settings; general principles of exploration for natural resources within the context of responsible environmental stewardship. Prerequisite: GEL 320 or 321 or graduate status in the College of Science and Technology.

GEL 597 Independent Study 1-6(Spec)

Qualified self-directed students may explore topics of special interest with faculty guidance. More than 3 credits permitted only rarely. Prerequisites: department chairperson and instructor approval.

GEL 650 Geology for Science Teachers 3(2-2)

Study of geologic topics treated in the primary and secondary school curricula according to state benchmarks. Developing and writing new field and classroom hands-on activities. This course may be offered in an online or hybrid format. Prerequisites: GEL 102 and 101 or 105, or GEL 100 or 130; GEL 201; admission to the MAT or MA in Education program.

GEO - Geography

See the Department of Geography & Environmental Studies 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)

Advanced techniques of geospatial analysis, with applications in social and environmental systems. Prerequisites: GEO 303, 308; or GEO 501; STA 282 or 382 or BIO 500.

GEO 508 Applications of Remote Sensing 3(2-2)

Applications of active and passive remote sensing to investigate patterns and processes of the environment. Prerequisites: GEO 303, 308; or GEO 501. Prerequisites/Co-requisites: STA 282 or 382 or BIO 500.

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. Prerequisite: GEO 303 or GEO 501.

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 data models, concepts, structure, functions, examples, and modeling capabilities are explored. Prerequisites: GEO 203, 303 and 305; or GEO 501. Recommended: GEO 503.

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 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, 512.

GEO 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.

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 World Languages 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 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; at least 6 hours on the 400 level.

GRN - Gerontology

See the *Department of Human Environmental Studies* for more information.

GRN 590 Independent Study 1-6(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.

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 306; or Human Development and Family Studies graduate standing.

HDF 508 Early Childhood Program Administration and Leadership 3(3-0)

The role of the early childhood program director as leader and architect of the work environment and climate. This course may be offered in an online format. Prerequisites: HDF 302, 303, 309; or graduate status.

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 dementing illnesses. Prerequisites: HDF 247 or PSY 325 or HSC 390.

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. This course may be offered in an online format. Prerequisites: 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)

This course explores core issues in family studies and presents historical and contemporary theoretical frameworks used to understand and explain family life.

HDF 618 The Family Life Cycle: The Older Adult 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 631 Gerontology: Theory and Practice 3(3-0)

Course examines multidisciplinary gerontological theory and practice. Spans early disease models, successful aging, postmodern paradigms and implications for practice. Emphasizes relationship between theory and practice. This course may be offered in an online format. Prerequisite: graduate status.

HDF 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. This course may be offered in an online format. Prerequisite: graduate status.

HDF 634 Statistical Applications in Human Services 3(3-0)

This course introduces students to the statistical data analyses within an interdisciplinary context in the human services. This course may be offered in an online format. Recommended: An undergraduate course in methods and 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 course 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 HDF5 3(Spec)

This course is an advanced practicum in the HDF5 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 HDF5; Permission of Plan B Committee based on approval of Plan B proposal.

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; skills necessary to manage 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 department chairperson and 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 managing 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 will be studied with special emphasis on prevalence and etiology. Modes of prevention and treatment including diet and exercise will also be discussed. Prerequisites: 56 hours completed or graduate standing.

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 the etiology, epidemiology, treatment, assessment, and prevention of work-related neuromuscular and musculoskeletal conditions in the workplace. Prerequisites: HSC 211 or 214 or graduate standing.

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. Identical to PES 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)

This course covers diversity issues in order to help students become effective, multiculturally competent health practitioners. This course may be offered in an online format. Prerequisites: ATR 383 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)

Content, skills and application to develop and use assessment and evaluation strategies for health education. Prerequisites: HSC 222, 223, 224
Co-requisites: HSC 340, 346.

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 538WI 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 grant applications, proposals, reports, and written communications. Writing Intensive. Prerequisites: 56 credit hours completed or graduate standing. Recommended: Signed major in Health Administration or Public Health Education.

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. Pre/Co-requisites: 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)

Examine cardiovascular and chronic disease risk factors and management of those risk factors with emphasis on current clinical guidelines and lifestyle interventions (e.g., physical activity/exercise). Prerequisites: 56 credit hours completed or graduate standing.

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. Prerequisites: 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, administrative processes 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 the main 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 clinical 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, 411, 547, 550, 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 quality 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 56 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 or graduate standing.

HSC 599 Internship – Public Health 6(Spec)

Application of health education and health promotion principles in a community health agency. Experience supervised by a qualified health educator. CR/NC only. Prerequisites: Signed Community Health Education or Public Health Education Major; completion of required courses on the major; permission of instructor; or graduate status; permission of instructor.

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 recurrences.

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 their academic advisors 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 with PES 631. Credit may not be earned in more than one of these courses.

HSC 632 Cardiopulmonary Exercise Physiology 3(3-0)

Emphasis placed on advanced cardiopulmonary system regulation at rest and during acute exercise. Additional content will include adaptation to chronic exercise and aspects of disease.

HSC 633 Neuromuscular Physiology of Exercise 3(3-0)

Graduate course on the control and coordination of human movement with an emphasis on the plasticity and adaptability of the neuromuscular system to exercise.

HSC 634 Experimental Design in Exercise Science 3(3-0)

Examine basic fundamentals of research design related to statistical analysis, interpretation and writing essential for conducting and interpreting health, sport and exercise related research.

HSC 635 Biomechanics of the Musculoskeletal System 3(3-0)

This course focuses on understanding the morphology, histology, and mechanics of tissue in relation to biomechanics. Common experimental techniques in biomechanics will also be discussed. Pre-requisite: HSC 633.

HSC 637 Advanced Exercise Physiology 3(2-2)

Understanding the integration and application of topics in advanced exercise physiology. Prerequisites: HSC 632, 633, 634, 635, 638.

HSC 638 Endocrine and Metabolic Responses to Exercise 3(3-0)

Understanding the role of hormones in relation to physiological responses to exercise. Responses of these hormones in both normal and disease states will be discussed.

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 346.

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 3 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 797 Directed Research in Exercise Physiology 1-6(Spec)

Directed research on advanced topics in Exercise Physiology, which will culminate in individual research or a creative endeavor presented as a Plan B project. CR/NC only. Prerequisites: HSC 632, 633, 634.

HSC 798 Thesis 1-6(Spec)

Complete a thesis directed by a committee in conformity with university's thesis guidelines. CR/NC only. Pre-requisite: HSC 634 or 670; permission of thesis supervisor.

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 administrative, 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 issue in healthcare organizations, concentrating on Managed Care operations and Accountable Care Organizations. This course may be offered in the classroom, online or hybrid.

HSL 631 Healthcare Law, Compliance and Risk 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, 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, cultural and political 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, 301; 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 relations with Native Americans, political democracy, industrialization, women's roles, reform, westward expansion, and slavery. 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 112, 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 535 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. 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, 238, 338; 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 Athens: 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)

Africa 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 historical 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(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.

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 topic 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 on 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 (1300-1789). 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 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, each time for 3 credits, 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 secondary literature. 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)

Learn 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, 595, 600, 710, MST 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 issues 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 three 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)

Study of a selected topic in the history of colonial British and Revolutionary America. Preparation of a research paper based on primary sources. Recommended: HST 111, HST 511, and at least one of the following: HST 323, 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)

Study of a selected topic in the history of nineteenth century America. Recommended: HST 111 or HST 112 plus at least one more course in this period of American 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 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 history 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 758 Seminar in Twentieth-Century European History 3-6(3-0)

Study of a major aspect of 20th-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)

Study of a selected topic 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 Abroad 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 relationship 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 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 related to 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, IET 561; 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.

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 ones technical competency.

IET 733 Practicum: Industrial Education/Special Education 3(Spec)

Cooperative involvement 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 202, JRN 302, JRN 350, JRN 450; completion of 56 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, malware, 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 opinions.

JRN 529 Photojournalism Internship 1-4(Spec)

Photojournalism experience under professional and faculty supervision. May be applied to journalism major or minor only with permission of faculty advisor. Prerequisites: junior standing; permission of instructor.

JRN 551WI Case Studies in Public Relations 3(3-0)

Examination of historic and contemporary public relations problems and programs with emphasis on research, planning and problem solving skills in public relations practices. Writing Intensive. Prerequisites: JRN 350 or 353.

JRN 556 Public Relations Seminar 3(3-0)

Practical applications of public relations principles in a diverse society.
Prerequisites: JRN 350 or 353; 450.

JRN 559 Public Relations Internship 1-4(Spec)

Experience in public relations 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 569 Advertising Internship 1-4(Spec)

Experience in advertising under professional and faculty supervision. May be applied toward journalism major or minor only with permission of faculty advisor. Prerequisites: junior standing and permission of instructor.

JRN 597 Special Studies 1-6(Spec)

Appropriate title to be listed when offered.

JRN 670 Public Relations Management 3(3-0)

Organization and management of the public relations function in business, industry, various institutions and public relations firms: counseling, planning, budgeting, personnel management. This course is approved for offering in a distance learning format.

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 graduate degree program. Prerequisites: computer literacy as demonstrated by BIS 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 BIS 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 managerial planning, control, and evaluation. 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 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 strategy, the 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 and return, capital budgeting 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)

An 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. Prerequisites: knowledge of advanced business applications in spreadsheets, database, and presentation graphics software; 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.

MBA 614 Introduction to Enterprise Systems Using SAP Software 3(3-0)

Examination of the application and management of business enterprise software using SAP. Issues include software deployment and integration of functional areas that support transaction processing in a business. Prerequisite: Admission to the MBA program.

MBA 615 Executive Business Communication 3(3-0)

Developing effective business communication skills for delivering information and ideas through verbal, written, and non-verbal formats. Prerequisite: Admission to the MBA program.

MBA 616 Quantitative Methods for Managerial Decision Making 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. Prerequisite: Admission to MBA program.

MBA 617 Forecasting for Business and Economics 3(3-0)

Forecasting techniques for business and economics and evaluation of forecasts. Prerequisites: Admission to the MBA program; MBA 616.

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 621 Globalization: Economic and Managerial Perspectives 3(3-0)

This course explores globalization from the domains of economics, international business, and management. Prerequisite: Admission to the MBA program.

MBA 622 Managerial Accounting 3(3-0)

Investigates the central role accounting systems play in the planning, control, and decision making by managers. Prerequisite: Admission to the MBA program.

MBA 623 Strategic Marketing Management 3(3-0)

Dynamic nature and managerial aspects of customer-centric marketing. Formulation of analytical decisions concerning marketing strategy. Prerequisite: Admission to the MBA program.

MBA 624 Organizational Behavior 3(3-0)

An application of the frameworks used to understand and lead individual and group behavior and the processes used to drive organizational change. Prerequisite: Admission to MBA program.

MBA 625 Corporate Finance and Investment Analysis 3(3-0)

This course provides a framework for the analysis of the investment and financing decisions of the firm and understanding of how to apply finance theory to practical solutions. Prerequisites: Admission to the MBA program; MBA 616. Recommended: MBA 617.

MBA 626 Integrative Strategic Management 3(3-0)

Focuses on integrative approach in developing competitive business strategies through a process of analyzing business environments, selecting and implementing strategies, and evaluating results. Prerequisites: Admission to the MBA program; MBA 621, 622, 623, 625.

MBA 627 Business Analytics with SAP 3(3-0)

A course on theories and application of business analytics. Software tools from SAP will be used. Prerequisites: Admission to the MBA program; MBA 614, 616, 617, 625.

MBA 628 Integrated MBA Capstone: Simulation and Performance Metrics 3(3-0)

This course emphasizes integration of skills across all functional areas in business to advance strategic thinking skills necessary for competitive advantage in this global dynamic business environment. Prerequisite: Admission to the MBA Program; MBA 617, 626, 627.

MBA 629 Managing Behavioral Change 2(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 the 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 is approved for offering in a distance learning format. Prerequisites: Admission to the MBA program or permission of the MBA director. Recommended: MBA 503 and MBA 507.

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 economies. 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 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)

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 is approved for offering 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 690 Strategic Management: Integrative Experience 3(3-0)

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. Prerequisites: Admission to the MBA program. Completion of MBA 620, 650, 660, and 670.

MBA 697 Special Topics 1-6(Spec)

Special topics of interest not included in courses currently listed in the Bulletin. Prerequisites: regular admission to the MBA program or permission of the MBA director.

MBA 699 The MBA Project 4(4-0)

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 needs, health, 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 6(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 extends 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.

MED 850 Clerkship: Pediatrics 6(Spec)

The clerkship will teach the basic competencies of pediatric medicine pertinent to the care of patients in a clinical setting. CR/NC only. Prerequisite: Permission from the CMED Office of Medical Education. Recommended: MED 800.

MED 910 Surgery Sub-Internship 8(Spec)

Surgical immersion experience with adult or pediatric patients, designed to prepare the student for the responsibilities of an internship. CR/NC only. Prerequisites: Permission from CMED Office of Curriculum. Recommended: MED 800, 810.

MED 920 Internal Medicine Sub-Internship 8(Spec)

Internal medicine immersion experience with adult or pediatric patients, designed to prepare the student for the responsibilities of an internship. CR/NC only. Prerequisites: Permission from CMED Office of Curriculum. Recommended: MED 800, 820.

MED 930 Clerkship: Emergency Medicine 6(Spec)

Teaches basic competencies of Emergency Medicine pertinent to the care of patients, in emergency department/urgent care clinical setting. CR/NC only. Prerequisites: Permission from CMED Office of Curriculum. Recommended: MED 800, 810, 820.

MED 997 Special Topics: Medical Clerkship Elective 1-42(Spec)

Topics of special interest to third/fourth-year students that extend their knowledge of a specialty area, develop skills in patient care/research, or prepare them for residency. CR/NC only. Prerequisites: Permission from CMED Office of Curriculum.

MED 999 Capstone 6(Spec)

Reviews, reinforces, and expands knowledge and skills necessary to begin the first year of residency training. CR/NC only. Prerequisites: Completion of all required CMED courses and clerkships.

MGT - Management

See the Department of Management for more information.

MGT 500 Comparative Labor Relations Systems 3(3-0)

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(3-0)

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(3-0)

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(3-0)

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(3-0)

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; 86 semester hours completed; admission to Professional Business Studies or listed on major or minor or graduate standing.

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; 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 transcripts. 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, 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 country-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 country-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 Preparation Guide." 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 Informatics 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)

Organization 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.

MHA 699 Health Administration Internship 6(Spec)

Offers an academic opportunity for students to learn healthcare administration through a structured administrative experience in a healthcare organization. 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 the latter. This course is approved for offering in a distance learning format. Prerequisites: one course in MKT; one course in statistics or MKT 450; admission to Professional Business Studies; 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)

Current best practices and strategies for designing and managing integrated logistics systems. This course is approved for offering in a distance learning format. Prerequisites: Admission to the MBA program or permission of the MBA director.

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 actual 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 acceptable thesis in business administration. The thesis is directed by a committee in conformity with the "Regulations and Directions for the Writing of the Master's Thesis." CR/NC only.

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)

Critical analysis, synthesis and evaluation of solutions to significant and persistent issues/problems in education in the United States. Identical to EDU 613. Credit may not be earned in more than one of these courses. This course may be offered in an online 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 Level 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.

MPH - Master of Public Health

Contact the School of Health Sciences for more information.

MPH 640 Biostatistics in Public Health 4(3-1)

This course provides advanced knowledge and skills in probability and statistics, enabling students to use statistical software to analyze datasets related to public health problems. This course may be offered in an online format.

MPH 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.

MPH 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 the United States. This course may be offered in an online format.

MPH 646 Epidemiology for Public Health 3(3-0)

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 format.

MPH 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.

MPH 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 illnesses in human populations. This course may be offered in an online or hybrid format. Prerequisite: Admitted to the MPH Program.

MPH 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; MPH 640.

MPH 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: MPH 646, 648, 652; admission to the MPH Program.

MPH 655 Program Planning and Evaluation 3(3-0)

Prepares students to conduct community needs assessment, design and implement health interventions to address these needs and evaluate the effectiveness of these interventions. This course may be offered in an online format. Prerequisites: MPH 640, 646.

MPH 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.

MPH 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.

MPH 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.

MPH 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.

MPH 667 Maternal and Child Health 3(3-0)

Describes the major issues affecting the health and well-being of children and families over the life span. This course may be offered in an online format. Prerequisite: MPH 644.

MPH 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.

MPH 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 the community. This course may be offered in an online format. Prerequisite: MPH 640.

MPH 790 Applied Practical Experience 2(Spec)

Provides students with a work-related experience designed to integrate public health theory and practice in an applied setting under supervision. CR/NC. This course may be offered in an online format. Prerequisites: MPH 640, 642, 644, 646, 648, 650, 652, 655, 670.

MPH 796 Integrative Learning Experience 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 format. Prerequisites: MPH 642, 644, 648, 650, 652, 654, 655, 670.

MPH 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; MPH 640, 644, 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 in 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: 86 semester hours completed or graduate standing.

MSA 506 Evaluation, Coaching and Mentoring 3(3-0)

Post-hire evaluation, coaching, and mentoring: Course examines the alignment of individual and group performance with an organization's strategic vision by developing effective performance management processes. This course may be offered in an online format.

MSA 510 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: 86 hours completed or graduate standing.

MSA 600 Foundations of Research Methods in Administration 3(3-0)

Research methods and writing designed to build the skills and knowledge necessary to interpret, apply and report research in the field of administration. This course may be offered in an online format. Prerequisite: Statistics competency.

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 format.

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 format. Prerequisites: Accounting competency.

MSA 603 Strategic Planning for the Administrator 3(3-0)

An examination of processes and approaches 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 format.

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 format.

MSA 607 Program Management in Complex Organizations 3(3-0)

Examines oversight and coordination of complex project management processes involving multiple activities and teams. Discusses effective techniques for structuring deliverables, workflow and staffing. This course may be offered in an online format.

MSA 608 Succession Planning 3(3-0)

Examines processes and practices required to effectively use succession planning as a part of a talent management strategy and links these approaches to organizational objectives. This course may be offered in an online 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 critical considerations required 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 review, 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 618 International and Comparative Employment Relations 3(3-0)

Compares market, economic, labor, and legal considerations throughout the world. Includes distribution and development models, issues and policies that influence the global work environment. This course may be offered in an online 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)

To develop an understanding of human problems and processes 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, coordinating, 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, grantees, 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 produce 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)

This course is concerned with the application of appropriate marketing concepts and techniques to the private sector business and nonprofit organizations' marketing and communication activities. The course may be offered in an online 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 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 677 Disruption, Innovation, Transformation and Change 3(3-0)

A framework for leading creativity and change in complex organizations by diagnosing potential innovation failures and developing strategies that foster a culture of organizational innovation. This course may be offered in an online 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 workday 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 format. Prerequisites: MSA 600; 601; 602; 603; 604 all with a grade of C or better; 27 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 634 or 635; MSA 603 or 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, exhibit 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 usage. 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 598 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 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 775 Seminar in Funding and Fundraising 3(3-0)

Achieving adequate financial support is an ongoing challenge facing museums. Explore the various methods that museums use to fund their educational programs.

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: 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 (linear, nonlinear) problems, orthogonal 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 Mathematical Structures 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 developments of western and non-western cultures for use in grades K-8. Credit will not apply toward a master's degree in mathematics. Prerequisites: MTH 254, 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. Prerequisites: 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 presentation 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 course. 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-requisite: See Course Search and Registration.

MTH 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.

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 Theory of Groups and Rings 3(3-0)

Isomorphism theorems for groups, group actions, Sylow theorems, product of groups, structure theory of rings, ideals, Euclidean domains, principal ideal domains, and unique factorization domains. Prerequisite: MTH 523, Recommended: MTH 525.

MTH 625 Theory of Modules and Fields 3(3-0)

Modules, free modules, tensor products of modules, exact sequences of modules, modules over a principal ideal domain, field theory, and Galois theory. Prerequisites: MTH 525, 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)

A study of functional analysis. Consideration of Banach spaces, metric spaces, and compact spaces. General measure and integration theory. Prerequisite: MTH 632.

MTH 634 Fourier Analysis 3(3-0)

Study of Fourier Series, convergence, summability, Fourier Transforms, distributions. Applications of fast Fourier Transform to Heat and Wave Equation. Signal Processing, Fourier Optics. Prerequisites: MTH 532.

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, Rouché's theorem. Prerequisite: MTH 532.

MTH 637 Complex Variable Theory 3(3-0)

Conformal mapping, Mobius transformations, harmonic functions, Dirichlet 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. Corequisite: MTH 533.

MTH 641 Topics in Geometry 3(3-0)

Advancing topics in geometry, foundations, non-Euclidean geometry. Prerequisite: MTH 341.

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 mensuration 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 four 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)

Advanced 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 533, 632, 636, 732.

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 I 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 a professional supervisor. CR/NR only. Prerequisites: Successful completion of all required 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	Middle Digit
Theory and Composition	0
Music History and Literature	1
Pedagogy	3
Class Applied Instruction	4
Private Applied Instruction	5, 6, 7
Ensembles	8
Research and Special Studies	9

MUS 503 Advanced Counterpoint 2(2-0)

Advanced counterpoint techniques and writing assignments in 18th century style. Prerequisites: MUS 302; Music candidacy; or admission to the graduate music program.

MUS 504 Seminar in Compositional Techniques 3-9(Spec)

Exploration and application of significant compositional trends and techniques. Repeatable up to nine hours when content previously studied is not duplicated. Prerequisites: MUS 202 and Music candidacy; or admission to the graduate music program.

MUS 505 Seminar in Contemporary Music Analysis 3(3-0)

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 eras. Prerequisite: Admission to Music Candidacy or admission to the graduate music program.

MUS 516 Seminar in Piano Music 3-9(Spec)

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 times 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 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 credits 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 through observation, research and teaching. 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 jazz genre 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 633.

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 wind 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 in-depth 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. This 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. This 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. This course is repeatable. Prerequisite: 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 773 Horn 1-8(Spec)

Individualized program of applied studio instruction in horn 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 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 790 Independent Study 1-9(Spec)

Student-initiated study guided by faculty member or faculty committee. Repeatable up to nine hours when content does not duplicate previous independent studies. Prerequisite: Admission to the graduate music program.

MUS 791 Introduction to Music Research 3(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 523WI Fundamentals of Grant Writing and Management 3(3-0)

This course examines grant seeking, writing, proposal development, management, and 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. This course may be offered in an online format. 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. This course may be offered in an online format.

PAD 620 Nonprofit Management 3(3-0)

Introduction to the fundamentals of managing organizations in the nonprofit sector. This course may be offered in an online format.

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. This course may be offered in an online format.

PAD 623 Public Policy Processes and Evaluation 3(3-0)

This course provides an introduction to the professional practice of policy analysis. This course may be offered in an online format.

PAD 655 Managing Modern Local Government 3(3-0)

Overview of major themes and issues confronting the management of local government. This course may be offered in an online format.

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. This course may be offered in an online format.

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. This course may be offered in an online format.

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. This course may be offered in an online format.

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. This course may be offered in an online format.

PAD 730 Public Service Competencies 1(Spec)

Overview and assessment of the competencies needed to be an effective administrator in the public sector. This course may be offered in an online format. 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. This course may be offered in an online format.

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. This course may be offered in an online format.

PAD 780 Public Sector Research Methods 3(3-0)

Exploration of research methods used in governmental and public sector organizations. This course may be offered in an online format.

PAD 785 Strategic Leadership 3(3-0)

This 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)

Pracademic 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 550 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 how ethics, morals, and values influence 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 selective 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 theoretical basis of sport management combined with supervised experiences in sport event management. 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 program.

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, developmental factors, and psychological 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 underlying 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 program 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 management. 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 methodologies used for effective decision-making within the sport industry. This course may 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 practical and theoretical application of US law to the sport industry. This course may be offered in an online format. Prerequisite: Admission to the MA in Sport Administration.

PES 645 Financial Management of Sport 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 650 Sport Marketing 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 660 Biomechanics 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)

Basic research methods and techniques essential in performing and interpreting scientific studies. Recommended: 6 hours of graduate course work completed prior to enrollment. Identical to HSC 670. Credit may not be earned in more than one of these courses.

PES 672 Statistics for Physical Education and Sport, Health and Recreation 3(3-0)

Basic descriptive and inferential statistical concepts and techniques commonly encountered in professional literature and essential to teaching and research. This course may be offered in online or hybrid format.

PES 675 Human Resource Management in Sport Organizations 3(3-0)

A study of human resource management techniques as it relates to the sport industry. This course may be offered in an online format. Prerequisite: Admission to the MA in Sport Administration.

PES 685 Integrated Capstone Project in Sport Management 3(Spec)

An integrated 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 Administration.

PES 690 Practicum 1-4(Spec)

To give the student professional experience of a supervisory or administrative 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 consultation 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 permission 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 consultation 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)

Comprehensive survey course that studies prioritized medical topics within organ systems. The systems covered are otolaryngologic, ophthalmologic, cardiovascular and respiratory systems. Prerequisites: admittance 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 gastrointestinal, hepatobiliary, genitourinary, endocrine, hematological systems and oncology. Prerequisites: admittance to the Physician Assistant program and PHA 608.

PHA 610 Clinical Medicine III 3(3-0)

Comprehensive survey course that studies prioritized medical topics within organ systems. The topics covered are the immunologic, musculoskeletal and neurologic systems and geriatrics. Prerequisites: admittance to the Physician Assistant program and PHA 609.

PHA 612 Obstetrics/Gynecology 3(3-0)

Prioritized instruction in normal function and selected medical conditions in women's health including pregnancy, childbirth, neoplasm and endocrine changes. Prerequisites: admittance to the Physician Assistant program.

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)

Survey course that focuses on pre-, peri- and postoperative care and medical 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)

Survey course that familiarizes the student with common emergency medicine problems and injuries utilizing a priority system. Prerequisites: Admittance 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 program credits but still need to use university resources to complete their degree requirements.

PHA 620 Infectious Diseases 3(3-0)

A comprehensive survey course on the diagnosis and treatment of infectious diseases seen in primary care medicine and organized by organ system. Prerequisites: admittance to Physician Assistant program.

PHA 624 Issues in Practice 2(2-0)

Topics concerning physician assistant professional practice. CR/NC only. Prerequisites: Admission to the Physician Assistant Program.

PHA 625 Clinical Pharmacology I 3(3-0)

Survey clinical course that emphasizes principles of pharmacology, pharmacokinetics and pharmacotherapy as they relate to drugs in the treatment of common primary care conditions. Prerequisites: admittance to Physician Assistant program.

PHA 626 Clinical Pharmacology II 3(3-0)

This clinical survey course continues instruction in pharmacology of select drugs, prescription essentials general pharmacology resources for the primary care practitioner. Prerequisites: admittance to Physician Assistant program, PHA 625.

PHA 630 Clinical Procedures I 3(2-2)

Integrated didactic and laboratory course which develops medical procedural diagnostic and therapeutic skills. This prepares the student for the clinical setting. CR/NC only. Prerequisite: admission to the Physician Assistant program.

PHA 631 Clinical Procedures II 3(0-6)

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 633 Scientific Basis of Medicine I 2(2-0)

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.

PHA 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.

PHA 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.

PHA 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: Admissions to the Physician Assistant Program.

PHA 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.

PHA 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.

PHA 645 Critical Appraisal of Medical Literature and Evidence-Based Medicine 2(2-0)

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.

PHA 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.

PHA 651 Diagnostic Tests II 2(2-0)

Indications for and interpretation of laboratory, pulmonary function, and neurophysiologic testing. Prerequisites: PHA 650.

PHA 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.

PHA 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.

PHA 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.

PHA 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.

PHA 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.

PHA 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.

PHA 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.

PHA 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.

PHA 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.

PHA 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.

PHA 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.

PHA 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 501 Careers in the Physical Sciences 1(0-2)

Career planning and job application skills for students in physics, astronomy, or a closely related area. Prerequisite: Completion of at least 20 credit hours of coursework in the physical sciences or mathematics, or admission to the PHY M.S. program.

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; Tier Two - Admission of Candidacy to Teacher Education; signed major or minor in chemistry, physics, or chemistry-physics (secondary education); Junior standing. Graduate students must be enrolled in a teaching masters 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, 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: Tier Two - Admission of Candidacy to Teacher Education; Junior or Senior standing. Graduate students must be enrolled in a teaching masters program. Pre/Co-requisite: CHM 505 or PHY 505.

PHY 517 Computational Physics 3(2-2)

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: MTH 233; or graduate standing. Pre/Co-requisites: PHY 322, MTH 334; or graduate standing. Recommended: Basic knowledge of a programming language such as FORTRAN, Java, C, Python, or others.

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(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.

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 644 Quantum Mechanics II 3(3-0)

Identical particles, the self-consistent field, theory of multiplets, semiclassical theory of radiation, atomic collisions. Prerequisite: PHY 643.

PHY 685 Seminar: Contemporary Physics 1-4(Spec)

Discussion of recent research in various subfields of physics. Emphasis on oral presentation and literature searches. Offered in 1 hour blocks, but may be retaken three times. Prerequisite: graduate standing in physics.

PHY 698 Plan B Project 1-2(Spec)

A project in an area of physics related to, but extending beyond material covered in required coursework. May be taken for credit more than once. Prerequisite: Graduate standing in Physics.

PHY 780 Topics in Physics 1-9(Spec)

Topics not ordinarily covered in regular courses. Prerequisite: one course at 500 or 600 level.

PHY 790 Independent Study 1-6(Spec)

Individual study in an area not covered by regular courses. Prerequisite: Permission of instructor.

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: complete minimum of 56 credit hours of university course work.

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)

Prerequisite: 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 I 3(3-0)

Impact of modernization and industrialization upon emergent 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 theory, as well as in concrete political-economic interactions of nations. 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.

PSC 761 Seminar in American State Government 3(3-0)

Study and research in the problems and the process of state government. Content varies. Recommended: PSC 561.

PSC 790 Advanced Readings I 1-6(Spec)

Prerequisites: Permission of advisor and department chairperson.

PSC 793 Practicum in Citizen Engagement 1-12(Spec)

This course provides experiential learning in a variety of leadership techniques intended to facilitate citizen engagement in public decision making. CR/NC only. Prerequisite: Permission of instructor.

PSC 794 Practicum in Public Polling 1-12(Spec)

This course provides experiential learning in the use of public-opinion polling to facilitate democratic processes and governance. Prerequisite: Permission of instructor.

PSC 798 Thesis 1-6(Spec)

CR/NC only. Prerequisite: written permission of advisor and department chairperson.

PSY - Psychology

See the Department of Psychology for more information.

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 555 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 physical 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 reviews characteristics and etiology of individuals with autism spectrum disorders. This course may be offered in an online format. Identical to SPE 530. Credit may not be earned in more than one of these courses. Prerequisites: Junior standing 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 Psychophysiology 3(3-0)

Introduction to psychophysiological 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)

A survey of 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 still 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 Advanced Personnel Psychology 3(3-0)

This course examines major ideas, assumptions, and technologies in personnel psychology, the implementation and utilization of personnel technologies, and selected current topics. Prerequisites: graduate standing; PSY 536. Recommended: PSY 510 or an equivalent course in advanced statistics.

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 CMU 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)

Intellectual and personality assessment of children and adolescents. 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 I 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, neuroscience, 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 Interventions in Social Systems 3(3-0)

This course explores the history, theoretical foundations, practice, and evaluation of organization development (OD). Prerequisite: PSY 535. Recommended: PSY 536.

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 and 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 3 hours may be taken per semester. Prerequisite: permission of instructor.

PSY 790 Practicum I A: 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 I B: 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 faculty. 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 1,200 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 990 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 drug therapy is utilized in rehabilitation. Prerequisites: admission to Physical Therapy Program.

PTH 617 Clinical Pathophysiology & Pharmacology I 2(2-0)

Introduction to the pathophysiology of immune, integumentary, gastrointestinal, urological, and hepatic systems. Emphasis is placed on clinical and pharmacological management pertinent to physical therapy practice. Prerequisites: HSC 630. Co-requisites: PTH 635, 645.

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 Doctoral Program in Physical Therapy. Co-requisites: HSC 630.

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 pediatrics patient. 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 625 Imaging in Physical Therapy 1(1-0)

Study and application of patient imaging in the practice of physical therapy. Prerequisite: admission to the Doctoral Program in Physical Therapy. Co-requisites: HSC 630, PTH 618.

PTH 626 Neuroanatomy in Physical Therapy 3(3-0)

Introduction to neuroanatomy as it relates to physical therapy. Case studies are used to relate implications of neurological lesions with physical therapy intervention. Prerequisites: HSC 630.

PTH 633 Clinical Education I 3(1-3)

Mock clinic format is utilized to introduce specific clinical situations and case studies. Problem solving, interaction and technical skills are analyzed. CR/NC only. Prerequisites: PTH 635, 645. Co-requisites: PTH 622, 636, 646.

PTH 634 Clinical Education II 6(Spec)

This course provides one six-week full-time clinical education experience for physical therapy students in physical therapy practice settings. Focus of experience is orthopedic disorders. CR/NC only. Prerequisites: PTH 633, 635, 636, 645, 646.

PTH 635 Examination and Diagnosis I 2(1-2)

Introduction to theory, concepts, and procedures of examination and diagnosis of patients with dysfunctions of musculoskeletal system, with laboratory practice in selected measures. Prerequisites: HSC 630. Co-requisites: PTH 617, 645.

PTH 636 Examination and Diagnosis II 2(1-2)

Theory, concepts, and procedures central to examination and diagnosis of patients with orthopedic dysfunctions or disabilities, with laboratory practice in selected measures. Prerequisite: PTH 635. Co-requisite: PTH 622, 633, 646, 666, 672.

PTH 645 Foundations of Patient Care 5(3-4)

Introduction to basic clinical management procedures used in physical therapy practice and the scientific and clinical rationale for such procedures. Prerequisite: HSC 630. Co-requisites: PTH 617, 635.

PTH 646 Therapeutic Interventions 5(3-4)

Introduction to evaluation procedures and interventions used for patients with a variety of orthopedic dysfunctions. Prerequisite: PTH 635, 645. Co-requisites: PTH 622, 633, 636.

PTH 655 Teaching and Learning in Physical Therapy 2(2-0)

The role of physical therapists as teachers and learners in a variety of situations and settings is explored. Prerequisites: admission to the Doctoral Program in Physical Therapy.

PTH 661 Manual Therapy I 1(0-2)

Lab demonstration/participation is used to study foundational manual therapy techniques used in physical therapy for the treatment of extremity dysfunctions and associated painful postures. Prerequisites: PTH 636, 646.

PTH 662 Manual Therapy II 2(0-4)

The study of manual techniques used in physical therapy for the treatment of spine dysfunction and associated painful posture. Prerequisites: PTH 661, admission to the Physical Therapy program.

PTH 663 Proprioceptive Neuromuscular Facilitation 2(2-0)

This course introduces the treatment techniques and procedures that are integral to proprioceptive neuromuscular facilitation in treating neuromuscular or musculoskeletal problems. Prerequisites: PTH 745, admission to the Physical Therapy program.

PTH 665 Physical Therapy Seminar I 1(1-0)

The study of professional issues in physical therapy. Course will focus on health care delivery and practice issues. CR/NC only. Prerequisites: admission to the Physical Therapy program.

PTH 666 Physical Therapy Seminar II 1(1-0)

The study of professional issues in physical therapy. Course will focus on practice, political and demographic issues. CR/NC only. Prerequisite: PTH 665.

PTH 672 Clinical Anatomy and Kinesiology of Human Joints 4(3-3)

Anatomical and kinesiological overview of joints in the human body. Includes anatomy, joint biomechanics, arthrokinematics, osteokinematics and detailed study of human gait. Prerequisite: PTH 635.

PTH 690 Motor Learning in Neurorehabilitation 2(2-0)

Students will examine the current theory on motor learning and make applications to case studies in rehabilitation. Prerequisites: admission to the Physical Therapy program.

PTH 692 Clinical Biomechanics 2(1-2)

Addresses advanced topic areas in clinical biomechanics. Areas include special cases for gait, kinetic chain activities, and the mechanical bases of clinical practice.

PTH 695 Ethics in Physical Therapy 3(3-0)

The course introduces biomedical ethics principles to students in physical therapy education programs. Students are instructed in ethical theories and decision-making strategies. Credit may not be earned in more than one of these courses. Prerequisites: admission to the Physical Therapy program.

PTH 710 Principles of Clinical Management 3(3-0)

Study of Administrative and organizational activities needed in a physical therapy clinic. Personnel, quality assurance, reimbursement, and legal issues are examined. Prerequisites: admission to the Physical Therapy program.

PTH 725 Research & Evidence-Based Practice II 1(1-0)

Principles and methods of dissemination of research findings. Students learn to present and publish research results, and identify potential sources of research funding in the field of physical therapy. Prerequisite: PTH 650.

PTH 732 Clinical Education III 3(1-4)

A mock clinic format is utilized to introduce students to specific clinical situations. Patient management skills for complex clinical case studies are emphasized. CR/NC only. Prerequisites: admission to the Physical Therapy program, PTH 634.

PTH 735 Examination and Diagnosis III 2(1-2)

Theory, concepts, and procedures central to examination and diagnosis in neurological physical therapy practice, with laboratory practice in the application of selected measures. Prerequisites: PTH 636. Corequisite: PTH 745.

PTH 736 Examination and Diagnosis IV 2(1-2)

Theory, concepts, and procedures central to examination and diagnosis of patients with dysfunctions or disabilities involving selected multiple systems, with laboratory practice in selected measures. Prerequisites: PTH 735; Co-requisite: PTH 746.

PTH 745 Patient Care III 5(3-4)

Students are instructed in skills for the care of patients. Neurologic case studies, standardized testing, education and management issues are emphasized. Prerequisites: PTH 626, PTH 646; admission to the Physical Therapy program.

PTH 746 Patient Care IV 4(3-2)

Students are instructed in skills for the care of patients. Cardiopulmonary oncology, burn care, chronic pain and chronic conditions are emphasized. Prerequisites: admission to the Physical Therapy program, PTH 745.

PTH 765 Physical Therapy Seminars III 1(1-0)

The study of professional issues in physical therapy. Course will focus on social, business and government issues. CR/NC only. Prerequisites: admission to the Physical Therapy program.

PTH 766 Physical Therapy Seminars IV 1(1-0)

The study of professional issues in physical therapy. Course will focus on ethical, educational and practical issues. CR/NC only. Prerequisites: admission to the Physical Therapy program.

PTH 790 Clinical Research I 4(4-0)

First of two courses sequence to satisfy the doctoral project requirements for physical therapy program. Students complete either (a) a prospective research project or (b) clinical case report. CR/NC only. 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 member to outline the project requirements and complete activities. Prerequisites: admission into 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 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 child-bearing years, midlife, and aging are discussed. Prerequisites: PTH 634 and admission to the Physical Therapy Program.

PTH 932 Clinical Education V 12(Spec)

This course consists of a 16 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 501WI 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 505WI 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. Prerequisite: One of the following: RPL 204, 216, 222, 261, graduate status. Pre/Co-requisite: One of the following: RPL 358, 430, 431.

RPL 511 Liability and Risk Management in Leisure Services 3(3-0)

Situational 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 for 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 the foundation and basis for applying marketing principles and techniques to the provision of leisure service experiences. May be offered as Writing Intensive. Prerequisites: 6 Credits of RPL or Event Management Minor.

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 580WI Programming for Therapeutic Recreation 3(3-0)

Clinical programming techniques for therapeutic recreation. Writing intensive. Prerequisites: RPL 210 and any two of the following: RPL 340, RPL 341, RPL 342, or RPL 345.

RPL 581 Therapeutic Recreation: Management Issues 3(3-0)

Current issues in the administration of therapeutic recreation services including: credentialing, accreditation, coverage, budgeting, quality assurance, risk management, marketing, human resource management, and professional advancement. Prerequisites: RPL 118, 210; two of the following RPL 340, 341, 342, 345. Pre/Co-requisites: RPL 349, 351, 580.

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 profession through individual study. Prerequisite: Admission to MA or MSA in Recreation & Park Administration program.

RPL 605 Administration of Leisure Services Systems 3(3-0)

The administrative aspects of operating recreation, parks, and leisure services systems. Emphasis on advanced administrative principles, practices, 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 or 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.

RPL 791 Independent Study 2(Spec)

Independent research in a topic of interest. Topic must be approved prior to enrollment. Not open to students taking RPL 798. 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 331 or PHY 332 or EGR 355.

SAM 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.

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)

Application of quantum theory and statistical mechanics to the physics of materials. Origin of electrical, magnetic, and optical properties of solids and methods of characterization. Prerequisites: PHY 145, PHY 146, MTH 233.

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 polymeric 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 material 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)

Development of skills required for critical evaluation and technical presentation of current research topics in the science of advanced materials. Prerequisites: Admission to SAM PhD program. Pre/Co-requisites: SAM 685.

SAM 790 Independent Study in Advanced Materials 1-3(Spec)

Independent study in the area of advanced materials. A proposal for the independent study prepared in consultation with an advisor is required. Prerequisites: Admission to the Science of Advanced Materials Ph.D. program and permission of instructor.

SAM 795 Internship in the Science of Advanced Materials 1-6(Spec)

Develop competencies in the science of advanced materials in an internship. CR/NC only. Prerequisites: Completion of cumulative examinations. Admission to candidacy.

SAM 796 Directed Research in the Science of Advanced Materials 1-36(Spec)

Directed research supervised by a SAM faculty member. May be repeated for a total of 36 credits. Prerequisites: Admission to the SAM program.

SAM 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 710 Biomolecular Structure and Function-Proteins and Nucleic Acids 4(4-0)

Advanced study of the structure and function of proteins and nucleic acids, enzymatic mechanisms, and techniques used to research these topics. Prerequisite: Admission to the Biochemistry, Cell and Molecular Biology M.S. or Ph.D. program.

SCI 720 Advances in Cell/Molecular Biology and Genetics 4(4-0)

Development of concepts in Cell/Molecular Biology and Genetics are explored, including topics at the forefront of current research. Prerequisite: Admission to the Biochemistry, Cell and Molecular Biology M.S. or Ph.D. program.

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 731 Biochemistry, Cell and Molecular Biology Colloquium 1-2(Spec)

Development of effective methods in professional scientific communication. May be repeated up to 2 credits. Prerequisite: Admission to the Biochemistry, Cell and Molecular Biology M.S. or Ph.D. program.

SCI 740 Research Ethics and Responsible Conduct of Research 1(1-0)

Basic training in research ethics and the responsible conduct of research. CR/NC only. Prerequisite: Admission to the Biochemistry, Cell and Molecular Biology M.S. or Ph.D. program, the Biology M.S. program, the Chemistry M.S. program, or the Neuroscience M.S. or Ph.D. program.

SCI 750 Directed Research in Biochemistry, Cell and Molecular Biology 1-30(Spec)

Directed research supervised by a BMCB faculty member. May be repeated for a total of 30 credits. Prerequisite: Admission to the Biochemistry, Cell and Molecular Biology Ph.D. program.

SCI 770 Careers in Biomedical Sciences 1(1-0)

Development of professional skills and an exploration of M.S. and Ph.D. careers in the biological, biochemical, and biomedical sciences. CR/NC only. Prerequisite: Admission to the Biochemistry, Cell and Molecular Biology M.S. or Ph.D. program, the Biology M.S. program, the Chemistry M.S. program, or the Neuroscience M.S. or Ph.D. program.

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 791 Special Topics in Biochemistry, Cell and Molecular Biology 1-9(Spec)

Various advanced topics in Biochemistry, Cell and Molecular Biology. May be repeated for a total of 9 credits. Prerequisite: Admission to the Biochemistry, Cell and Molecular Biology M.S. or Ph.D. program.

SCI 798 Thesis 1-6(Spec)

This committee approved research towards a Plan A thesis. CR/NC only. Prerequisites: Approval of the Interdisciplinary Science Education Council chair.

SCI 799 Master's Thesis 1-9(Spec)

Research resulting in a written master's thesis. May be repeated for a total of 9 credit hours. CR/NC only. Prerequisites: SCI 710, 720.

SCI 899 Doctoral Dissertation 1-12(Spec)

Completion of the doctoral dissertation. May be repeated for a total of 12 credit hours. CR/NC only. Prerequisite: Permission of the instructor; successful completion of qualifying exam.

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)

Explores theories of 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)

Examination of theories of social class and their application to American society. Review of empirical 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)

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 IIIB 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 process 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)

Contemporary issues in deviance theory and research. Prerequisites: SOC 300 or both SOC 200 and 350, SOC 301; SOC 321; 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 locus of community. Review of intellectual heritage of community study; community development; peacebuilding 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/injustice. Explores roots, consequences, types, policy approaches, and strategies for pursuing global justice. Identical to ANT 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.

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. Prerequisite: Six credits of cultural anthropology, 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/or 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.

SOC 607 Methodology of Sociological Research 3(3-0)

Exploration and critique of various epistemological approaches to sociological inquiry. Research design, concept development, nature of data, introduction to qualitative and quantitative methods. Prerequisites: SOC 200 and 350; and permission of instructor.

SOC 611 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 HDF 603. Credit may not be earned in more than one of these courses.

SOC 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.

SOC 621 Social Control and Justice Systems 3(3-0)

Formal and informal responses to crime and delinquency, analyzed in terms of criminology theory and research and with reference to concepts of social control. Prerequisites: SOC 300, and SOC 301 or SOC 501.

SOC 631 Workshop on Qualitative Research 3(3-0)

This course is designed to introduce students to the various qualitative research methods in the social sciences. Prerequisites: SOC 607.

SOC 632 Techniques of Sociological Research 3(3-0)

Analysis of quantitative social science data. Hypothesis testing and descriptive methods. Prerequisite: SOC 607.

SOC 699 Special Topics in Sociology 1-10(Spec)

Consideration of subject matter not included in courses currently listed in Bulletin. Not open to students on academic probation.

SOC 795 Independent Reading 1-6(Spec)

Prerequisite: Open to students who have obtained the permission of the department chairperson and an instructor to read intensively on an approved topic.

SOC 796 Independent Research 1-6(Spec)

Prerequisite: open to students who have obtained the permission of the department chairperson and an instructor to conduct research on an approved topic.

SOC 798 Thesis 1-6(Spec)

Credit is earned in this course through successful completion of a thesis in sociology. Prerequisite: Advisor's permission is required. CR/NC only.

SPE - Special Education

See the Department of Counseling and Special Education for more information.

SPE 500 Parent and Professional Relationships in Special Education 3(3-0)

Establishing and maintaining collaborative relationships with parents and professionals. Study of effects of an exceptional child on the family and methods for meeting their needs. This course is approved for offering in a distance learning format. Prerequisite: Junior standing or graduate status.

SPE 504 Teaching Students in Inclusive Settings 3(3-0)

Theory and practice of the instruction of students who have disabilities in general education settings. This course is approved for offering in a distance learning format. Prerequisite: Junior standing or graduate status.

SPE 510 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 EDU 590. Credit may not be earned in more than one of these courses. This course is approved for offering in a distance learning format. Prerequisite: EDU 290 or graduate status.

SPE 519 Students with Cognitive Impairment 3(3-0)

Causes, diagnostic procedures, and research concerning individuals with cognitive 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; Tier Two - Admission of Candidacy to Teacher Education. Graduate students may be admitted with permission of instructor.

SPE 521 Teaching Students with Cognitive Impairment 3(3-0)

Special techniques and materials used in instruction of students who have cognitive 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 grade of C or better; SPE 322, SPE 323 with grades of C+ or better; Tier Two - Admission of Candidacy to Teacher Education. Graduate students may be admitted with permission of instructor.

SPE 522 Seminar in Advanced Methods for Teaching Students with Cognitive Impairment 3(3-0)

This course involves the practical application of pedagogical knowledge for teaching students with cognitive impairment. Students must receive a C+ or better in this course. This course may be offered in an online format. Prerequisites: SPE 126 with a C or better; SPE 322, 323, 324, 519, 521 all with a C+ or better; Tier Two: Admission of Candidacy to Teacher Education. Co-Requisite: SPE 458.

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. Prerequisites: Junior standing or graduate status.

SPE 530 Autism Spectrum Disorder: Characteristics and Etiology 3(3-0)

This course reviews characteristics and etiology of individuals with autism spectrum disorders. This course may be offered in an online format. Identical to PSY 575. Credit may not be earned in more than one of these courses. Prerequisites: Junior standing 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 format. Prerequisites: SPE 530; senior standing or graduate status.

SPE 532 Applied Behavior Analysis for Teachers 3(3-0)

Applied behavior analysis (ABA) as it relates to learners with autism spectrum disorders in inclusive settings. This course may be offered in an online format. Prerequisite: SPE 530; Senior standing 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 programming 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 550WI Teaching Diverse Students in Educational Settings 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 framework. This course may be offered in an online format. Writing Intensive. Prerequisites: Sophomore 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; Tier Two - Admission of Candidacy 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; Tier Two - Admission of Candidacy to Teacher Education. Graduate students may be admitted with permission of instructor.

SPE 581 Seminar in Advanced Methods for Teaching Students with Emotional Impairment 3(3-0)

This course involves the practical application of pedagogical knowledge for teaching students with emotional impairment. Students must receive a C+ or better in this course. This course may be offered in an online format. Prerequisites: SPE 126 with a C or better; SPE 322, 323, 324, 578, 579 all with a C+ or better; Tier Two: Admission of Candidacy to Teacher Education. Co-Requisite: SPE 456.

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: HDF 100 or EDU 280; or junior standing; or graduate status.

SPE 600 Current Issues and Historical Trends 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 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 650 Promoting Self-Determination and Self-Regulation in Students with SLD 3(3-0)

This course involves evidence-based strategies for promoting self-determination, self-regulation, and self-advocacy skills in students with specific learning disabilities. This course may be offered in an online format. Prerequisite: SPE 577.

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 school personnel and parents. Prerequisites: major in Teachers of Students with Emotional Impairment.

SPE 679 Behavioral and Curricular Interventions for Individuals with Mild Disabilities 3(3-0)

Examining the relationship between student 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 format. Prerequisites: SPE 600, 695; admission to MA in Special Education 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 6(Spec)

Provide students the opportunity to develop and demonstrate competencies required for working with students with autism spectrum disorder or cognitive impairment or emotional impairment or specific learning disabilities. This course may be offered in an online format. Prerequisites: Autism Spectrum Disorder: CDO 550; SPE 530, 531, 532, 533. Cognitive Impairment: SPE 519, 521, 522. Emotional Impairment: SPE 578, 579, 581. Specific Learning Disabilities: SPE 577, 650, 675, 690. Application to register for this course must be filed during the semester prior to registration for approval.

SPE 695 Research for Special Education 3(3-0)

Presentation and application of designs and procedures pertinent to conducting research in special education. Includes writing a research proposal and manuscript, implementing mini-research project. This course may be offered in an online format. Prerequisites: Regular or conditional admission to the M.A. in Special Education; SPE 600, permission of instructor.

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 Special Education Graduate Capstone 3(3-0)

Capstone seminar to synthesize master's coursework. This course may be offered in an online format. Prerequisites: SPE 600, 679, 695, 750, 785.

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 World Languages 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 1-9(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 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 SPN 400 level course; or graduate standing in 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 their 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. Topics may include cultural production, urban 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. May be taken up to three times when themes are different. 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 is designed to provide 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 usage 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 defined on 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, multiway 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 PDSA 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)

Data mining techniques for analyzing high dimensional data: include 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 and multiple 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)

In-depth capstone practicum project supervised by a faculty member or advanced internship experience in external agency supervised by a faculty member and a professional supervisor. CR/NC only. 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 684; 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: Interpretative Reading 3(3-0)

History of the art of interpretative reading, its current theories and possible trends. Prerequisite: one course in interpretative reading.

TAI 574 History of Drama and Theatre I 3(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.

TAI 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 procedure).

TAI 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.

TAI 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.

TAI 585 Creative Dramatics 3(2-2)

Techniques of guiding children through original dramatizations. Primarily for the classroom teacher.

TAI 586W1 Playwriting 3(3-0)

Theory and practice in writing original plays; discussion and critical evaluation of student plays. Writing Intensive. Prerequisites: ENG 201; ENG 294 or one course in history of drama and theatre.

TAI 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.

TAI 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.

TAI 589 Theatre Workshop 2-6(Spec)

Theoretical and practical work in productions of the University Theatre. Prerequisite: minimum of one course in theatre.

TAI 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.

TAI 602 Modern Performance Theory 3(3-0)

Intensive examination of the growth and development of major assumptions underlying modern approaches to theatrical production.

TAI 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.

TAI 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).

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.



Code of Student Rights, Responsibilities and Disciplinary Procedures

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 the student's 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 their 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*, *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 for Enrollment and Student Services is the designated officer responsible to the president for conducting discretionary 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 This Code applies to student conduct that occurs either on or off campus, especially when such conduct affects the interests of the university. 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. A student committing a criminal offense, whether that offense occurs on or off campus, that is also a violation of the Code of Student Rights, Responsibilities and Disciplinary Procedures, may be subject to University discipline. In other cases, where the health and safety of members of this community are clearly involved, the university shall assert its authority.

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 that student's 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 to 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 obstruct 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 oneself, 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 impeding 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 (#3-39) 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.

The use or abuse of prescription drugs or over-the-counter substances, such as inhalants or herbals, in any way other than the intended or appropriate use, may be interpreted as a violation under this policy.

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 their 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 Registered Student Organization Manual 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 the student 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 the student 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,
- 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 student, 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 the student 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.

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 a 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 issues(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 emailed 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 5.1.6.2 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 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 purpose of the Appeals Board to decide if it would have reached the same decision had it been 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, 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 the president of the organization's 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 Conduct.

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 acknowledgment 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.

2. When material from another source is paraphrased or summarized in whole or in part in one's own words, that source must be acknowledged in a footnote or endnote, or by parenthetical citation in the text.
3. Information gained in reading or research that is not common professional knowledge must be acknowledged in a parenthetical citation in the text or in a footnote or endnote.
4. This prohibition includes, but is not limited to, the use of papers, reports, projects, and other such materials prepared by someone else.

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 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 circumstance, 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 her/his 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

to be held after grades are submitted, then the student shall have ten (10) university business days after the student has been notified of the instructor's decision. An appeal not made within the time limit will not be heard unless an exception is made by the dean of the college. The written statement of appeal must state: the name of the person appealing, the basis of the appeal, the instructor making the decision from which the appeal is made, and the remedy which the person appealing is requesting from the dean.

As soon as practical, the dean will convene a committee composed of faculty and students to hear the appeal and to make a recommendation to the dean. The dean will designate one member of the committee as the Proceedings Officer. The role of the committee is to advise the dean.

The student and the instructor are each permitted to have an advisor of his or her choice present at the hearing of the appeal. If either party's advisor is an attorney, that party must notify the 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 or instructor. The advisor is not permitted to ask or answer questions or make oral arguments. The Proceedings Officer is responsible for notifying members of the appeals committee of the appeal and for setting a time and place for holding a meeting of the appeals committee. The Proceedings Officer will provide notice of time and place of the meeting of the appeals committee to the student, instructor, and other University persons deemed appropriate by the Proceedings Officer.

The Proceedings Officer will retain the documentary evidence introduced at the hearing, as well as the record made of the hearing; these materials will be available to the appeals committee during its deliberations, and will be forwarded to the Dean with the committee's recommendation.

The appeals committee has the discretion to establish hearing procedures which are appropriate to the circumstances, fair to all parties involved, and respectful of the values of academic integrity. Normally, the participants in the appeals hearing will appear in person; however, in unusual cases, the appeals committee may allow participation by telephone.

The purpose of the appeals committee is to determine whether the instructor abused his or her professional discretion in finding that academic misconduct occurred and/or in the choice of academic consequences for such misconduct. It is not the purpose of the appeals committee to substitute its judgment for that of the instructor. It is not the purpose of the appeals committee to decide whether it would have reached the same decision had it been the instructor. It is not the function of the appeals committee to rehear the charges against the student. The burden of proof shall be upon the student to show that there was insufficient basis for a reasonable instructor to find that academic misconduct occurred, and/or that the instructor's selection of academic consequences for the misconduct was arbitrary, capricious, or grossly unjust (e.g., a clear departure from the instructor's announced policies). The appeals committee may:

- Uphold the instructor's decision.
- Find that the facts of the situation could not provide a reasonable instructor with sufficient basis for finding that academic misconduct occurred, and recommend that the dean of the college set aside the finding or determine the facts differently.
- Find that the instructor's selection of academic consequences for the violation was arbitrary, capricious, or grossly unjust, and recommend that the dean of the college set aside the academic consequences or impose a different academic consequence.

After receiving this recommendation the dean will either sustain or deny the appeal. The dean's decision will be in writing. 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.

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.

Passed by Academic Senate May 5, 2009

Revised: 3/26/13

Editorially revised: 11/24/15; 2/8/17

Standards Leading to Teacher Certification

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 disabilities 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 .
4. Send official transcripts directly to the Michigan Department of Education at www.michigan.gov/moecs.

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 of 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.



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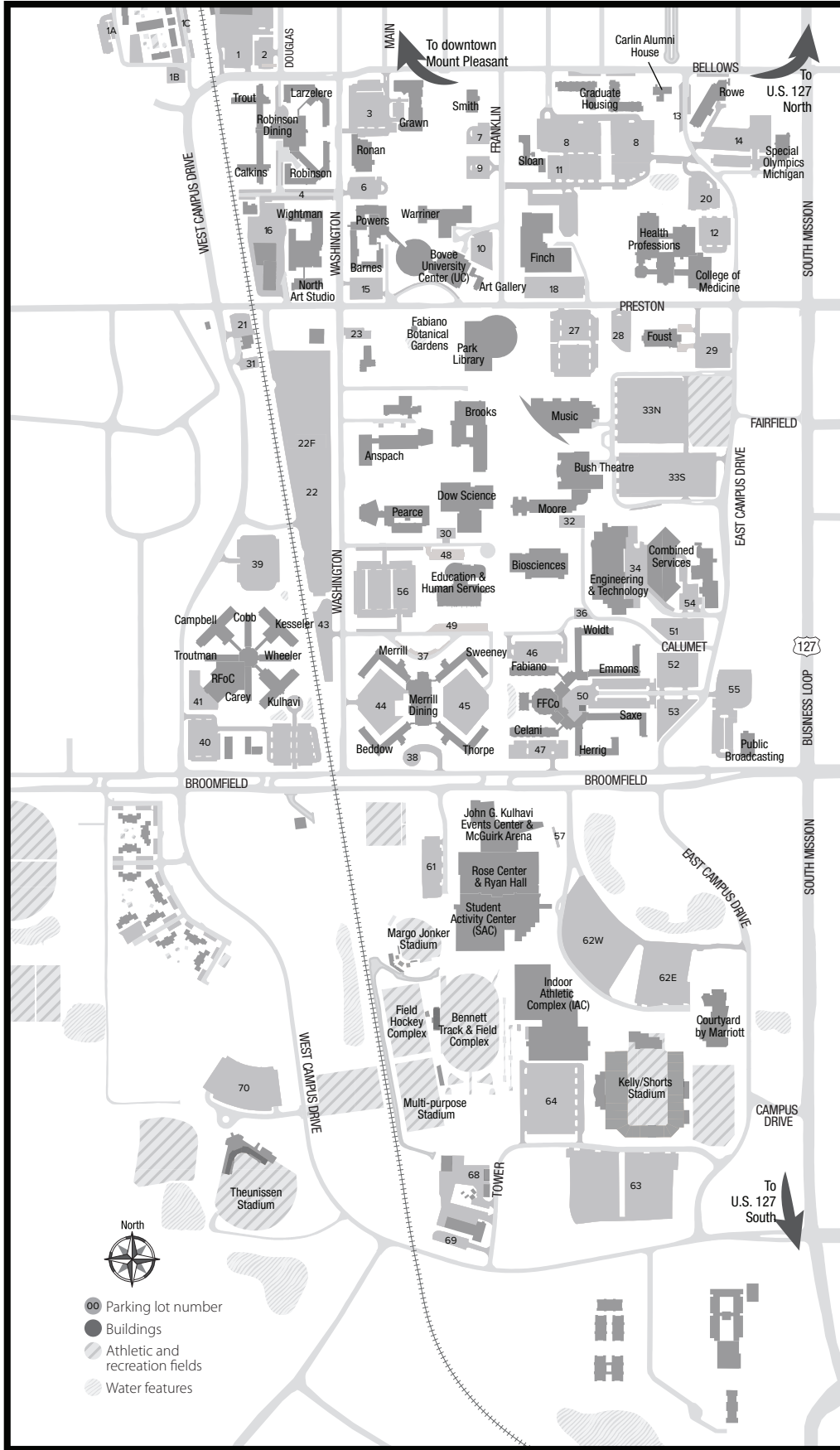
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- Parking lot number
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Addendum: New Programs

The following programs were approved after the paper Bulletin went to press. To keep the online PDF aligned with the print Bulletin, the new programs are added here.

Master of Science (M.S.) in Biochemistry, Cell and Molecular Biology

Minimum Totals for Graduation: 30 hours

The Master of Science (M.S.) degree in Biochemistry, Cell and Molecular Biology (BCMB) at Central Michigan University is an interdepartmental program that provides scientific training in biochemistry and cellular and molecular biology.

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

All applications must be sponsored by a participating faculty member who is willing to take you into their research program. The first step in your application should be to contact faculty members to arrange this sponsorship.

Preference will be given to applications received by February 1 in order to be considered for admission into the program the following fall semester. However, the BCMB program does offer rolling admissions and applications will be considered at any time.

Application materials must be submitted to the Graduate Student Services office and must include:

- CMU graduate studies application,
- official college transcripts,
- official General GRE scores (the MCAT or similar tests for admission to professional school may substitute for the GRE),
- a statement of purpose outlining your interest in the BCMB program, identifying the faculty sponsor with whom you've already been in contact, and describing your prior research experiences (if any) and how they will contribute to your future success,
- CV/Resume,
- three letters of recommendation emailed directly to biogradcoord@cmich.edu.

Candidates are expected to hold a Bachelor of Science (B.S.) or Bachelor of Arts (B.A.) degree in biology, biochemistry, chemistry or a related area of science.

International students must meet the requirements for regular admission to the College of Graduate Studies. For English proficiency requirements, see the *CMU English Language Standards* in the current Graduate Bulletin.

Students admitted for a master's degree in BCMB 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).

Although no specific undergraduate major is required, students enrolled in the program should have an adequate background in basic sciences including biology, chemistry, and mathematics. Normally, coursework should include the following topics:

- General Chemistry (1 year)
- Biochemistry (1 semester)
- Pre-calculus (1 semester)
- Cell or Molecular Biology (1 semester)
- Organic Chemistry (2 semesters)
- Genetics (1 semester)
- Statistics (1 semester)

Under special circumstances, students who have not completed all these prerequisites may be admitted provided that any deficiencies are corrected at the beginning of their graduate studies.

An evaluation of each student's background will be carried out during the first semester of enrollment by the student's mentor. This evaluation will be used to determine the plan of study including elective coursework.

Students must form a thesis committee within the first semester of graduate work; this committee will include the faculty mentor plus two additional faculty members. Student progress will be assessed at mandatory annual meetings between each student and the thesis committee. Each student will defend the final thesis in a public presentation summarizing research results followed by an oral defense. The public presentation and defense of the thesis will be judged and voted on by the committee and must be approved by the Office of Research and Graduate Studies. All BCMB students will be encouraged to publish their results in scientific journals and to present their work at professional conferences. It is anticipated that full-time students will complete the program in two years.

Program Requirements

The BCMB M.S. is a research-intensive master's degree in which students are trained by conducting research under the guidance of a faculty mentor to complete a thesis. The program includes a set of core courses to develop specialized knowledge in biochemistry, cell and molecular biology that will be augmented by elective courses in the student's area of interest.

Required Courses (10-11 hours)

SCI 710 - Biomolecular Structure and Function-Proteins and Nucleic Acids 4(4-0)

SCI 720 - Advances in Cell/Molecular Biology and Genetics 4(4-0)

SCI 731 - Biochemistry, Cell and Molecular Biology Colloquium 1-2(Spec)

SCI 740 - Research Ethics and Responsible Conduct of Research 1(1-0)

Electives (10-11 hours)

Select from the following in consultation with the student's advisor and committee:

SCI 750 - Directed Research in Biochemistry, Cell and Molecular Biology 1-30(Spec)

SCI 770 - Careers in Biomedical Sciences 1(1-0)

Biology: 500-700 level BIO courses

Chemistry: 500-600 level CHM courses

Mathematics and Statistics: 500-700 level MTH and STA courses

Other graduate-level courses recommended by the advisor and approved by the committee.

Thesis (9 hours)

SCI 799 - Master's Thesis 1-9(Spec)

Total: 30 semester hours

Doctor of Philosophy (Ph.D.) in Biochemistry, Cell and Molecular Biology

Minimum Totals for Graduation: 60 hours

The Doctor of Philosophy (Ph.D.) degree in Biochemistry, Cell and Molecular Biology (BCMB) at Central Michigan University is an inter-departmental program that provides advanced scientific training in biochemistry and cellular and molecular biology. The program will provide students with an opportunity to develop the ability and skills necessary to conduct independent, primary research of professional quality.

ADMISSION REQUIREMENTS, RETENTION & TERMINATION STANDARDS

All applications must be sponsored by a participating faculty member who is willing to take you into their research program. The first step in your application should be to contact faculty members to arrange this sponsorship.

Preference will be given to applications received by February 1 in order to be considered for admission into the program the following fall semester. However, the BCMB program does offer rolling admissions and applications will be considered at any time.

Application materials must be submitted to the Graduate Student Services office and must include:

- CMU Graduate Studies application,
- official college transcripts,
- official General GRE scores (The MCAT or similar tests for admission to professional school may substitute for the GRE),
- a statement of purpose outlining your interest in the BCMB program, identifying the faculty sponsor with whom you've already been in contact, and describing your prior research experiences (if any) and how they will contribute to your future success,
- CV/Resume
- three letters of recommendation emailed directly to biogradcoord@cmich.edu.

Candidates are expected to hold a Bachelor of Science (B.S.) or Bachelor of Arts (B.A.) or Master of Science (M.S.) degree in biology, biochemistry, chemistry or a related area of science. International students must meet the requirements for regular admission to the College of Graduate Studies.

For English proficiency requirements see the CMU *English Language Standards* in the current Graduate Bulletin. Students admitted for a doctoral degree in BCMB must have a faculty mentor approved and financial support in the form of a teaching or research assistantship in place.

Although no specific undergraduate major is required, students enrolled in the program should have an adequate background in basic sciences including biology, chemistry, and mathematics. Normally, coursework should include the following topics:

- General Chemistry (1 year)
- Biochemistry (1 semester)
- Pre-calculus (1 semester)
- Cell or Molecular Biology (1 semester)
- Organic Chemistry (1-2 semesters)
- Genetics (1 semester)
- Statistics (1 semester)

Under special circumstances, students who have not completed all these prerequisites may be admitted provided that any deficiencies are corrected at the beginning of their graduate studies.

A formal evaluation of each student's training will be carried out during the first semester of enrollment by the student's mentor. This evaluation will assess the strengths and limitations of each student's

academic background and be used to determine the plan of study including coursework and professional activities. Students must form a dissertation committee within the first year of graduate work; this committee will include the faculty mentor plus three additional 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. A qualifying exam must be passed at the end of the second year. The exam will consist of a written proposal of the student's Ph.D. dissertation project, which will be defended orally in front of the student's committee. Students will have two opportunities to pass the qualifying exam; those who fail a second time will be terminated from the program. Each student will defend the final dissertation in a public presentation summarizing research results followed by an oral defense with the committee. 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 BCMB students will be encouraged to publish their results in scientific journals and to present their work at professional conferences. We anticipate that full-time students entering with a Bachelor's degree will complete the program in 5-6 years; those entering with a Master's degree may complete the program in less time.

Program Requirements

The BCMB 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 includes a set of core courses that will be augmented by elective courses in the student's area of interest.

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 dissertation committee. Typically, students entering with a bachelor's degree will take 9-30 hours of disciplinary elective courses and 9-30 hours of special topics and directed research (and students entering with a relevant master's degree will take 3-8 hours of disciplinary electives and 3-8 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 (10-11 hours)

SCI 710 - Biomolecular Structure and Function-Proteins and Nucleic Acids 4(4-0)

SCI 720 - Advances in Cell/Molecular Biology and Genetics 4(4-0)

SCI 731 - Biochemistry, Cell and Molecular Biology Colloquium 1-2(Spec)

SCI 740 - Research Ethics and Responsible Conduct of Research 1(1-0)

Electives I (7-30 hours)

Select from the following in consultation with the student's advisor and committee:

SCI 770 - Careers in Biomedical Sciences 1(1-0)

Biology: 500-700 level BIO courses.

Chemistry: 500-600 level CHM courses.

Mathematics and Statistics: 500-700 level MTH and STA courses.

Other graduate-level courses recommended by the advisor and approved by the committee.

Electives II (3-30 hours)

SCI 750 - Directed Research in Biochemistry, Cell and Molecular Biology 1-30(Spec)

SCI 791 - Special Topics in Biochemistry, Cell and Molecular Biology 1-9(Spec)

Dissertation (12 hours)

SCI 899 - Doctoral Dissertation 1-12(Spec)

Total: 60 semester hours