

2013-2014

GRADUATE CATALOG



UNIVERSITY OF
CENTRAL
MISSOURI

LEARNING TO A GREATER DEGREE



UNIVERSITY OF CENTRAL MISSOURI®

LEARNING TO A GREATER DEGREE

2013 - 2014

**University of Central Missouri
Warrensburg, MO 64093**

1-877-SAY-UCMO (1-877-729-8266)

For updated information, visit the university's website:

ucmo.edu

[facebook.com/UCM - Graduate School](https://www.facebook.com/UCM-Graduate-School)

Announcements in this catalog are subject to change and thus do not constitute an agreement or contract.

Every effort is made to provide accurate and up-to-date information, however, the university reserves the right to change without notice statements concerning rules, policies, fees, curricula, courses or other matters when necessary.

This publication was prepared by the Graduate Studies office, Ward Edwards, Suite 1800 and University Relations, Administration 302, University of Central Missouri, Warrensburg, MO 64093.

University of Central Missouri



Photo: the Administration Building
on the east end of the quadrangle.

WELCOME to the University of Central Missouri! We promise that while you're here, each of you will experience learning to a greater degree and graduate with a greater sense of purpose.

At UCM, we are preparing you to excel in a fast-paced world after graduation, while elevating your experience as a student. To achieve this, we make sure innovative academic programs, hands-on learning opportunities, worldly perspectives and a culture of service are part of everything we do.

We're excited about the educational opportunities and dozens of advanced degree programs at UCM, and we're committed to helping you obtain the knowledge and skills you will need for lifelong success.

Your future at UCM is wide open for you to explore and pursue your passions. We are confident your education at UCM will serve you long after you have graduated. Thank you for choosing UCM for your graduate education.

Sincerely,

Chuck Ambrose
President, University of Central Missouri

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School of Graduate and Extended Studies Office

Ward Edwards 1800

Registrar

Ward Edwards 1000

International Center

Union 302

University Operator

660-543-4111

Photo: Many offices frequently visited by graduate students are located in the Ward Edwards Building on the north side of the quadrangle.

FALL SEMESTER 2013, AUGUST – DECEMBER

- Aug. 16 Friday, university apartments open, 8 a.m.
 Aug. 16/19 Monday, faculty planning.
 Aug. 18 Sunday, residence halls open, 8 a.m.
 Aug. 20 Tuesday, 8 a.m., classes begin.
 Aug. 27 Tuesday, last day for fall semester enrollment and changing classes. Waitlist for fall semester ends.
 Sept. 2 Monday, Labor Day Holiday, CLASSES DISMISSED and UNIVERSITY OFFICES CLOSED.
 Sept. 20-22 Friday-Saturday-Sunday, Family Weekend.
 Oct. 11 Friday, final examinations for first-half semester classes and end of first-half semester.
 Oct. 14 Monday, second-half semester classes begin.
 Oct. 26 Saturday, Homecoming.
 Nov. 22 Friday, residence halls close, 6 p.m.
 Nov. 25-27 Monday through Wednesday, fall break, CLASSES DISMISSED.
 Nov. 28-29 Thursday and Friday, Thanksgiving holiday, CLASSES DISMISSED AND UNIVERSITY OFFICES CLOSED.
 Dec. 1 Sunday, residence halls open, noon.
 Dec. 9-13 Monday through Friday, fall semester final examinations (includes second-half semester classes).
 Dec. 13 Friday, residence halls close, 6 p.m.
 Dec. 13 Friday, Graduate School Commencement.
 Dec. 14 Saturday, Undergraduate Commencement.
 Dec. 24-Jan. 1 Winter holidays, UNIVERSITY OFFICES CLOSED.

SPRING SEMESTER 2014, JANUARY – MAY

- Jan. 1 2014-2015 FAFSA available at fafsa.gov
 Jan. 2 Thursday, offices open.
 Jan. 12 Sunday, residence halls open, noon.
 Jan. 13 Monday, 8 a.m., classes begin.
 Jan. 20 Monday, Martin Luther King Jr. holiday, CLASSES DISMISSED and UNIVERSITY OFFICES CLOSED.
 Jan. 21 Tuesday, last day for spring semester enrollment and changing classes. Waitlist for spring semester ends.
 March 5 Wednesday, final examinations for first-half semester classes and end of first-half semester.
 March 6 Thursday, second-half semester classes begin.
 March 14 Friday, residence halls close, 6 p.m.
 March 17-21 Monday through Friday, Spring Break, CLASSES DISMISSED.
 March 23 Sunday, residence halls open, noon.
 April 1 Priority date for students to have submitted the 2014-2015 Federal Financial Aid Application (FAFSA) to the national FAFSA processing agency.
 May 5-9 Monday through Friday, spring semester final examinations (includes second-half semester classes).
 May 9 Friday, housing facilities close, 6 p.m.
 May 9 Friday, Graduate School Commencement.
 May 10 Saturday, Undergraduate Commencement.

SUMMER SESSIONS 2014, MAY – AUGUST

- May 18 Sunday, housing facilities open at 1 p.m. for 1st session students.
 May 19 Monday, 1st 6- and 12-week sessions begin.
 May 26 Monday, Memorial Day holiday, CLASSES DISMISSED and UNIVERSITY OFFICES CLOSED.
 June 1 Sunday, housing facilities open at 1 p.m. for 2nd session students.
 June 2 Monday, 2nd 6- and 8-week sessions begin.
 June 26 Thursday, 1st 6-week sessions end and final exams.
 June 27 Friday, housing facilities close, 6 p.m.
 June 29 Sunday, housing facilities open at 1 p.m. for 3rd session students.
 June 30 Monday, 3rd 6-week session begins.
 July 4 Friday, Independence Day Holiday, CLASSES DISMISSED and UNIVERSITY OFFICES CLOSED.
 July 10 Thursday, 2nd 6-week session ends and final exams.
 July 11 Friday, housing facilities close, 6 p.m.
 July 24 Thursday, 8-week session ends and final exams.
 July 25 Friday, housing facilities close, 6 p.m.
 Aug. 7 Thursday, 3rd 6-week and 12-week sessions end and final exams.
 Aug. 8 Friday, housing facilities close, 6 p.m.

NOTE: The refund (100%, 50%, and 25%) and last day to drop dates vary for individual classes. These deadlines can be found online in MyCentral. Go to the "Student Services" tab and choose "Check Refund Dates." More information can be found in the "Standards and Regulations" section of this catalog.



Student Progress Checklist

Admission

- Complete Application for Admission to Graduate Studies. Submit \$30 application fee at least three weeks prior to the first semester you plan to take a graduate course. Admission for international students may be found at ucmo.edu/international.
- Request that all transcripts of work completed at other colleges be sent to Graduate Studies at the time application for admission to Graduate Studies is made.
- Receive notification regarding your admission to UCM from the Graduate Studies office within one week after all needed materials are received by Graduate Studies.
- Submit the Free Application for Federal Financial Aid (FAFSA) prior to April 1 each year at fafsa.ed.gov.
- Receive and respond to your Financial Aid Notification, mailed from UCM's Student Financial Services, several weeks after submitting your FAFSA.
- Apply for Federal Stafford Student Loan aid after receiving your Financial Aid Notification.

Acceptance by Department

- Receive notification regarding your acceptance into a degree program and designation of adviser from the department offering your program within two weeks after the Graduate Studies office notifies you of admission status.

- Respond to directives from your department. Contact your assigned adviser and request a time for a personal interview immediately upon receiving notice of your acceptance into program.

Graduate Student Orientation

- All new graduate students should complete the online orientation at ucmo.edu/graduate/orientation.
- International graduate students should also attend the International Graduate Student Orientation.

Enroll in classes

- Seek approval from your adviser to enroll in courses.
- Enroll in classes each semester. Enroll by calling the Graduate Studies office 660-543-4621 or on the Web at ucmo.edu/portal.
- A pre-enrollment meeting with your graduate adviser is recommended before enrolling in any courses.
- International students must be enrolled in full-time degree-seeking programs.

Program of Study

- Log in to MyCentral to view a Central Degree which lists all of the courses required for a graduate degree.

Application for Degree

- In the first month of the semester in which final requirements are met, submit an Application for Degree form. File the form with your adviser prior to the deadline date. Request application for degree forms and deadline dates from the Graduate Studies office.
- Take Final Comprehensive Exam, if required. Check for the specific date with your program adviser.
- Complete final approval of thesis and submit to your adviser three weeks prior to commencement.
- Pay all graduation fees. The Office of Student Financial Services will bill your student account; pay upon receipt of bill.

Graduation

- Approximately Nov. 15 and April 15 of each year contact the Graduate Studies office to obtain a commencement packet. Following the conclusion of the semester that degree requirements are met, a diploma will be mailed to you in about six weeks to the address you provide on the Application for Degree card.

The UCM Community Creed

Choosing to become a citizen of the University of Central Missouri implies an acceptance of and willingness to contribute to the common goals and purposes of the community. The UCM Community Creed outlines the principles which guide the creation and maintenance of desired community at UCM. The creed also provides a framework for individual behaviors which help build our vision.

As a member of the UCM community, I will join in building

- ... a **learning** community by striving for academic and personal excellence and by promoting the value of education and lifelong learning;
- ... an **open** community by creating and maintaining effective channels of communication and by accepting and

respecting individuals whose values, ideas, beliefs, and life experiences may be different from my own;

... a **caring** community by seeking opportunities to serve and by supporting and affirming the well-being of others;

... a **just** community by behaving in ways which are ethical, honest, equitable, trustworthy, civil and respectful;

... a **disciplined** community by seeking to understand and fulfill personal responsibilities, by upholding university guidelines and by working toward self and community betterment;

... a **celebrative** community by observing and honoring existing traditions and by seeking and creating opportunities to enrich and define UCM;

... a **purposeful** community by helping to shape and achieve the common goals of the University of Central Missouri.

SECTION I

General Information Introduction

Graduate Studies Contacts

The personnel in the Offices of Graduate Studies and Sponsored Programs seek to provide quality services to support graduate education and research at UCM. These offices are located in Ward Edwards, Suite 1800.

Graduate Studies	660-543-4621
Toll free:	877-729-8266
Dean of Graduate Studies.....	660-543-4621
Director of Sponsored Programs.....	660-543-4264
Associate Dean of Graduate Studies	660-543-4621
Director of Graduate Studies	660-543-4897
Systems Coordinator	660-543-8579
Student Services Coordinator.....	660-543-8423
Graduate Admissions Representative	660.543.4328
Graduate School Fax.....	660-543-4778
University Information Operator	660-543-4111
website: ucmo.edu/graduate	
email: gradinfo@ucmo.edu	
facebook: UCM - Graduate School	

How to Use This Catalog

The "University of Central Missouri Graduate Catalog" contains a wealth of information for graduate students and faculty members. Please examine it carefully. The catalog is a helpful guide for reviewing available programs of study, planning a program, selecting courses, and determining whether graduation requirements have been met. If you are a graduate student entering UCM, you should keep this catalog until you graduate. Because the policies and the programs at the university are constantly changing, no catalog can be completely up-to-date. Students, therefore, should review their programs periodically with their graduate advisers and with the staff in the Graduate Studies office to ensure that requirements are being met.

The UCM Graduate Catalog is organized into the following sections:

- Contents.
- Calendar, a list of prominent dates and deadlines for the academic year.
- Student Progress Check List, a list of steps that should be followed while completing a graduate degree at UCM.
- General Information, an explanation of the history and mission of the university and its accreditations, the mission and goals of graduate study, the organization and administration of the UCM Graduate Studies office, Office of Sponsored Programs, the Graduate Council, the Research Council, graduate faculty, graduate advisers, coordinators, Missouri residency and other useful information.
- Graduate Support, types of support for graduate students available at UCM, including graduate assistantships, scholarships, and federal financial aid.
- University fees, a description of university fees.
- Admission to Graduate Studies, policies and procedures for admission.
- Graduate Certificates, policies, procedures, and requirements for graduate certificates.

- Master's Degree, policies, procedures, and requirements for master's degrees.
- Education Specialist Degree, policies, procedures, and requirements for Education Specialist Degree.
- Doctoral Degree, cooperative doctorates available at UCM.
- Course Prefixes, list of course prefixes by college and department.
- Graduate Programs, list of Master's, Education Specialist, and Doctoral Degrees.
- Colleges, Departments, and Degrees with a listing of degrees organized according to the college and department which offers them.
- Graduate courses with descriptions.
- Index.

Rights and Responsibilities

A statement of rights accorded to students by the Family Educational Rights and Privacy Act and the policy statement relative to this act may be obtained from Academic Advisement, the Office of the Registrar, or the Office of Student Experience and Engagement.

Graduate students are subject to current administrative policies, procedures, and regulations of the university. The general policies and regulations listed in the *2013 Graduate Catalog* become effective fall 2013. Consult the *University General Catalog* and the *UCM Student Calendar/Handbook* for other university policies.

University of Central Missouri Drug-Free Schools and Workplace Statement

The university has established and is committed to enforcing clear policies that promote an educational environment free from the abuse of alcohol and other substances. The university complies with federal regulations that require an alcohol and drug testing program for safety sensitive positions. The university expects students, employees, visitors and organizations to adhere to state statutes prohibiting individuals under the age of 21 from drinking or having alcohol in their possession. Drinking or possession of alcoholic beverages is prohibited in university buildings and residence halls except in those places where an explicit exception has been granted. The university also expects students, employees, and visitors to comply with laws that prohibit the possession, use, distribution, and sale of alcohol and illicit drugs. Anyone found to be in violation of such laws shall be subject to all applicable criminal penalties, as well as disciplinary action in accordance with applicable policies of the University of Central Missouri. Students under the age of 21 are reminded that it is unlawful to use fictitious identification for purchasing alcohol. Health risks associated with the use of illicit drugs and alcohol include, but are not limited to, addiction, accidents as a result of impaired judgment and ability, overdose, damage to internal organs or a developing fetus, and unpredictable or violent behavior. Resources for assistance with alcohol- and drug-related problems include Counseling and Psychological Services, University Health Services, Human Resources, and a variety of community and regional referral services. For more information, call 660-543-4060 or 660-543-4770.

The University's History

The University of Central Missouri is a comprehensive, public university dedicated to providing personalized higher education experiences for a diverse body of students. Through its commitment to service and excellence, UCM seeks to meet the educational needs of the region, with extended responsibility to meet state, national, and international needs through selected programs.

From its establishment in 1871, and until 1947, UCM offered only undergraduate studies. Changing needs prompted continual improvement and development of the curriculum. In 1945, the State General Assembly, responsive to the needs of the state and to requests from teachers, authorized a change in name as well as an extension of mission. This legislation provided the legal basis for the establishment of graduate studies. Graduate work leading to the Master of Science in Education degree was offered for the first time in 1947.

The guiding principles of graduate education at UCM have remained constant since its inception. Graduate work demands independent, critical, and creative thinking, the ability to collect, organize, and develop data, and the ability to formulate, interpret, and defend conclusions.

Programs leading to the Master of Arts, Master of Science, Master of Science in Education, Master of Business Administration, Master of Arts in Teaching, the Education Specialist, and Cooperative Doctoral degrees have been added since 1947, and are a direct response to the needs of the citizens of the state of Missouri. In 1996, a statewide mission in academic technology for the University of Central Missouri was approved to "acquire, disseminate and utilize technology to enhance the university's comprehensive educational mission and to enrich the lives of all Missourians."

University Mission Statement

The University of Central Missouri is a comprehensive, public university dedicated to student learning and committed to service and excellence. Through a foundation in the liberal arts, professional degree programs, personalized higher education experiences, and use of current academic technologies, UCM prepares a diverse body of students to be lifelong learners who are proficient in their fields of study, able to adapt to a changing world, and contribute to the betterment of society. UCM serves as Missouri's lead professional technology institution, and is committed to acquiring, disseminating, and utilizing technology to enhance the university's comprehensive educational mission and to enrich the lives of all Missourians.

In order to fulfill its mission, the University of Central Missouri:

- Admits graduates of accredited high schools based on specific admission criteria, actively recruits traditionally under-represented students, and offers a strong merit-based scholarship program to attract highly capable students.
- Provides a learner-centered academic environment which challenges individuals to participate actively in the educational process and empowers the faculty to excel in teaching while engaging in scholarship, research, creative activities and public service.
- Offers an undergraduate foundation in the liberal arts, with an emphasis on integrating critical thinking, interaction, valuing, communication skills and technological applications into the curriculum across all disciplines.

- Provides pre-professional, professional, academic and career-oriented undergraduate and graduate programs to meet the changing and technological needs of the workforce.
- Provides in-service instruction for technical educators and other professionals needed to make Missouri competitive in a national and world market.
- Continues its historical emphasis in preparing educators for Missouri.
- Provides advanced graduate studies and research in areas of particular strength and need.
- Uses assessment to enhance teaching, learning, research and all university operations.
- Fosters a campus community responsive to the needs of a diverse student population, provides opportunities for global awareness, and promotes an appreciation for human diversity.
- Shares human and academic resources with schools, businesses, industries, and public agencies through partnerships and outreach activities.
- Serves as a cultural, artistic and information center for the citizens of Missouri.

Approved by the Board of Governors Feb. 19, 2003

Graduate Program Accreditations

- National Council for Accreditation of Teacher Education
- The Missouri Department of Elementary and Secondary Education
- The Association to Advance Collegiate Schools of Business (AACSB) International
- American Speech-Language-Hearing Association
- Applied Science Accreditation Commission of the Accreditation Board for Engineering and Technology (ASAC/ABET)
- Commission on Collegiate Nursing Education
- National Association of Schools of Music
- National Association of Industrial Technology (NAIT)

University Institutional Memberships

- American Association for Higher Education
- American Association of State Colleges and Universities
- American Association of University Women
- American Council on Education
- Association for Gerontology in Higher Education
- Association of American Colleges and Universities
- Association of Governing Boards of Universities
- Center for Academic Integrity
- Coalition for Positive Family Relationships
- Council for Public Higher Education for Missouri
- Council of Social Work Education
- Council on Undergraduate Research
- Mid-America Intercollegiate Athletics Association
- Missouri Academy of Science
- Missouri School College Relations Committee
- National Collegiate Athletic Association
- National Council for Accreditation of Teacher Education
- National Council of Educational Opportunity Associations
- North Central Association of Colleges and Schools
- The Higher Learning Commission
- The Renaissance Group

Graduate Studies Mission Statement

The mission of Graduate Studies at the University of Central Missouri is to provide high-quality graduate programs that are offered in multiple delivery modes and meet the needs of the students' personal and professional development, forwards their educational advancement and adapts to the changing needs of the workforce. Graduate Studies accomplishes its mission by creating an environment conducive to learning, scholarship, and creativity for both students and faculty.

Organization and Administration of Graduate Studies

Significant in the organization and administration of Graduate Studies are the Graduate Faculty Assembly, Graduate Council, Graduate Faculty Review Committee, University Research Council, Director of Sponsored Programs, graduate advisers and coordinators, the faculty as a body, Director of Graduate Studies, and the Dean of Graduate Studies. The dean reports directly to the Provost and Vice-President for Academic Affairs.

Graduate Faculty Assembly – The Graduate Faculty Assembly (GFA) is the governing body of graduate programs for the university. The GFA is comprised of all members of the Graduate Faculty and the administrators assigned to Graduate Studies. Recognizing that input from the graduate faculty is crucial to the quality of graduate education, the GFA provides a forum for discussion of graduate education issues and elects members to the Graduate Council (GC) and Graduate Faculty Review Committee (GFRC). Graduate faculty members of the GFA are recognized as associate or full members with differing rights and responsibilities.

Graduate Faculty Review Committee – The Graduate Faculty Review Committee (GFRC) serves to review initial and reappointment applications for Full Graduate Faculty Status. Review of requests for initial and reappointment applications for Associate Graduate Faculty Status are conducted by the Dean of Graduate Studies. The GFRC is composed of four full members of the Graduate Faculty Assembly, elected by the GFA. The chair-elect of the Graduate Council serves as chair of the GFRC and votes only in cases of a tie. The Dean of Graduate Studies and the Director of Graduate Studies serve as ex officio, non-voting members.

Graduate Council – The Graduate Council (GC) develops and reviews university policies and procedures for graduate education; reviews and recommends graduate curriculum; monitors the quality of graduate programs of the university; and advises the Graduate Dean on university, college, and department policies and procedures as set forth in the "Graduate Catalog."

The Graduate Council is composed of 12 members. Full members of the GFA nominate and elect from their number nine representatives to the GC: four at-large members and one representative each from the College of Arts, Humanities, and Social Sciences, College of Education, Harmon College of Business and Professional Studies, and College of Health, Science, and Technology. Two graduate student members are appointed by the Graduate Student Association. The Dean of Graduate Studies and the Director of Graduate Studies serve as ex officio, nonvoting members.

University Research Council – The University Research Council formulates policies and procedures pertaining to faculty research and assists the director of Sponsored Programs in promoting research at the University of Central Missouri. The University Research Council is composed of seven members. One representative each from the College of Arts, Humanities, and

Social Sciences; College of Education; Harmon College of Business and Professional Studies; College of Health, Science; Technology Department of Library/Academic Enrichment; Director of Sponsored Programs (ex officio); and Dean of Graduate Studies (ex officio).

Graduate Advisers – Graduate program advisers are recommended and approved by the department chair and college dean to teach graduate-level courses and advise graduate students. Graduate advisers must have full graduate faculty status. Graduate program advisers counsel students about enrollment, program planning, qualifying examinations, research studies and/or thesis, comprehensive examinations, and eligibility for graduation.

Graduate Coordinators – Graduate coordinators are responsible for implementing the policies and procedures of graduate study at the university within their respective units. They advise faculty and students and coordinate departmental graduate programs relative to the policies and procedures set forth by the Graduate Council and Dean of Graduate Studies.

Graduate Student Association – All graduate students are members of the Graduate Student Association by virtue of being enrolled as graduate students at UCM. The purposes of the organization are:

- To serve as an advocacy group for the academic, professional, and personal needs of graduate students.
- To serve as a liaison between the graduate population and the faculty and administration.
- To provide the opportunity to initiate programs, workshops, and discussions relevant to the graduate experience.
- To provide opportunities for social activities in an effort to create a sense of community.

The GSA meets once a month and/or as deemed necessary. Officers are elected from the membership.

Graduate Student Responsibility – Admission to Graduate Studies and graduate programs at UCM presume a degree of initiative on the part of the graduate student. Graduate students assume responsibility for engaging in intellectual activities at the graduate level as well as responsibility for complying with all policies and procedures as set forth in this catalog and in departmental regulations in earning an advanced degree.

Requirements will not be waived, and exceptions will not be granted because of ignorance of policies, requirements, or procedures for graduate study at UCM. Graduate advisers, the faculty, and the staff in the Graduate Studies office assist students; however, the responsibility to adhere to the policies and procedures as stated in this catalog lies with the student.

Academic Ethics and Plagiarism – Academic honesty is a prerequisite for academic achievement; all members of the academic community are expected to act in accordance with this principle. The university recognizes plagiarism as a serious academic offense. See the "UCM Student Planner/Handbook" for details on academic dishonesty.

Graduate Appeals – A student may appeal a decision related to a policy stated in the "Graduate Catalog." The appeal begins in the department or academic unit where the degree program is located. A completed Petition to Graduate Studies must be submitted first to the department or academic unit for their review and recommendation. Departments and academic units will designate the individual(s) authorized to review the appeal.

The petition will then be forwarded for review by the Graduate Dean. If the student is not satisfied with the Dean's decision, the petition will be forwarded to the Graduate Council for review. The Graduate Dean may request the Graduate Council to review exceptional cases or those in which there may be the appearance of a conflict of interest without first rendering a decision. The decision of the Graduate Council is final in all appeals submitted to it by the student or the Graduate Dean.

To ensure compliance with federal and state laws, codes, regulations, and accreditation requirements, the following policies are not subject to appeal by the student:

- The minimum number of semester credit hours required to receive a graduate certificate or degree.
- The maximum hours of C grades that can be applied toward a graduate degree or certificate.
- The maximum hours of transfer credit that can be applied toward a degree or certificate.
- The minimum overall UCM graduate GPA required to receive a graduate certificate or degree.
- The minimum number of required semester credit hours taken at the 5000/6000 level in courses offered for only graduate credit at the University of Central Missouri to receive a graduate degree.
- The minimum graduate grade point average required for admission to the University of Central Missouri as a transfer graduate student.
- The minimum graduate grade point average required for appointment as a graduate assistant.
- The minimum graduate grade point average required to be re-appointed as a graduate assistant.
- The minimum graduate grade point average required at the time of degree being awarded.

Accessibility Services

The Office of Accessibility Services provides accommodations to persons with disabilities. A minimum of 48 hours notice is recommended for accommodations for programs, events, and general services. Notice of six to eight weeks is requested for special accommodations regarding university housing, location of classrooms, and other services. Relay Missouri number for TTY callers is 800-735-2966 or for voice callers is 800-735-2466. Contact Accessibility Services at Elliott Union 220, (V/TTY) 660-543-4421, fax 660-543-4724, email oas22000@ucmo.edu, or visit ucmo.edu/access.

Assessment and Testing Services

The Office of Assessment and Testing Services administers supports and coordinates UCM's Assessment and Testing Services Programs. They maintain student test scores and provide registration information for required tests. Only score reports that are sent directly from the test company to the Office of Assessment and Testing Services are considered official. Official score reports must be on file for students to meet admission and/or other program requirements. Information on UCM's assessment program, testing requirements and procedures, dates offered, and availability is available at ucmo.edu/testing-services. For other information call 660-543-4919.

Campus Living

UCM provides a variety of campus living opportunities. To graduate students, convenience and a sense of community are the keys that make campus living so appealing. The residence halls offer single and double living accommodations in suite-style living especially for upper-class and graduate level students.

University apartments offer one- to three-bedroom private living accommodations. Married couples with or without children, single parents with children living with them full-time and single graduate students and undergraduate students who are at least 21 years of age are eligible to live in these comfortable and unique environments. For up-to-date information: Fax 660-543-4846 or email housing@ucmo.edu.

Classroom Policies

Persons who are not officially enrolled in a course may not attend a class session without the prior consent of the instructor. Persons bringing children on campus are responsible for their appropriate supervision and behavior. Additional policies may be outlined in syllabi provided by the course instructor.

Degree Revocation Policy

The purpose of the degree revocation policy is to describe the conditions under which a degree granted by UCM may be revoked. It is the policy of the University of Central Missouri that degrees may be revoked when:

1. Evidence is presented which verifies that a degree had been erroneously conferred when all requirements had not been satisfied at the time the degree was granted.
2. Evidence is presented which verifies that a degree had been erroneously conferred as a result of an act of academic dishonesty.

Guidelines and Responsibility – Upon the receipt of evidence suggesting the erroneous conferral of a degree, the vice provost for Enrollment Management will convene the Degree Review Committee to investigate the circumstances and to make initial recommendations. The committee membership will consist of the following: the registrar, the vice provost, the dean(s) of the college(s) responsible for the major program(s), and the Dean of Graduate Studies, if a graduate degree is involved. The committee will be augmented by the department chair(s), faculty, and graduate adviser when the requirements of a specific major, minor or course were not met. The committee chair will be elected from the assembled membership.

If the Degree Review Committee finds the charge unfounded and, therefore, decides not to recommend revocation of the degree, the matter will be closed. If the Degree Review Committee concludes that the degree was improperly granted and recommends that the degree be revoked, the chair of the committee will forward this recommendation to the provost. The provost shall ensure that the appropriate levels of procedural due process be extended to the degree recipient. If, upon the conclusion of this investigation, the provost concurs that the degree be revoked, this recommendation will be forwarded to the president for consideration. If the president deems the evidence warrants degree revocation, that recommendation will be forwarded to the Board of Governors for action.

Family Educational Rights and Privacy Act

UCM adheres to the Federal Family Educational Rights and Privacy Act (FERPA). Copies of the full policy implementing the FERPA may be obtained from the Office of Student Experience and Engagement.

Final Examinations

Final examinations are given at the end of each semester according to an announced schedule. Permission to take an examination out of the scheduled hours is granted only in special cases, with the approval of the instructor of the class and the provost/chief learning officer. A fee of \$10 per final is charged for rescheduling of final examinations. Any student who has

three final examinations scheduled on any one day may request permission to move one of the examinations to another day during the final examination period. There is no charge for this, but approvals must be secured as described above. Resolution of conflicting examination schedules, as well as arranging make-up examinations, must be made with class instructors.

Office of Technology

The Office of Technology supports the technology needs and requirements of UCM's students, faculty, and staff. The Technology Support Center is your first step in requesting assistance, reporting a problem, or requesting new services. Students needing assistance with their UCM passwords or network id should contact them by calling 660-543-4375, visiting Ward Edwards 0200, or by emailing tsc@ucmo.edu. Email and walk-in support are available Monday through Friday, 6:00 A.M. to 10:00 P.M., Saturday from 8:00 A.M. to 4:00 P.M., and Sunday from noon to 8:00 P.M. Telephone support is available 24/7.

Teacher Certification

UCM, accredited by (NCATE) the National Council for Accreditation of Teacher Education, offers both courses and programs at the graduate level that meet the requirements for certain certificates issued by the Missouri Department of Elementary and Secondary Education.

Authority has been granted to the university by the State Board of Education in Missouri to recommend for certification students who are qualified to teach or serve as administrators in the public schools of Missouri as well as in other states. Any student seeking initial certification or additional certification as a result of completing graduate courses or a graduate degree should contact the Director of Clinical Services and Certification, University of Central Missouri in Lovinger 2170, Warrensburg, MO 64093 or at 660-543-8441 or clinicalsvs@ucmo.edu.

Self-Enrollment

Graduate students may complete self-enrollment by using the Web at ucmo.edu/portal or using computer terminals at various locations on campus. Graduate students should come to the Graduate Studies office, Ward Edwards 1800, if they need assistance. Contact the Technology Support Center password assistance at 660-543-HELP (4357).

Admission to Graduate Studies

Prerequisite Degrees – An applicant for admission to a master's degree program must have a bachelor's degree. An applicant for admission to an Education Specialist degree program must have a master's degree. Prerequisite degrees must be from institutions accredited by agencies recognized by the University of Central Missouri.

Admission Limitation – Admission to Graduate Studies, which permits enrollment in classes, is not equivalent to admission for a particular program or degree.

Application Procedures for Degree-Seeking Students –

Individuals interested in pursuing a graduate degree at the University of Central Missouri can contact the Graduate Studies office for application information or visit our website at ucmo.edu/graduate or apply for international admission at ucmo.edu/international. All application materials should be received by the Graduate Studies office at least three weeks prior to the beginning of the semester in which the student wishes to register. All degree-seeking student applicants must:

1. Submit a formal application for admission to the Graduate Studies office;
2. Submit official transcripts of all undergraduate/graduate coursework;
3. Include a \$30 non-refundable application fee; international students should remit \$75.

When all materials are complete, the Graduate Studies office will conduct an initial evaluation. Applicant files meeting the requirements for admission to graduate study will be forwarded to the department, as designated by the student, for consideration and recommendation. The department will notify the student of action taken and admission status. A departmental adviser will be assigned and will assist the student in formulating a program of study leading to the attainment of the student's objectives in pursuing graduate work.

Application Procedures for Non-degree Students –

An individual with a bachelor's degree from a regionally accredited institution who is not seeking a graduate degree may enroll in graduate courses and receive credit as a non-degree student. Applicants for non-degree status need only submit an application for admission, official transcript showing the undergraduate degree, and pay the application fee.

A student wishing to change from non-degree status to a degree program must file a new application for admission and adhere to all requirements specified for degree-seeking students. International students with an F-1 student visa are not eligible to enroll under non-degree status.

Credits earned while in non-degree status may not be applicable to a degree program. If a non-degree student is accepted into a program, the department adviser will determine if credit earned while a non-degree student is applicable to the proposed program.

Application Procedures for Non-degree Students - Special

Enrollment – Students with an undergraduate degree who wish to enroll for graduate credit in special programs or short courses for one semester without submitting a transcript of previous academic work may be admitted as non-degree student–special enrollment student.

Enrollment is predicated upon assurance of the student's eligibility for regular graduate admission. The decision for special enrollment is made in the Graduate Studies office. For further information, please contact the Graduate Studies office.

Credit received when classified as

Non-degree Student – Special Enrollment credit(s) cannot be applied to a graduate degree program at UCM until the classification is changed. After a student applies for admission as a degree-seeking student and is accepted by a department into a specific graduate program, the department graduate adviser will determine whether credit earned while a non-degree student–Special Enrollment is applicable to the student's proposed program.

Application Procedure for a Non-degree Visiting Student –

An individual in good standing as a graduate student at another regionally accredited graduate school may present a Certificate of Acceptance of Credit by his/her home institution and enroll as a non-degree visiting student without submitting complete official transcripts of previous college records. Such a certificate usually allows enrollment for only one semester except for students in cooperative doctoral programs.

A non-degree visiting student may at any time apply through the regular procedures to be admitted as a degree-seeking or non-degree student. Credits earned as a non-degree visiting student will not necessarily apply to a degree program. After acceptance into a program, the department adviser will determine whether credit earned while a non-degree visiting student is applicable to the proposed program.

Non-degree and Visiting Students -

Federal Financial Aid – In accordance with federal rules, non-degree and visiting students normally are not eligible to receive federal financial aid. To be eligible, a student must be fully admitted to a regular graduate degree or teaching certification program.

Admission of a Transfer Graduate Student – A transfer graduate student is one who has completed graduate credit at another institution within the preceding eight years. Transfer students with less than a cumulative graduate GPA of 3.0 will be admitted as non-degree students and will not be eligible to become a degree-seeking student until a minimum of nine semester hours of graduate credit with a minimum cumulative GPA of 3.0 has been achieved at UCM. A transfer student should follow the same admission procedures as indicated above.

Readmission to Graduate School – Students who do not enroll in graduate courses within one year of admission to the School of Graduate and Extended Studies must reapply for admission. Graduate students who were not enrolled the previous semester must contact the School of Graduate and Extended Studies either in person or by phone to update records before enrollment can be completed. International students should contact the International center for readmission.

Graduate Credit Enrollment of a UCM Last Semester Senior – A UCM undergraduate student interested in taking courses for graduate credit during the last semester of the baccalaureate degree should apply to the School of Graduate and Extended Studies. A completed graduate application for admission, a Dual Enrollment Form, and a statement from the registrar listing remaining baccalaureate requirements must be submitted. To be considered, the student must have an undergraduate cumulative grade point average of 2.50. If a student enrolls in graduate credit courses during the last semester of the baccalaureate degree, the student must complete the baccalaureate degree that semester. In addition, for purposes of qualifying for federal financial aid, the student will be classified as undergraduate at the senior level. If the baccalaureate degree is not obtained during that semester, the graduate courses taken will revert to undergraduate credit. Combined undergraduate and graduate total enrollment must not exceed 16 semester hours.

Admission of an International Graduate Student International graduate students applying for admission may complete a paper application or apply online at ucmo.edu/international. A non-refundable application fee of \$75 must accompany the application. Payment may be made by credit card, international money order drawn on a U.S. bank, or a personal check drawn on a U.S. bank. International applicants may fulfill the English proficiency requirements in one of the following ways:

1. TOEFL score of 550 (PBT) or score of 79 (IBT), IELTS score of 6.0, or PTE-Academic score of 53.
2. Earned a degree from an accredited United States college or university

3. Earned at least 24 semester hours of regular university credit from an accredited United States college or university
4. Applicants whose native language is English and who are citizens of a country where English is the official language will be considered as having fulfilled the minimum English requirement.

Prospective students submitting application materials from outside the U.S. should provide all of the materials for admission consideration at least three months before intended enrollment. Prospective students planning to transfer to UCM from another U.S. institution should submit application materials for admission review at least one month before intended enrollment.

Federal Financial Aid – If a student is classified by the U.S. Immigration and Naturalization Service as an “eligible non-citizen” or “permanent resident,” (s)he may be considered eligible to receive federal financial aid. Documentation of the student’s status must be provided to Student Financial Services, Ward Edwards Building 1100.

Health Insurance for International Students – All international students are required to participate in the Student Health Insurance Program.

Nondiscrimination/Equal Opportunity Statement – University of Central Missouri actively follows a policy of nondiscrimination with regard to age, race, color, religion, sex, national origin, sexual orientation, marital status, Vietnam Era veterans, and persons with handicaps and disabilities. This policy applies to the awarding of student financial aid, and the recruitment, admission, housing, placement, and retention of students, faculty and staff.

The university complies with the regulations implementing Title VI and Title VII of the Civil Rights Act of 1964 regarding race, color, national origin, religion and sex discrimination; Title IX of the Education Amendments Act of 1972 regarding sex discrimination; the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973 regarding discrimination based on disabilities and handicaps; the Age Discrimination in Employment Act; and other state and federal laws and regulations.

Persons having inquiries concerning the university’s compliance with the regulations implementing any of the above are directed to contact the General Counsel, Administration 208, University of Central Missouri, Warrensburg, Missouri 64093, 660-543-4730. The Relay Missouri number for TDD callers is 800-735-2966 and 800-735-2466 for voice callers.

SECTION II

Financial Information and Graduate Support

Graduate Assistantships

The University of Central Missouri offers graduate assistant positions each year to many qualified students. Graduate assistantships include positions in teaching, laboratory, research, student affairs, and administration. Generally, full-time assistants work 20 hours per week for each week school is in session. This assistantship includes a tuition scholarship for graduate-level course work and a stipend. If the assistantship is three-fourths time, one-half time, or one-quarter time, work load and scholarship are adjusted accordingly. The graduate assistantship does not provide scholarship for classes taken for non-credit, pass/fail, or undergraduate credit.

Criteria for Graduate Assistantships – Eligibility for consideration and continuation of a Graduate Assistantship require a student to meet all of the following requirements.

- Possess a baccalaureate degree from an accredited institution by the time the assistantship is to become effective.
- Be accepted into a graduate degree program at the University of Central Missouri.
- Have earned an overall undergraduate grade point average (GPA) of 2.70 or an undergraduate GPA of 3.0 in an appropriate major. If the student has completed graduate work prior to application, the student must have earned a cumulative graduate GPA of at least 3.0. If a student does not have a 2.70 undergraduate cumulative GPA or 3.0 undergraduate GPA in an appropriate major, a student may apply for an assistantship after completion of nine semester hours of graduate work with at least a 3.0 cumulative GPA.
- All departmental requirements must be met.

Types of Graduate Assistantships

- **Teaching Assistants** – Generally, full-time teaching assistants teach two three-semester hour undergraduate courses per semester. Some teaching assistants aid instructors with large classes. University of Central Missouri complies with RSMO 170.012 which reads in part:

Section 2.1. Any graduate student who did not receive both his/her primary and secondary education in a nation or territory in which English is the primary language shall not be given a teaching appointment during his or her first semester of enrollment at any public institution of higher education in the state of Missouri. Exceptions may be granted in special cases upon approval of the chief academic and executive officers of the institution. Section 2.2: All graduate students who did not receive both their primary and secondary education in a nation or territory in which English is the primary language shall be tested for their ability to communicate orally in English in a classroom setting prior to receiving teaching appointments. Such testing shall be made available by the public institutions at no cost to the graduate student. Section 2.3: All graduate students prior to filling a teaching assistant position as a graduate student, who have not

previously lived in the United States, shall be given a cultural orientation to prepare them for such teaching appointment.

- **Laboratory Assistants** – Laboratory assistants conduct laboratory activities, conduct music studio classes, assist in coaching an athletic team, work in the library, or work in a computer lab.
- **Research Assistants** – Research assistants support faculty and staff in research activities.
- **Administrative Assistants** – Administrative assistants work in campus offices.
- **Student Affairs Assistants** – Student affairs assistants assume responsibilities in various student services offices including the Elliott Union, residence halls, and intramurals.

Procedures for a Graduate Assistantship Application –

A graduate student interested in applying for a Graduate Assistantship should:

- Visit jobs.ucmo.edu to view a list of available graduate assistantship positions at UCM.
- Submit an online application to those positions that the student meets the qualifications.
- Upload three (3) letters of reference and all official transcripts.
- Check the website frequently- as positions become available they will be posted to the web.

The student is responsible for ensuring their application is complete. Action on the student's application cannot be taken until transcripts and reference letters have been uploaded.

Although applications can be submitted anytime, students are urged to complete the application and submit credentials as early as possible. Positions will be available online until they are filled.

If a current graduate assistant wishes to have the appointment renewed, the student should consult with his/her supervisor.

Policies for Graduate Assistants – A student may be awarded an assistantship for a maximum of four semesters, excluding summer sessions. An Education Specialist student who has had an assistantship while working on a master's degree may have three additional semesters, for a total of seven semesters as a graduate assistant, excluding summer sessions. A student who is working on a second master's degree is not eligible for any additional semesters of an assistantship if they have already fulfilled their four semesters.

All graduate assistants must be enrolled in at least six hours of graduate credit each semester. The recommended number of hours for half-time and full-time graduate assistants is nine hours per semester. The **maximum** number of hours for any graduate student with a half-time or greater assistantship is 12 hours per semester. Students who hold less than half-time assistantships may take a **maximum** of 16 hours during a regular semester. The **maximum** number of hours for students holding a summer appointment as a graduate assistant is nine hours for the summer. Courses taken for undergraduate credit and for audit are included in the maximum total semester hours. A full-time graduate

assistantship includes a scholarship with a maximum monetary amount. The scholarship for less than full-time assistantships will be adjusted accordingly.

Please be aware that any scholarship received as part of an assistantship can have an impact on the total amount of federal student loan and employment assistance a graduate student is eligible to receive. The amount of the assistantship (stipend) has no impact on the total federal financial assistance received during the year for which the assistantship has been awarded. For additional information, contact UCM's Student Financial Services.

For further information about graduate assistantships, contact the Graduate Studies office, Ward Edwards 1800, at 877-729-8266, or visit ucmo.edu/graduate.

Graduate Scholarships

Applications for the following scholarships, awarded by the Graduate Studies office, are available in Ward Edwards 1800, phone 660-543-4621. A complete list of scholarships is also available at www.ucmo.edu/graduate.

Graduate Student Achievement Award – This award waives \$500 of the recipient's fall and spring fees. The award is based on high academic achievement and leadership qualities. The award is applicable only to mandatory tuition and fees. Students who receive a full-time graduate assistantship are not eligible for the award. Deadline: March 1.

Graduate Non-Resident Scholarship – Covers the non-resident fees for graduate study at UCM for all students enrolling no later than the fourth semester following graduation from an undergraduate program at UCM; the student must have earned a minimum of 60 hours at UCM with a 3.0 or higher UCM GPA; renewable for six semesters if student maintains a graduate GPA of 3.4 or higher. Deadline: Open.

Warren C. Lovinger Graduate Student Scholarship – A scholarship award has been given annually since 1980 in honor of Dr. Warren C. Lovinger, past president of UCM. Applicants must have received an undergraduate degree from UCM and have been admitted to a graduate program at UCM. Students must have at least 16 credit hours remaining on their graduate program to be eligible for this award. Deadline March 1.

President's Diversity Scholarship – This is an award of a graduate assistantship for one academic year. Applicants may meet an income eligibility requirement, and/or be a first-generation graduate student and/or be a member of an under-represented group in their discipline and have a minimum undergraduate GPA of 2.50. Graduate students who receive the award in their first year may reapply for a second year award. Deadline: March 1.

The Reid Hemphill Outstanding Graduate Student Award – This cash award is given to the university's outstanding graduate student. The award was funded and established by Dr. Reid Hemphill, UCM's first graduate dean. Nominations are made by faculty members to their deans. The deans of UCM's colleges then nominate one student from the college for the award. The recipient is selected by the Graduate Council. Deadline: March 1.

Federal Financial Assistance

One of the best investments a person can make in his or her future is a graduate education. At the University of Central Missouri, reasonable charges for fees, books/supplies, and room/board are a major benefit to our students. To help a graduate student achieve his or her educational goals, UCM offers a variety of federal loan and employment aid programs, most of which are awarded on the basis of a student's calculated financial need.

Each student's family and economic situation is recognized as unique, and every federal financial aid application is examined on an individual basis. The total dollar amount of financial aid requested by UCM's students, however, always exceeds the amount of assistance available. Therefore, it is very important for each applicant to:

- Submit the Free Application for Federal Student Aid on time (by April 1 each year), using www.fafsa.ed.gov.
- Comply with all financial aid instructions, procedures, and requests for information and documents.
- Enroll each semester at least half-time (four or more graduate credit hours).
- Contact UCM's Student Financial Services with any questions or concerns you may have:
In person: Ward Edwards Building 1100,
Telephone: 660-543-4983,
Fax: 660-543-8080
email: finaid@ucmo.edu.

Federal financial assistance can be used to help pay direct educational expenses, such as fees, books and supplies, and residence hall charges, as well as variable living costs, such as off-campus housing, food, transportation, child care, and other personal costs related to attending UCM. Although the responsibility for meeting educational and living costs lies primarily with the student, financial aid from one or more of the following federal programs can be awarded to supplement a student's ability to pay his/her total expenses.

Types of Federal Financial Aid Available to Graduates

Students Loans – Low-interest Stafford Loan and Perkins Loan are types of aid that must be repaid, but usually not until after the student graduates, withdraws, or drops to less than half-time enrollment status.

Employment – Work-Study assistance enables a student to earn a portion of his or her educational resources through part-time work on campus and off campus. Available Federal Work-Study positions, as well as university-funded job opportunities are posted at UCM's Office of Career Services, Elliott Union 302, 660-543-4955.

How to Apply – To apply for all types of federal financial aid, a student must submit the Free Application for Federal Student Aid (FAFSA), preferably by April 1 each year. In addition to the FAFSA, selected financial aid applicants may be required to provide supporting documents or clarifying information to UCM's Student Financial Services. If required to do so, the applicant will be contacted by mail and is expected to respond promptly. The FAFSA is submitted via the Internet at fafsa.ed.gov.

Financial Need – A graduate student's calculated need for federal financial assistance is determined by a careful examination of the results of the applicant's FAFSA data. Once this review has been completed, one or more types of financial aid is awarded to help meet the individual's need level. The student is notified of this award "package" by a mailed Financial Aid Notification, which outlines the type(s) and amount(s) of aid offered. The notification process begins early each spring for UCM's earliest FAFSA applicants and continues throughout the year.

Satisfactory Academic Progress – Federal law requires that each graduate student who wishes to continue receiving federal financial aid maintain satisfactory academic progress toward the completion of his or her master's or Education Specialist degree program. Satisfactory academic progress is defined as having

successfully completed at least two-thirds of the credit hours attempted during an academic year in order to be eligible for financial aid for the subsequent year. In addition, a graduate student must maintain at least a 3.0 cumulative graduate GPA.

Veteran Services – The University of Central Missouri Student Financial Services is a liaison between students requiring veteran services and the Veterans Administration offices in St. Louis and Kansas City.

Support is also provided to students enrolled at UCM who are in the Military Reserve/National Guard (Chapter 106), on active duty or no longer in the military but eligible for VA educational benefits (Chapter 30), Veterans Vocational Rehabilitation students (Chapter 31), dependents of military personnel (Chapter 35), and personnel who contributed to the Veterans Educational Assistance Program (Chapter 32).

For information or assistance completing the proper documentation to ensure VA educational benefits are received in a timely manner, contact Student Financial Services:

Office Location: Union 117
Telephone: 660-543-8990, Fax: 660-543-8044
Email: lmorse@ucmo.edu

Missouri Residency

The Missouri Department of Higher Education has issued regulations to be applied by Missouri universities to determine the resident status of students. The burden of proof in establishing residency rests with the student. Students who are legal minors or tax-dependents whose parents reside outside the state of Missouri are not eligible for resident fee paying status. One can be classified as a resident for fee purposes immediately upon moving to the state if the move is to accept full-time employment (or if one is the dependent of someone who came to Missouri to accept full-time employment.) In other situations continuous domiciliary presence in the state for 12 months must be proven AND sufficient proof of intent to be domiciled in Missouri permanently must be provided. Residency is determined by each educational institution and residency for attendance at a community college or obtaining a driver's license or serving in the Missouri Guard will not necessarily mean a residency determination for fee purposes. Applications and additional information is available for prospective students in the Graduate Studies office.

Non-Resident Fee Credit

If a non-resident student pays income tax in Missouri, or is in the legal custody of a parent who pays income tax in Missouri, a credit will be provided against the non-resident student fee. For information on this credit contact Student Financial Services.

Other Non-federal Assistance

Other non-federal forms of financial assistance, such as scholarships and fellowships, are also available from the University of Central Missouri. Federal aid recipients should be aware, however, that receiving other types of financial aid, including assistantship fee waivers can sometimes mean an adjustment in the federal aid that may have already been awarded.

Short-Term Loans – The university realizes that many students are dependent upon federal financial assistance to satisfy the costs of attending UCM. However, students are still expected to have some money on hand to pay for incidental costs during the first few weeks of each semester. If an emergency arises, however, a student can apply at Student Financial Services for short-term loan

funds (not to exceed \$500). These funds usually must be repaid within 60 days. A \$10 service charge will be levied to borrow money from the short-term loan fund.

University Fees

Please refer to the **Costs and Financial Aid** section of the UCM website for the current fees applicable at ucmo.edu/sfs/explore.

Missouri Residency – Questions regarding Missouri residency should be directed to the Graduate Studies office, Ward Edwards 1800.

Off Campus – Fees vary for courses offered on-site and through the use of distance learning technologies. Call the Office of Extended Campus, 800-729-2678, ext. 2, for fee information on specific courses.

Textbook Fees – The fees indicated above do not include the cost of textbooks. Graduate students usually will purchase textbooks; however, if available, some texts may be rented on a charge per book.

Please refer to the University Store site for information on rental charges and other textbook-related information at ucmbookstore.com.

Special Fees

The following fees are paid only for special purposes or because of certain conditions.

Graduation Fee	\$50.00
Walk Early Fee	\$50.00
Walk Late Fee.....	\$50.00
Early or late examination fee per final (by permission)	\$10.00
Transcript Review Fee for Teacher Certification	\$35.00
Transcript (per copy).....	\$5.00
Transcript (per copy-Fax)	\$10.00

Supplemental Course Costs – Certain specific courses and programs require supplementary fees, materials, supplies, and activities at additional expense to the student.

Payment of Fees – Students are responsible for paying all charges incurred by their class enrollment, room and board choices, departmental charges and fines. Payment for a semester's cost is due in full approximately 10 days before the semester begins.

Full payment dates are published in the "UCM Student Planner/Handbook," on the Revenue Office website, and on the student billing statement. Non-payment of charges or failure to make payment arrangements by the due date may result in classes being dropped. Late payment fees are added to the student bill each month that payment is not made

when due. Collection costs are assessed if collection action becomes necessary. For additional information regarding the payment of student accounts, visit ucmo.edu/revenue.

Refund Policy

Reduced Load. Refunds of instructional fees for student-initiated reduction in class load will not be processed until after the fourth week of classes. Refund deadlines vary per class based on the start and end dates of the course. Students should consult the dates available in MyCentral for the specific refund deadlines for each of their courses. These are available in the "Student Services" tab, at the "Check Refund Dates" link.

No refund of instructional fees will be made for student-initiated reduction in class load after the third week of a course.

If a fee amount would be reduced due to load changes caused by failure of classes to materialize or class cancellation by the university, a full refund for that class will be made.

NOTE: A federal financial aid recipient who drops to less than half-time enrollment status should be aware that depending on his/her class attendance records, some or all of the assistance credited to the student's UCM account for the semester may have to be reversed.

NOTE: Students participating in a Study Abroad program, when permitted to withdraw from a course, will not receive any refund.

Withdrawal. Students who find it necessary to withdraw from UCM should initiate the procedure in the Office of Student Experience and Engagement (Administration 214, 660-543-4114). International students must notify the International Center (Ward Edwards 1200, 660-543-4195) prior to beginning the process of withdrawal from the university. Graduate assistants who go below the minimum required hours may lose their assistantship. The following refund schedule for instructional fees applies to students who are **not** financial aid recipients.

- Withdrawal prior to the announced deadline for full payment of all charges for the current semester: full refund.
- Withdrawal during second week of classes: 50 percent
- Withdrawal during third week of classes: 25 percent

No instructional fees are refunded if the student withdraws after the third week of classes.

NOTE: In accordance with federal regulations, a financial aid recipient who officially or unofficially withdraws from UCM may be required to repay some or all of the grant and loan assistance credited to his or her UCM account, based on the date of withdrawal and last date of class attendance for the semester. A copy of the withdrawal policy is available from the Office of Student Financial Services, Ward Edwards 1100.

Refund Appeal – A student who believes that a refund greater than the established schedule should be issued may submit a written petition to Graduate Studies. The reasons and unusual circumstances believed to justify a larger refund must be outlined in the written request. All requests for refunds must be submitted within two weeks of the end of the semester for which the fees were assessed.

For the most current information on the Refund Policy, please see ucmo.edu/sfs/pay/refunds.

**Fees may be altered at any time
by action of the Board of Governors.**



SECTION III

General Policies Applying to a Graduate Certificate

The Graduate Certificate at the University of Central Missouri provides for additional study beyond the baccalaureate level.

General Policies and Requirements – To receive a graduate certificate, a student must earn a minimum of 12 semester hours of graduate credit. At least half of the semester hours on the approved certificate must have been in 5000/6000 level courses for graduate students taken only at UCM.

Time Limitation – All courses that satisfy program requirements must have been completed during the four-year period immediately preceding completion of certificate.

Course Level – Most courses numbered at the 4000 level are offered for either graduate or undergraduate credit. A 4000 level course taken as undergraduate credit may not be applied or repeated as graduate credit. A 4000 level course taken for graduate credit will have different course requirements. Courses numbered at the 5000 and 6000 level are offered only for graduate credit. Students who have 10 or more semester hours of graduate credit may enroll in 6000 level courses.

Maximum Load – A graduate student may enroll in a maximum of 16 hours per fall or spring semester including both undergraduate and graduate-level courses. Maximum course loads for summer semester are six hours during a three-week session and 12 hours for the entire summer semester. Under extenuating circumstances, students with at least a 3.5 graduate grade point average, may submit a petition to the Dean of Graduate Studies through their academic department to enroll in more than the maximum number of semester hours. Approval must be granted prior to the semester in which the student wishes to enroll for more than the maximum hours. Petitions from students who have grades of “U” in regular courses will not be granted.

International Students – Federal regulations require international students to be in a degree program. Admission into a graduate certificate program does not meet student visa requirements and students will not be issued an I-20 for certificate programs alone. However, they may enroll in a degree program and a certificate program concurrently.

Financial Assistance – Students in certificate programs are not eligible for graduate assistantships and/or scholarships unless they are also accepted into a degree program. Students are not generally eligible for federal financial aid for a certificate program. Eligibility for federal financial aid is determined by the Student Financial Services office.

Transfer Credit – Upon approval by the department and Graduate Studies, a student may transfer a maximum of 50 percent of the required hours of graduate credit from another institution to a graduate certificate program.

Requirements for transfer credit include:

- Course must have been taken for graduate credit.
- Course must have been taken at an accredited institution recognized by UCM.
- Course must not have been used to satisfy requirements for a degree granted by another institution.
- Course must reflect a grade of B or higher to be transferred.
- Transferred credit will not contribute to the GPA at UCM.

- Transferred credit does not apply to the required number of minimum hours taken at the 5000/6000 level.

Procedures for transfer of credit:

- The student may request courses be transferred at the time of application for a graduate certificate program.
- An official transcript indicating the courses to be transferred must be on file in UCM’s School of Graduate Studies
- The certificate/graduate program coordinator and the Graduate Studies office must approve the transfer.
- Upon approval, the Graduate Studies office will post the approved transfer credit as “CR” to the student’s UCM transcript.
- UCM reserves the right to accept or reject any credit for transfer.

Other Credit – Credit earned by correspondence (not including distance learning, online courses) may not be applied toward graduate certificate requirements. Work experience will not be applied as credit toward a graduate certificate.

Grades – A student completing a course at UCM will receive a final grade in the course of an A, B, C, D, or F. Graduate courses may not be taken for Pass/Fail credit.

U Grades – An instructor may report a semester grade of U when, for justifiable reasons, the student has not completed the work of the course. At the end of the following semester, the U becomes an F unless the requirements of the course have been satisfactorily completed or the course is of an individualized nature, e.g., thesis, research report, or similar investigation.

Course Repetition – A student may repeat any course if it is on their certificate plan and the grade is a C. A student must repeat any course taken at UCM for which a grade of D or F is earned when the course is part of the certificate program. Repeating a course does not remove the original grade from the student’s transcript. All courses, including those repeated are included in the student’s cumulative grade point average

Minimum Grade – Graduate Studies requires that a student must have a minimum overall UCM GPA of 3.0 in the certificate program with no grade below a C in the cluster of courses required for the certificate. Not more than six semester hours of credit with a grade of C will be applied toward graduate certificate requirements.

Excessive Low Grades – A student must maintain a cumulative grade point average (GPA) of 3.0 to remain in good standing. The first semester a student earns below a 3.0 cumulative GPA he/she will be placed on probation. The second consecutive semester a student earns below a 3.0 cumulative GPA he/she will be continued on probation. The third consecutive semester a student earns below a 3.0 cumulative GPA he/she will be ineligible for a degree/graduate certificate. Students who have been placed on academic probation are not eligible to enroll in a certificate program.

Computation of GPA – Whenever a student’s graduate cumulative grade point average is computed, only graduate credit completed at UCM is included. No transfer work may be used to change probation action. All UCM grades, including all grades of courses that have been repeated, are included in the

computation. Each semester hour of credit is valued as follows: A=4 points, B=3, C=2, D=1, F=0, WF=0.

Academic Appeals – Students should refer to the current “UCM Planner/Handbook” for information regarding appeals of final grades, courses, classes or other academic matters. The policy provides a procedure for students who feel aggrieved in their relationship with the university, its policies, practices, procedures or its faculty and staff. This policy is not for reviewing instances where a student has been accused of cheating, plagiarism or other academic dishonesty. Also not covered by this policy are grievances based on discrimination.

Academic Honesty – The university’s policy on academic honesty may be found in the current “UCM Planner/Handbook.” Students must be aware that the consequences of violating standards of academic honesty are extremely serious and costly and may result in the loss of academic and career opportunities. Students found to have committed violations against academic honesty face removal from university classes and degree programs, and/or suspension from the university.

Changes in Schedules – Changes in class schedules should be made during the Drop and Add period. Such changes will not be entered on the permanent record. Any request for adding a course after the Drop and Add period must be processed through the department. Such requests are subject to approval by the Dean of Graduate Studies.

During the Withdrawal period, a student may withdraw from any full-semester class using the self-enrollment system. Consultation with the course instructor is also recommended. A grade of W is recorded on the final grade sheet.

After the tenth week of the semester, withdrawal from a class is usually not allowed. In enrollment periods other than semester, withdrawal from classes is not permitted during the last one-third of the period. With unusual and extenuating circumstances, a student may submit a written petition to Graduate Studies for a late withdrawal from a course along with a statement of approval and assigned grade from the instructor.

Withdrawal from the University – Students who leave the university should officially withdraw through the Office of Student Experience and Engagement, Administration Building 214. In the event that a student fails to initiate this process, his/her

withdrawal may not be considered complete and grades of F will be recorded for failure to attend classes. Withdrawal during the last five weeks of a semester while receiving a failing grade in a course will result in the recording of a WF on the permanent record. Regulations governing credit for room and board payments are found in the housing contract. (See Credit Policy for information on the credit of fees.)

Graduate Certificate and Master’s Degrees – A student pursuing a graduate certificate may seek admission to a degree program simultaneously or at a later date. The student must file an application for admission to Graduate Studies and pay the required application fee for a master’s degree. This fee will be in addition to the application fee required for a graduate certificate program. A student may not retroactively apply for admission to a graduate certificate program and use courses from a degree already awarded by UCM. Completion of a graduate certificate does not guarantee admission into a graduate degree program.

Catalog Requirements – A student applying for a graduate certificate program for the current academic year must use this catalog as a basis for program requirements. A student must earn academic credit at UCM during the academic year of the catalog chosen. The course and program requirements are listed in this catalog.

Graduate Certification Completion Requirements

To complete the requirements for a graduate certificate, a student must:

- Submit an application for a graduate certificate and pay the required application fee.
- Complete satisfactorily all courses listed in the “Graduate Catalog” for the specified graduate certificate.
- Earn a cumulative graduate grade point average of 3.0 or higher on all graduate work completed at UCM.
- Satisfy all departmental requirements.
- Submit a Graduate Certificate Completion Form to the certificate/graduate program coordinator at the beginning of the semester when the student will complete the requirements.

There is no graduation process for a graduate certificate. Commencement ceremonies are reserved for degree programs.



General Policies Applying to a Master's Degree

The Master's degree at the University of Central Missouri provides for additional study beyond the baccalaureate level.

General Policies and Requirements – To receive a master's degree a student must earn a minimum of 30 semester hours of graduate credit applicable in an approved program. At least 15 semester hours of the approved program must have been at the 5000/6000 level. If the approved program of study is more than 30 semester hours, at least fifty-percent of the semester credit hours must have been at the 5000/6000 level. Courses used to fulfill the minimum number of semester hours at the 5000/6000 level must be in courses taught only to graduate students and must be taken at UCM.

Time Limitation – All courses that satisfy program requirements must have been completed during the eight-year period immediately preceding graduation.

Course Level – Most courses numbered at the 4000 level are offered for either graduate or undergraduate credit. A 4000 level course taken as undergraduate credit may not be applied or repeated as graduate credit. A 4000 level course taken for graduate credit will have different course requirements. Courses numbered at the 5000 and 6000 level are offered only for graduate credit. Students who have 10 or more semester hours of graduate credit may enroll in 6000 level courses.

Maximum Load – A graduate student may enroll in a maximum of 16 hours per fall or spring semester including both undergraduate and graduate-level courses. Maximum course loads for summer semester are six hours during a three-week session and 12 hours for the entire summer semester. Under extenuating circumstances, students with at least a 3.50 graduate grade point average, may submit a petition to the Dean of Graduate Studies through their academic department to enroll in more than the maximum number of semester hours. Approval must be granted prior to the semester in which the student wishes to enroll for more than the maximum hours. Petitions from students who have grades of "U" in regular courses will not be granted.

Full-time Student – A full-time graduate student is one enrolled in nine or more semester hours of graduate credit during the fall and spring semesters and six semester hours during the summer session. The average enrollment for graduate students is 12 hours per semester.

Individualized Study Limitations – Not more than one-half of the credit on an approved master's degree program may be individualized study. A student is limited to six hours of credit in internship on a master's degree program. A student is limited to a maximum of six semester hours of credit in thesis or in an individual research project on a master's degree program.

Transfer Credit – Upon approval, a student may transfer a maximum of nine semester hours of graduate credit from another institution to a UCM master's degree program.

Requirements for transfer of credit:

- Course must have been taken for graduate credit.
- Course must have been taken at an accredited institution recognized by UCM.
- Course must be applicable toward a graduate degree at the university granting the credit.
- Course must not have been used to satisfy requirements for a degree granted by another institution.

- Course must be applicable to a student's UCM graduate program and become a part of the program of study when transferred.
- Course must reflect a grade of B or higher to be transferred.
- Transferred credit will not contribute to the GPA at UCM.
- Transferred credit does not apply to the required number of minimum hours taken at the 5000/6000 level.

Procedures for transfer of credit:

- The student may request courses be transferred at the time the Program of Study is filed or when a Request for Change in a Program of Study is submitted.
- An official transcript indicating the courses to be transferred must be on file in UCM's School of Graduate Studies.
- The student's adviser and the Graduate Studies office must approve the transfer.
- Upon approval, the Graduate Studies office will post the approved transfer credit as "CR" to the student's UCM transcript.
- UCM reserves the right to accept or reject any credit for transfer.

Other Credit – Credit earned by correspondence (not including distance learning, Internet and web-based courses) may not be applied toward graduate degree requirements. Work experience will not be applied as credit toward a master's degree.

Grades – A student completing a course at UCM will receive a final grade in the course of an A, B, C, D, or F. Graduate courses may not be taken for Pass/Fail credit.

U Grades – An instructor may report a semester grade of U when, for justifiable reasons, the student has not completed the work of the course. At the end of the following semester, the U becomes an F unless the requirements of the course have been satisfactorily completed or the course is of an individualized nature, e.g., thesis, research report, or similar investigation.

Course Repetition – A student may repeat any course if it is on their Program of Study and the grade is a C. A student must repeat any course taken at UCM for which a grade of D or F is earned when the course is part of the student's approved program. No substitutions may be made on an approved program for courses in which the student has earned grades below B. All grades, including all grades received in repeated courses, are included in computing a graduate grade point average.

Minimum Grade – A student must receive a grade of C or higher in each course on the approved Program of Study. Not more than six semester hours of credit with a grade of C will be applied toward degree requirements.

Excessive Low Grades – A student must maintain an overall cumulative grade point average (GPA) of 3.0 to remain in good standing. The first semester a student earns below a 3.0 cumulative GPA he/she will be placed on probation. The second consecutive semester a student earns below a 3.0 cumulative GPA he/she will be continued on probation. The third consecutive semester a student earns below a 3.0 cumulative GPA he/she

will be ineligible for a degree/graduate certificate. A student who becomes ineligible for a degree cannot earn a degree from UCM.

Computation of GPA – Whenever a student's graduate cumulative grade point average is computed, only graduate credit completed at UCM is included. No transfer work may be used to change probation action. All UCM grades, including all grades of courses that have been repeated, are included in the computation. Each semester hour of credit is valued as follows: A=4 points, B=3, C=2, D=1, F=0, WF=0.

Academic Appeals – Students should refer to the current "UCM Planner/Handbook" for information regarding appeals of final grades, courses, classes or other academic matters. The policy provides a procedure for students who feel aggrieved in their relationship with the university, its policies, practices, procedures or its faculty and staff. This policy is not for reviewing instances where a student has been accused of cheating, plagiarism or other academic dishonesty. Also not covered by this policy are grievances based on discrimination.

Academic Honesty – The university's policy on academic honesty may be found in the current "UCM Planner/Handbook". Students must be aware that the consequences of violating standards of academic honesty are extremely serious and costly and may result in the loss of academic and career opportunities. Students found to have committed violations against academic honesty face removal from university classes and degree programs, and/or suspension from the university.

Changes in Schedules – Changes in class schedules should be made during the Drop and Add period. Such changes will not be entered on the permanent record. Any request for adding a course after the Drop and Add period must be processed through the department. Such requests are subject to approval by the Dean of Graduate Studies.

During the Withdrawal period, a student may withdraw from any full-semester class using the self-enrollment system. Consultation with the course instructor is also recommended. A grade of W is recorded on the final grade sheet.

After the 10th week of the semester, withdrawal from a class is usually not allowed. In enrollment periods other than semester, withdrawal from classes is not permitted during the last one-third of the period. With unusual and extenuating circumstances, a student may submit a written petition to Graduate Studies for a late withdrawal from a course along with a statement of approval and assigned grade from the instructor.

Withdrawal from the University – Students who leave the university should officially withdraw through the Office of Student Experience and Engagement, Administration Building 214. In the event that a student fails to initiate this process, his/her withdrawal may not be considered complete and grades of F will be recorded for failure to attend classes. Withdrawal during the last five weeks of a semester while receiving a failing grade in a course will result in the recording of a WF on the permanent record. Regulations governing credit for room and board payments are found in the housing contract. (See Credit Policy for information on the credit of fees.)

Change of Degree or Program – A student may initiate a change from one degree program to another degree program by contacting the Graduate Studies office to complete the proper forms. Graduate credit earned on one degree program may not be applicable on a different degree program. In the event of a change in degree program a student must meet all requirements

of the new degree program. A student should consult with departmental advisers for specific details. A student may initiate a change from one degree program to another degree program only if they are in good standing with a cumulative graduate grade point average of 3.0 or above.

Aptitude Examination – Departments may require students to take an aptitude examination before filing the Program of Study. Students should check specific program requirements listed elsewhere in this catalog and with the graduate program adviser.

Comprehensive Examination – Departments may require students to take a comprehensive examination. Students should check specific program requirements listed elsewhere in this catalog and with the graduate program adviser.

Qualifying Examination – Departments may require students to take a qualifying examination before filing a Program of Study. Students should check specific program requirements listed elsewhere in this catalog and with the graduate program adviser.

Research – The Office of Sponsored Programs oversees programs that guide Central Missouri in its research, scholarly activity and creative endeavors. The office maintains information about funding opportunities, assists in proposal development and submission and ensures compliance with award management and reporting. Sponsored Programs is located in Ward Edwards 1800; 660-543-4264; fax 660-543-4778; research@ucmo.edu; ucmo.edu/osp.

Thesis and Research Papers – A thesis is the result of research, scholarly, or creative activity that gives evidence of independent, critical, and creative investigation. The thesis demonstrates the ability to define and develop a problem; to understand and synthesize relevant literature; to use appropriate methodology; to analyze and interpret data; and to draw reasonable conclusions based on the investigation. Research papers report scholarly findings discovered through library investigation or provide a synthesis of research specific to the area of study. All theses and research papers are presented in an accepted publication style.

Thesis or Research Paper Requirements – Departments determine whether or not a thesis or research paper is to be a required part of a master's degree program.

Thesis Manual – Students should obtain a copy of the UCM Thesis Manual ucmo.edu/graduate/current/manual.

Research Involving Human Subjects – Research involving human or animal subjects - In order to comply with federal regulations and to protect the health and safety of human or animal subjects involved in research, all research protocols involving the use of human or animal subjects must be in compliance with Academic Procedures and Policies #9: Procedures for Human or Animal Subjects Review. In all cases involving human or animal subjects in research, an application must be completed and approved in advance by The Human Subjects Review Committee or the Institutional Animal Care and Use Committee before the research may start. Information and applications are available at ucmo.edu/humansubjects.

Animal Research – Federal law requires that all research projects involving the use of selected mammals and birds be conducted to ensure humane treatment of animals. Accordingly, all such projects, regardless of the funding source, must be approved in advance by the Institutional Animal Use and Care Committee. Forms are available at ucmo.edu/osp.

Two Master's Degrees – A student may earn more than one master's degree at UCM. Upon completion of one graduate degree at UCM a second master's degree may be earned with a

minimum of 24 hours of course credit, all earned at UCM. A subsequent degree must include courses specifically required for that degree, and may not have been used on a previous master's degree. An approved program must include 15 semester hours of 5000/6000 level.

Acceptance into a Departmental Program – When an applicant requests admission to a specific graduate program, the Graduate Studies office will send copies of the applicant's credentials to the department offering the proposed program. The department, after examining the credentials, will decide upon the student's acceptance into the program. The department will notify the student of its decision. Students must enroll in classes in the program within 12 months or reapply for admission to the program. After a review of the student's credentials, the staff of the department may determine that the student should fulfill certain departmental requirements before submitting a Program of Study or before applying for the degree. These requirements will be specified by the department at the time of acceptance into the program.

Graduate Program Adviser – When a student is accepted into a program, the department chair will appoint a faculty member as the student's graduate program adviser. The department chair will notify the faculty adviser, the student and the Graduate Studies office of this appointment. The student shall seek the advice of the program adviser about enrollment, program planning (including any changes), qualifying examinations, the Program of Study, research studies and/or thesis, comprehensive examinations, and eligibility for graduation.

Acceptance Denied – If acceptance is denied into a specific program, a student may ask the Graduate Studies office to have his/her credentials forwarded to another department. If no request is made, the student will be classified as a Non-degree Student.

Program of Study, Filing a Program of Study – A Program of Study should be submitted to the graduate program adviser as soon as admission procedures are complete. It is the obligation of the student to ensure a Program of Study is filed with the Graduate Studies office.

Students must file the Program of Study prior to completion of 12 hours of graduate study. Students who fail to do so are not eligible to enroll in further coursework until the Program of Study has been submitted.

No substitutions are permitted for courses required in the degree program when a student has earned a grade below a B in the course.

Catalog Requirements – A student submitting the Program of Study for the current academic year, must use this catalog as a basis for program requirements. A student must earn academic credit at UCM during the academic year of the catalog chosen. The course and program requirements are listed in this catalog.

Procedures – To file the Program of Study the following procedures must be followed:

1. The student must complete the Program of Study form and submit it to his/her graduate adviser. All classes must be listed on the Program of Study before submission to the Graduate Studies office.
2. When the student's graduate adviser approves the Program of Study, the adviser forwards it to the graduate program coordinator/adviser, who in turn forwards it to the Graduate Studies office.

3. The Program of Study is presented to the Dean of Graduate Studies for final approval.
4. The Dean of Graduate Studies will notify the graduate program coordinator/adviser of the action taken. The graduate program coordinator/adviser notifies the student.

Certification – All students seeking certification should check specific program requirements listed elsewhere in this catalog and with the graduate program adviser. It is the responsibility of the student wishing to receive any additional education certification to consult with the director of Clinical Services and Certification, Lovinger 2170, 660-543-4881.

Master's Degree Requirements and Procedures for Graduation

A student becomes eligible for graduation by meeting all requirements for the degree. Included among the requirements, a student must:

- Complete satisfactorily all required background courses and all courses listed on the approved Program of Study, or those subsequently approved.
- Remove all U grades.
- Earn a cumulative graduate grade point average of 3.0 or higher on all graduate study taken within the eight years immediately prior to the date of graduation. Earn a cumulative grade point average of 3.0 on graduate courses that are a part of the student's program of study and on all graduate work completed at UCM.
- Complete and submit research papers, if required, for departmental approval.
- Complete and submit a thesis, if required, to departmental committee for final approval. Submit approved thesis to the Graduate Studies office for final approval.
- Satisfy all departmental requirements.

A student may apply for graduation after all requirements have been completed or during the semester in which all requirements will be completed. Application for Degree packets may be obtained in the Graduate Studies office at the beginning of each semester. To apply for graduation a student must do the following:

- Submit an Application for degree card to his/her graduate adviser by the deadline date indicated in the graduation packet for the semester in which the student expects to graduate. The Application for Degree Deadline Dates are available at www.ucmo.edu/graduate.
- Submit a Certificate of Eligibility for a Graduate Degree to his/her adviser by the deadline date indicated in the graduation packet for the semester in which the student expects to graduate.
- Pay, when billed, a graduation fee at Student Financial Services.
- Satisfy all obligations to the university.

Application for Degree Deadline Dates – Students must file application for degree forms with graduate program advisers according to the deadlines as noted on the Graduate Studies website. Graduate Program Advisers are to submit completed forms to the Graduate Studies office. Contact the Graduate Studies office for submission dates. For more information, visit ucmo.edu/graduate.

General Policies Applying to an Education Specialist Degree

The Education Specialist degree at the University of Central Missouri provides for additional graduate-level study beyond the master's degree. Education Specialist degree programs are offered in three broad curricular areas: Administration, and Human Services. Within these broad areas the programs are flexible, involving discipline specializations. Individual programs must be developed with departmental approval.

General Policies and Requirements – At least 18 semester hours of the approved program must have been at the 5000/6000 level. If the approved program of study is more than 30 semester hours, at least fifty-percent of the semester credit hours must have been at the 5000/6000 level. Courses used to fulfill the minimum number of semester hours at the 5000/6000 level must be in courses taught only to graduate students and must be taken at UCM. A minimum of six of these hours must be at the 6000 level.

Prior Courses – A student pursuing a master's degree may enroll in graduate courses that are not a part of the approved master's degree program and which could at a later time be presented for use for an Education Specialist degree program providing (1) that the student has applied for and been accepted into an Education Specialist degree program contingent upon the completion of a master's degree and (2) that such courses were taken while the student was completing the last 12 hours of the master's degree program.

Time Limitation – All courses that satisfy program requirements must have been completed during the eight-year period immediately preceding graduation.

Course Level – Most courses numbered at the 4000 level are offered for either graduate or undergraduate credit. A 4000 level course taken for undergraduate credit may not be applied or repeated for graduate credit. A 4000 level course taken for graduate credit will have additional course requirements. Courses numbered at the 5000 and 6000 level are offered only for graduate credit. Only a student with 10 or more semester hours of graduate credit may enroll for 6000 level.

Maximum Load – A graduate student may enroll in a maximum of 16 hours per fall or spring semester including both undergraduate and graduate-level courses. Maximum course loads for summer semester are six hours during a three-week session and 12 hours for the entire summer semester. Under extenuating circumstances, students with at least a 3.50 graduate grade point average, may submit a petition to the Dean of Graduate Studies through their academic department to enroll in more than the maximum number of semester hours. Approval must be granted prior to the semester in which the student wishes to enroll for more than the maximum hours. Petitions from students who have grades of "U" in regular courses will not be granted.

A full-time graduate student is one enrolled in nine or more semester hours of graduate credit during the fall and spring semesters and six semester hours during the summer session. The average enrollment for graduate students is 12 hours per semester.

Individualized Study Limitation – Not more than 18 semester hours on an approved Education Specialist degree program may be individualized study. A student is limited to six semester hours of credit in internship on an Education Specialist degree program. A student is limited to a maximum of six semester hours of credit in thesis or in an individual research project on an Education Specialist degree program.

Transfer Credit – Upon approval, a student may transfer a maximum of six semester hours of graduate credit from another institution to a UCM Education Specialist degree program.

Requirements for transfer of credit:

- Course must have been taken for graduate credit.
- Course must have been taken at an accredited institution recognized by UCM.
- Course must be applicable toward a graduate degree at the university granting the credit.
- Course must not have been used to satisfy requirements for a degree granted by another institution.
- Course must be applicable to a student's UCM graduate program and become a part of the program of study when transferred.
- Course must reflect a grade of B or higher to be transferred.
- Transferred credit will not contribute to the GPA at UCM.
- Transferred credit does not apply to the required number of minimum hours taken at the 5000/6000 level.

Procedures for transfer of credit:

- The student may request courses be transferred at the time the Program of Study is filed or when a Request for Change in the Program of Study is submitted.
- An official transcript indicating the courses to be transferred must be on file in UCM's School of Graduate Studies.
- The student's graduate adviser and the Graduate Studies office must approve the transfer.
- Upon approval, the Graduate Studies office will post the approved transfer credit as "CR" to the student's UCM transcript.
- UCM reserves the right to accept or reject any credit for transfer.

Other Credit – Credit earned by correspondence (not including distance learning, Internet and web-based courses) may not be applied toward graduate degree requirements. Work experience will not be applied as credit for an Education Specialist degree.

Grades – A student completing a course at UCM will receive a final grade in the course of an A, B, C, D, or F. Graduate courses may not be taken for pass/fail credit.

U Grades – An instructor may report a semester grade of U when, for justifiable reasons, the student has not completed the work of the course. At the end of the following semester, the U becomes an F unless the requirements of the course have been satisfactorily completed or the course is of an individualized nature, e.g., thesis, research report, or similar investigation.

Course Repetition – A student may repeat any course if it is on their Program of Study and the grade is a C. A student must repeat any course taken at UCM for which a grade of D or F is earned when the course is part of the student's approved program. No substitutions may be made on an approved program for courses in which the student has earned grades below B. All grades, including all grades received in repeated courses, are included in computing a graduate grade point average.

Minimum Grade – A student must receive a grade of C or higher in each course on the approved program of study.

Not more than six semester hours of credit with a grade of C will be applied toward meeting degree requirements.

Excessive Low Grades – A student must maintain a cumulative grade point average (GPA) of 3.0 to remain in good standing.

The first semester a student earns below a 3.0 cumulative GPA he/she will be placed on probation. The second consecutive semester a student earns below a 3.0 cumulative GPA he/she will be continued on probation. The third consecutive semester a student earns below a 3.0 cumulative GPA he/she will be ineligible for a degree. A student who becomes ineligible for a degree cannot earn a degree/graduate certificate from UCM.

Computation of GPA – Whenever a student's graduate cumulative grade point average is computed, only graduate credit completed at UCM is included. No transfer work may be used to change probation action. All UCM grades, including both grades of courses that have been repeated, are included in the computation. Each semester hour of credit is valued as follows: A=4 points, B=3, C=2, D=1, F=0, WF=0.

Academic Appeals – Students should refer to the current "UCM Planner/Handbook" for information regarding appeals of final grades, courses, classes or other academic matters. The policy provides a procedure for students who feel aggrieved in their relationship with the university, its policies, practices, procedures or its faculty and staff. This policy is not for reviewing instances where a student has been accused of cheating, plagiarism or other academic dishonesty. Also not covered by this policy are grievances based on discrimination.

Academic Honesty – The university's policy on academic honesty may be found in the current "UCM Planner/Handbook." Students must be aware that the consequences of violating standards of academic honesty are extremely serious and costly and may result in the loss of academic and career opportunities. Students found to have committed violations against academic honesty face removal from university classes and degree programs, and/or suspension from the university.

Changes in Schedules – Changes in class schedules should be made during the Drop and Add period. Such changes will not be entered on the permanent record. Any request for adding a course after the Drop and Add period must be processed through the department.

During the Withdrawal period, a student may withdraw from any full-semester class using the self enrollment system. Consultation with the course instructor is also recommended. A grade of W is recorded on the final grade sheet.

After the tenth week of the semester, withdrawal from a class is normally not allowed. In enrollment periods other than semester, withdrawal from classes is not permitted during the last one-third of the period. With unusual and extenuating circumstances, a student may submit a written petition to the Graduate Studies office for a late withdrawal from a course along with a statement of approval and assigned grade from the instructor.

Withdrawal from the University – Students who leave the university should officially withdraw through the Office of Student Experience and Engagement, Administration Building 214. In the event that a student fails to initiate this process, his/her withdrawal is not considered complete and grades of F will be recorded for failure to attend classes.

Withdrawal during the last five weeks of a semester while receiving a failing grade in a course will result in the recording of a WF on the permanent record. Regulations governing credit for room and board payments are found in the housing contract. (See Credit Policy for information on the credit of fees.)

Change of Degree or Program – A student may initiate a change from one degree program to another degree program

by contacting the Graduate Studies office to complete the proper forms. Graduate credit earned on one degree program may not be applicable on a different degree program. In the event of a change in degree program a student must meet all requirements of the new degree program. A student should consult with departmental advisers about specific details. A student may initiate a change from one degree program to another degree program only if they are in good standing with a cumulative graduate grade point average of 3.0 or above.

Aptitude Examination – Departments may require students to take an aptitude examination before filing the Program of Study. Students should check specific program requirements listed elsewhere in this catalog and with the graduate program adviser.

Comprehensive Examination – Departments may require students to take a comprehensive examination. Students should check specific program requirements listed elsewhere in this catalog and with the graduate program adviser.

Qualifying Examination – Departments may require students to take a qualifying examination before filing a Program of Study. Students should check specific program requirements listed elsewhere in this catalog and with the graduate program adviser.

Research – The Office of Sponsored Programs oversees programs that guide Central Missouri in its research, scholarly activity and creative endeavors. The office maintains information about funding opportunities, assists in proposal development and submission and ensures compliance with award management and reporting. Sponsored Programs is located in Ward Edwards 1800; 660-543-4264; fax 660-543-4778; research@ucmo.edu; ucmo.edu/osp.

Thesis and Research Papers – A thesis is the result of research, scholarly, or creative activity that gives evidence of independent, critical, and creative investigation. The thesis demonstrates a mastery of defining and developing a research, scholarly, or creative problem, of the relevant literature of the discipline, of specific research methodology, and the ability to analyze and interpret data as well as draw conclusions and recommend further investigation. Research papers report scholarly findings discovered through library investigation or provide a synthesis of research specific to the area of study. All theses and research papers are presented in an accepted publication style.

Thesis, Research Paper Requirement – Students who are seeking an Education Specialist degree are required to complete a thesis or a research paper.

Thesis Manual – Students should obtain a copy of the UCM Thesis Manual from ucmo.edu/thesis.

Research Involving Human Subjects – In order to comply with federal regulations and to protect the health and safety of human or animal subjects involved in research, all research protocols involving the use of human or animal subjects must be in compliance with Academic Procedures and Policies #9: Procedures for Human or Animal Subjects Review. In all cases involving human or animal subjects in research, an application must be completed and approved in advance by The Human Subjects Review Committee or the Institutional Animal Care and Use Committee before the research may start. Information and applications are available at ucmo.edu/humansubjects.

Animal Research – Federal law requires that all research projects involving the use of selected mammals and birds be conducted to ensure humane treatment of animals. Accordingly, all such projects, regardless of the funding source, must be approved in

advance by the Institutional Animal Use and Care Committee. Forms are available at ucmo.edu/osp.

Acceptance into a Departmental Program – When an applicant requests admission to a specific graduate program, the Graduate Studies office will send copies of the applicant's credentials to the department offering the proposed program. The department, after examining the credentials, will decide upon the student's acceptance into the program. The department will notify the student of its decision. Students must enroll in classes in the program within 12 months or reapply for admission to the program. After a review of the student's credentials, the staff of the department may determine that the student should fulfill certain departmental requirements before submitting a Program of Study or before applying for the degree. These requirements will be specified by the department at the time of acceptance into the program.

Graduate Program Advisory Committee – When a student is accepted into a program, the department chair will appoint a faculty member as chairperson of the student's graduate program committee and two additional graduate faculty members to serve on the student's advisory committee. The student shall seek the advice of the program adviser about enrollment, program planning (including any changes), qualifying examinations, submission of the Program of Study, research studies and/or thesis, comprehensive examinations, and eligibility for graduation. In all situations, the adviser shall work closely with other members of the advisory committee.

Acceptance Denied – If acceptance is denied into a specific program, a student may ask the Graduate Studies office to have his/her credentials forwarded to another department. If no request is made, the student will be classified as a Non-degree Student.

Program of Study, Filing a Program of Study – A Program of Study should be submitted to the graduate program adviser as soon as admission procedures are complete. It is the obligation of the student to ensure a Program of Study is filed with the Graduate Studies office.

Students must file the Program of Study within one month after the completion of 12 hours of graduate study. Students who fail to do so are not eligible to enroll in further coursework until the Program of Study has been submitted.

No substitutions are permitted for courses required in the degree program when a student has earned a grade below a B in the course.

Catalog Requirements – A student submitting a Program of Study for the current academic year, must use this catalog as a basis for program requirements. A student must earn academic credit at UCM during the academic year of the catalog chosen. The course and program requirements are listed in this catalog.

Procedures – To file the Program of Study the following procedures must be followed:

1. The student must complete the Program of Study form and submit it to his/her graduate adviser. All classes must be listed on the Program of Study before submission to Graduate Studies.
2. When the student's graduate adviser approves the Program of Study, the adviser forwards it to the graduate program coordinator/adviser, who in turn forwards it to the Graduate Studies office.
3. The Program of Study is presented to the Dean of Graduate Studies for final approval.

4. The Dean of Graduate Studies will notify the graduate program coordinator/adviser of the action taken. The graduate program coordinator/adviser notifies the student.

Certification – All students seeking certification should check specific program requirements listed elsewhere in this catalog and with the graduate program adviser. It is the responsibility of the student wishing to receive any additional education certification to consult with the Director of Clinical Services and Certification, Lovingier 2170, 660-543-4881.

Education Specialist Degree Requirements and Procedures for Graduation

A student becomes eligible for graduation by meeting all requirements for the degree. Included among the requirements, a student must:

- Complete satisfactorily all required background courses and all courses listed on the approved Program of Study, or those subsequently approved.
- Remove all U grades.
- Earn a graduate grade point average of 3.0 or higher on all graduate courses applicable to the Education Specialist degree program taken within the eight years immediately prior to the date of graduation. Earn a cumulative grade point average of 3.0 on all graduate courses that are a part of the student's program of study and on all graduate work completed at UCM.
- Complete and submit research papers, if required, for departmental approval.
- Complete and submit thesis, if required, to the departmental committee for final approval. Submit completed thesis to the Graduate Studies office for final approval.
- Satisfy all departmental requirements.

A student may apply for graduation after all requirements have been completed or during the semester in which all requirements will be completed. Application for Degree packets may be obtained in the Graduate Studies office at the beginning of each semester.

- Submit an Application for Degree card to his/her graduate adviser by the deadline date indicated in the graduation packet for the semester in which the student expects to graduate. The Application for Degree Deadline Dates are available at www.ucmo.edu/graduate.
- Submit a Certificate of Eligibility for a Graduate Degree to his/her adviser by the deadline date indicated in the graduation packet for the semester in which the student expects to graduate.
- Pay, when billed, a graduation fee at Student Financial Services.
- Satisfy all obligations to the university.

Application for Degree Deadline Dates – Students must file application for degree forms with graduate program advisers according to the deadlines as noted on the Graduate Studies website. Graduate Program Advisers are to submit completed forms to the Graduate Studies office. Contact the Graduate Studies office or visit ucmo.edu/graduate for submission dates.

General Policies Applying to a Doctoral Degree

Doctor of Education in Educational Leadership – Students may pursue a Doctor of Education (Ed.D.) in Educational Leadership at the University of Central Missouri. The degree is conferred by the University of Missouri - Columbia. The program uses a cohort format that requires the student to complete required coursework in two years. A dissertation follows the coursework. Students are accepted into the cohort group every two years by meeting entrance requirements which include a master's degree, a substantiated goal of Educational Leadership, GRE scores, undergraduate and graduate GPA, evaluation of a writing assessment and a personal interview. The curriculum includes the following broad themes:

- Organizational Analysis
- Leadership Theory and Practice
- Analyzing Educational Policy
- Content and Context for Learning
- Research and Inquiry and Evaluation

Study commences with a summer schedule on the University of Missouri-Columbia campus. Fall and spring semester courses are taught on campus and at UCM's Summit Center (CSC) by UCM faculty. Following a second summer of study in Columbia, as well as fall and spring study at UCM and CSC, students enter the dissertation stage of the degree. For more information contact the Department of Educational Leadership and Human Development, Lovinger 4101 or call 660-543-4341.

Doctor of Philosophy in Technology Management –

UCM is participating as a charter member of an eight-university consortium offering this degree, which is conferred by Indiana State University. This degree takes advantage of distance education technology with courses available through Internet, telecommunication, and other media. Selected courses are also available on the respective campuses.

The doctoral program is designed to provide students with planned opportunities to increase their depth and breadth of knowledge in technological studies. Students must complete a minimum of 90 semester hours of graduate study above the baccalaureate degree, with a majority of the coursework at the 6000 level or higher.

The program of study includes 24-30 semester hours in an area of technical specialization. Admission occurs through Indiana State University. The Graduate Record Exam (GRE) is required.

In accordance with federal rules, any federal financial aid a doctoral student may be eligible to receive is processed and disbursed by the school (i.e., University of Missouri or Indiana State University) from which the doctoral degree will be granted. For more information, contact the Department of Industrial Technology, call 660-543-4340 or email woolsey@ucmo.edu or visit web.indstate.edu/consortphd.



Course Prefixes

ACCT - Accounting	EDFL - Educational Foundations and Literacy	LIS - Library Science and Information Services
AE - Academic Enrichment	EDSP - Special Education	MATH - Mathematics
AERO - Aerospace	EET - Electronics Engineering Technology	MGT - Management
AGRI - Agriculture	ENGL - English	MKT - Marketing
ANTH - Anthropology	ENGT - Engineering Technology	ML - Modern Languages
ART - Art	ENT - Entrepreneurial	MMGT - Manufacturing Management
AT - Athletic Training	ET - Electronics Technology	MS - Military Science
AVIA - Aviation	FCSE - Family and Consumer Science Education	MUS - Music
BADM - Business Administration	FAME - Fashion and Apparel Merchandising	NET - Networking
BIOL - Biology	FIN - Finance	NUR - Nursing
BLAW - Legal Studies	FLDX - Field Experience	PE - Physical Education
BTE - Business Teacher Education	FOOD - Food	PHIL - Philosophy
CD - Communication Disorders	FREN - French	PHOT - Photography
CDM - Crisis and Disaster Management	GEOG - Geography	PHYS - Physics
CFD - Child and Family Development	GER - German	POLS - Political Science
CHEM - Chemistry	GRAP - Graphics	PR&T - Power & Transportation
CHIN - Chinese	HED - Health Education	PSY - Psychology
CIS - Computer Information Systems	HIST - History	REL - Religious Studies
CJ - Criminal Justice	HM - Hospitality Management	SAFE - Safety Science
CMGT - Construction Management	HONR - Honors	SOC - Sociology
COMM - Communication	HRM - Human Resource Management	SOSC - Social Sciences
CS - Computer Science	ICAP - Integrative Studies Capstone	SOT - School of Technology
CTE - Career and Technology Education	IGEN - Integrative Studies General	SOWK - Social Work
D&N - Dietetics and Nutrition	INDM - Industrial Management	SPAN - Spanish
DRED - Driver Education	INST - Instructional Technology	T&OE - Technology and Occupational Education
EASC - Earth Science	ISP - International Studies Abroad	TECH - Technology
ECEL - Elementary and Early Childhood Education	IS - International Studies	THEA - Theatre
ECON - Economics		TOUR - Tourism
		WGS - Women, Gender and Sexuality

SECTION IV

MASTER'S DEGREES – The University of Central Missouri provides graduate-level study beyond the baccalaureate degree. Five master's degrees are offered by the university.

Master of Arts

Accountancy
Communication
English
Environmental Studies
History
Music
Sociology
Teaching English as a Second Language
Theatre

Master of Arts in Teaching

Middle School Education
Secondary Education

Master of Business Administration

Accounting Concentration
Ethical Strategic Leadership Concentration
Finance Concentration
General Concentration
Information Systems Concentration
Marketing Concentration
Sports Business Concentration

Master of Science

Aviation Safety
Biology
Career and Technical Education Leadership
College Student Personnel Administration

Computer Information Systems
and Information Technology
Computer Science
Counseling
Criminal Justice
Educational Technology
Industrial Hygiene
Industrial Management
Industrial Technology
Kinesiology
Library Science and Information Services
Mathematics
Nursing, Rural Family
Occupational Safety Management
Psychology
Social Gerontology
Speech-Language Pathology
Technology

Master of Science in Education

Curriculum and Instruction
Elementary Education - Curriculum and Instruction
Elementary Education - School Administration
Secondary Education - School Administration
K-12 Education - Special Education
Literacy Education

EDUCATION SPECIALIST DEGREES – The University of Central Missouri provides for additional graduate-level study (a minimum of 30 semester hours beyond the master's degree).

Education Specialist/School Administration

Elementary School Principalship
Secondary School Principalship
Superintendency

Education Specialist/Human Services

Educational Technology
Learning Resources
Professional Counseling
Technology and Occupational Education

DOCTORAL DEGREES – The University of Central Missouri cooperates with other institutions in offering two doctoral programs. The Ed.D. in Educational Leadership is conferred by the University of Missouri-Columbia. The Ph.D. in Technology Management is conferred by Indiana State University.

Doctor of Education
Educational Leadership

Doctor of Philosophy
Technology Management

COLLEGE OF ARTS, HUMANITIES, AND SOCIAL SCIENCES

Martin 126 • 660-543-4364 • fax: 660-543-8006 • ucmo.edu/cahss

The **College of Arts, Humanities, and Social Sciences** is comprised of:

- The Department of Communication and Sociology
- The Department of English and Philosophy
- The Department of Government, International Studies and Languages
- The Department of History and Anthropology
- The School of Visual and Performing Arts:
 - The Department of Arts and Design
 - The Department of Music
 - The Department of Theatre and Dance

Department of Communication and Sociology
Martin 136 • 660-543-4840
ucmo.edu/comm

**COMMUNICATION/MASS COMMUNICATION,
 Master of Arts 52 350
 SPEECH COMMUNICATION, Master of Arts 52 361**

Student Learning Outcomes — The graduate with a Master of Arts degree in Speech Communication will use the knowledge and skills obtained in the program to:

- Understand the theoretical bases of speech communication.
- Conduct research that contributes to the creation, expansion, and/or application of knowledge in the field of speech communication.
- Demonstrate an understanding of an area of specialization in the field of speech communication.
- Demonstrate creative thinking, problem-solving, and independent study skills.

Student Learning Outcomes — The graduate with a Master of Arts degree in Mass Communication will use the knowledge and skills obtained in the program to:

- Understand the theoretical bases of mass communication.
- Conduct research that contributes to the creation, expansion, and/or application of knowledge in the field of mass communication.
- Demonstrate an understanding of an area of specialization in the field of mass communication.
- Demonstrate creative thinking, problem-solving, and independent study skills.

The department of communication embraces the traditions, study, and practice of symbolic interaction through a variety of communication genres. The graduate program is designed to advance student's preparation for scholarly or professional endeavors.

To be accepted into this program, a student must have a minimum overall undergraduate grade point average of 2.50 and a minimum grade point average of 2.75 in at least 15 hours of undergraduate communication courses. Students with less than 15 hours of course work in communication may be accepted, but before any courses are taken for graduate credit, they must have a minimum of 15 semester hours of approved undergraduate courses in communication with a minimum grade point average of 3.0.

A student who is required to complete background courses must fulfill this requirement by taking specified courses in an undergraduate area of concentration – Digital Media Production, Public Relations, or Communication Studies – to ensure a specialized skill sequence in communication. In addition, international students scoring below 550 paper based (213 electronic based or 79-80 internet based) on the TOEFL will be required to pass the TOEFL Oral English Test (213 for electronic). Students must also complete a research component. There are two research options: thesis (COMM 5890) or non-thesis. Non-thesis students may also be required to take comprehensive exams.

As part of the admissions process, each student seeking admission to the department as a degree-seeking candidate must complete the following:

- **Submit a Statement of Purpose for Graduate Studies** —The statement should be 1-2 pages, typed and double-spaced. Please address the following areas in your statement:
 - The relationship (if any) between previous training/experience, graduate studies, and your professional goals.
 - Professional position and career activities you wish to pursue after completing the program.
 - Specific goals you wish to achieve in graduate studies.
 - Planned area(s) of interest in graduate studies.
 - Additional Information you feel is relevant.
- **Submit three Recommendation forms.**

A student may be required to demonstrate proficiency in one modern language or statistics, or other approved research tool, depending upon the student's area of interest or completion of the program.

MASS COMMUNICATION

	Sem. Hours
REQUIRED GRADUATE COURSES	7
COMM 5000 Introduction to Graduate Study in Communication	1
COMM 5810 Theories of Communication	3
COMM 5800 Quantitative Research Methods	3
OR	
COMM 5820 Qualitative Research Methods	3
RESEARCH	3-6
COMM 5890 Thesis	6
OR	
COMM 6890 Research Problems (One Research Paper) . . .	3
OR	
COMM 6771 Graduate Internship	3-6
OR	
COMM 6775 Professional Project Seminar.	1
AND	
COMM 6890 Research Problems	3
APPROVED GRADUATE ELECTIVES IN COMMUNICATION	12-21
GRADUATE ELECTIVES	0-6
MINIMUM GRADUATE HOUR TOTAL	31

SPEECH COMMUNICATION

	Sem. Hours
REQUIRED GRADUATE COURSES	10
COMM 5000 Introduction to Graduate Study in Communication	1
COMM 5800 Quantitative Research Methods	3
COMM 5810 Theories of Communication	3
COMM 5820 Qualitative Research Methods	3
RESEARCH	3-6
COMM 5890 Thesis	6
OR	
COMM 6890 Research Problems (One Research Paper) . . .	3
APPROVED GRADUATE ELECTIVES IN COMMUNICATION	9-18
GRADUATE ELECTIVES	0-6
MINIMUM GRADUATE HOUR TOTAL	31

SOCIAL GERONTOLOGY, Master of Science 53 760

Student Learning Outcomes — The graduate with a Master of Science degree in Social Gerontology will use the knowledge and skills obtained in the program to:

- Demonstrate knowledge of the social, psychological, economic and physical aspects of aging.
- Examine the impact social policy has on the older person, families, long-term care workers, and the organizations for which they work.
- Demonstrate knowledge of the formal and informal system of social support available to older adults.
- Engage in critical thinking by recognizing the complexity, ambiguity, and uncertainty that are present in the use of knowledge to address issues facing older adults.
- Apply the knowledge he/she has learned in the classroom to organizations which work with older people; or if doing a thesis, demonstrate an ability to formulate an independent research question and conduct a project to assess the question.
- Communicate effectively in both written and oral form.
- Demonstrate an understanding of end-of-life issues.
- Demonstrate an understanding of care-giving issues.
- Demonstrate knowledge of the ethical concerns involved in working with older adults.

This program is an interdisciplinary course of study designed for students seeking to prepare themselves for one of the many opportunities in the growing field of service for older adults. UCM offers both an on-campus program in Warrensburg and an extended campus experience at the UCM Summit Center. The off-campus program centers around evening classes that rotate in a two year cycle. Courses are offered in a variety of formats: traditional classroom setting, online, and interactive television (I-TV).

To be accepted into this program, a student must have a minimum undergraduate grade point average of 2.75.

After admissions is accepted all students should meet with the Graduate Coordinator to discuss required courses for the degree.

Eligibility for Internship must be approved by the Program Coordinator prior to beginning the practical experience.

	Sem Hours
REQUIRED GRADUATE COURSES	20
SOC 4894 Sociology of Aging	3
SOC 5840 Applied Gerontology	3
SOWK 4620 Social Services and Policy with Older Adults	3
NUR 4405 Aging of Self and Others.	2
MGT 4300 Health Care Administration	3
SOC 5810 Qualitative Research	3
SOC 4890 Social Survey Research.	3
OR	
SOC 5815 Evaluation Research.	3
RESEARCH	6
SOC 5850 Internship in Gerontology	6
OR	
SOC 6890 Thesis	6
DEPARTMENT APPROVED GRADUATE ELECTIVES	6
MINIMUM GRADUATE HOUR TOTAL	32

**SOCIAL GERONTOLOGY,
Graduate Certificate 50 628**

Student Learning Outcomes – The graduate with a Master of Science degree in Social Gerontology will use the knowledge and skills obtained in the program to:

- Demonstrate the ability to apply key concepts in Social Gerontology to the contemporary realities of aging
- Demonstrate an understanding of the biobehavioral and physiological aspects of aging
- Demonstrate an understanding of the diversity, complexity, ambiguity, and uncertainty of the aging experience
- Demonstrate practice skills by applying classroom knowledge in community settings

- Demonstrate engagement with current issues in aging by formulating a research question, designing a project, and conducting ethical research to engage the question
- Make written, oral and graphic presentations to appropriate audiences in a business or professional older adult setting
- Demonstrate appreciation for and adherence to compliance with the ethical codes involved in working with older adults

The Graduate Certificate in Social Gerontology addresses the needs of students with career interests in the rapidly growing field of aging. As the number of older persons in our society increases, professionals will require knowledge about the psychosocial, biobehavioral, physiological, social policy, economic, and service delivery aspects of aging. According to the U.S. Bureau of Labor Statistics, the number of gerontology-related jobs is expected to increase by more than 36% in 2012 alone. New opportunities are emerging daily in the development and delivery of aging products and services. The Social Gerontology Graduate Certificate Program helps prepare students from a variety of academic programs for aging-related positions both within and outside of gerontological settings.

The Social Gerontology Graduate Certificate complements many other graduate degree programs and may be taken concurrently with courses towards a graduate degree. The student must be admitted to the Graduate School and successfully complete 15 credit hours to earn the certificate. The certificate may be earned as a stand-alone credential or as part of a degree program. Students earning the certificate as a stand-alone credential may later apply the credits towards the M.S. degree in Social Gerontology if they so choose.

To be accepted into this program, a student must have a bachelor's degree with a minimum overall grade-point average of 2.75.

Sem Hours

REQUIRED GRADUATE COURSES	9
SOC 5835 Proseminar in Social Gerontology	3
SOC 5840 Applied Gerontology	3
SOWK 4620 Social Services and Policy with Older Adults.	3
GRADUATE ELECTIVE FROM THE FOLLOWING	6
Courses chosen must have different prefixes.	
SOC 5820 Administration and Management in Older Adult Settings	3
SOC 5865 Advanced Topics in Social Gerontology.	3
SOC 5870 Family Diversity	3
SOC 5890 Gender, Sexuality, and Aging	3
COMM 4270 Family Communication	3
MINIMUM GRADUATE HOUR TOTAL	15

SOCIOLOGY, Master of Arts 52 758

Student Learning Outcomes — The graduate with a Master of Arts degree in Sociology will use the knowledge and skills obtained in the program to:

- Articulate a clear understanding of Sociology as a discipline including its key theoretical debates, analytic concepts and underlying assumptions.
- Formulate a research question, design a project, and conduct the research to address the question.
- Critically assess the theoretical ideas and/or evaluate theories in relation to empirical evidence.
- Develop a culturally sensitive perspective on the role of diversity and its impact on social interaction as well as on knowledge production within the United States and internationally.
- Communicate effectively and appropriately in a variety of professional roles.
- Competently utilize library and public document research techniques including online data resources and demonstrate the ability to cite sources accurately.
- Act ethically in research and professional practice.

The Masters degree in Sociology is a dual-emphasis program designed to prepare students for employment in public sectors and academic settings by providing both methodological and theoretical training.

To be accepted into this program, a student must have a minimum overall undergraduate grade point average of 2.75 and at least 15 hours of

undergraduate sociology or related areas. A student without the 15 semester hours in sociology or related areas may be required to complete up to 15 hours of background courses in sociology prior to enrolling in 5000 or 6000 level courses.

After admissions is accepted all students should meet with the Graduate Coordinator to discuss required courses for the degree.

Eligibility for Internship must be approved by the Program Coordinator prior to beginning the practical experience.

Students are required to submit a portfolio demonstrating knowledge and skill development which is reviewed by a minimum of two graduate faculty members in Sociology to meet graduation requirements. The portfolio must receive a minimum evaluation of Acceptable prior to degree completion.

	Sem. Hours
REQUIRED GRADUATE COURSES	18
Elect From the following.	6
SOC 4860 Sociological Thought	3
SOC 5800 Theories of Society	3
SOC 5880 Seminar in Sociological Theory	3
Elect from the following.	6
SOC 4890 Social Survey Research	3
SOC 5810 Qualitative Research	3
SOC 5815 Evaluation Research	3
RESEARCH.	6
SOC 6880 Internship	6
OR	
SOC 6890 Thesis	6
GRADUATE ELECTIVES IN SOCIOLOGY	15
MINIMUM GRADUATE HOUR TOTAL	33

Center for Women, Gender and Sexuality
Wood 110 • 660-543-4832
ucmo.edu/womensstudies

WOMEN, GENDER AND SEXUALITY,
Graduate Certificate 50 997

The student with a Graduate Certificate in Women, Gender and Sexuality will use knowledge and skills acquired in the program to:

- Articulate a complex understanding of gender and sexuality, historically and cross-culturally.
- Critically utilize understandings of gender and sexuality in professional, work or civic settings.
- Apply leadership skills to civic and community decisions affecting issues of equality.

To be accepted into the program, a student must have a Bachelor's degree with a minimum overall GPA of 2.75 (based on 4.0). The program is designed to provide further knowledge and credentials for those already in their careers to allow for advancement or to supplement a Master's degree to demonstrate a secondary area of expertise. A final Civic Engagement project is required. Students, who are co-enrolled in the Graduate Certificate and a Master's Degree program, may use the final product in the major program as the final project for the certificate as long as it is addressing aspects of gender or sexuality. We would ask that the student do a public presentation, hosted by WGS. If there is no final product or if the Graduate Certificate is taken as a stand-alone degree, each student will negotiate an independent final project that has a civic engagement component.

	Sem Hours
REQUIRED GRADUATE COURSES	3
WGS 5450 Seminar in Gender and Sexuality	3
GRADUATE ELECTIVE FROM THE FOLLOWING.	9
Courses chosen must have different prefixes areas, not WGS and at least one must be at the 5000 level.	

ANTH 4820 Anthropology of Gender	3
CFD 4420 Sexuality Across the Lifespan	3
CFD 4850 Family Policy and Advocacy	3
CFD 5280 Professional Issues in Sexuality Education ...	3

CJ 4403 Sexual Assault and the Criminal Justice System	3
CJ 4920 Women and Crime	3
COMM 4285 Women and Minorities in the Media	3
COMM 4335 Gender Communication	3
ENGL 4560 British Women Writers	3
ENGL 4660 Women Writers of the United States	3
HED 4320 Teaching Sexuality Education in the School ..	3
HIST 4310 Women in America	3
HIST 4327 African-American Women, Gender and Childhood	3
HIST 4419 Women in Modern Europe	3
NUR 4030 Human Sexuality	2
POLS 4581 Civic Rights and Liberties	3
PSY 4320 Psychology of Women	2
SOC 4855 Sociology of Gender and Sexuality	3
SOC 5870 Family Diversity	3
SOC 5800 Seminar in Inclusion and Marginality in Societies	3
WGS 4910 Special Projects in Women, Gender and Sexuality Studies	1-6
WGS 5250 Feminist Theory and Methods	3
MINIMUM GRADUATE HOUR TOTAL	12

Department of English and Philosophy
Martin 336 • 660-543-4425
ucmo.edu/engphil

ENGLISH, Master of Arts 52 308

Student Learning Outcomes—The graduate with a Master of Arts degree in English will use the knowledge and skills obtained in the program to:

- Demonstrate general knowledge of the history and variety of literature written in English, primarily British and American.
- Demonstrate in-depth knowledge of a specific literary topic.
- Demonstrate awareness of human diversity as expressed in literature.
- Demonstrate familiarity with scholarly methodologies (historical and contemporary), literary terminology, use of secondary sources, and principles of documentation.
- Formulate original research questions, apply appropriate technologies, and incorporate results into formal oral and written presentations.
- Demonstrate increasing ability to write with clarity, style, and originality.

This program is designed for people who wish to pursue the study of language and literature at an advanced and scholarly level for personal enrichment, career advancement, or further graduate study. Students must have a minimum of 20 credits at the 5000 level and above in their degree program. Two or more advanced undergraduate courses (taken as an undergraduate) in any of the required categories/historical periods will fulfill (without credit) the graduate requirement in that category. A comprehensive examination, OR a three-credit research project, OR thesis is required.

For acceptance into this program, students must have a grade point average of 2.75 or above. In addition, international students must score above 575 on the paper version or 90 on the internet based version of the International Test of English as a Foreign Language (TOEFL) or have an equivalent score on the computer version and earn a score of 5 or better on the Test of Written English (TWE). It is strongly recommended that students have completed 18 hours of English language and literature courses at the 2000 level or higher.

Each student seeking admission must send the following materials directly to the Coordinator of the M.A. English program:

- Two confidential letters of reference. The letters should be written by those most able to address the student's academic work, written and verbal skills, and promise of achievement at the graduate level.
- A writing sample. The writing sample is a one-page typewritten statement of purpose in which the student outlines his/her

educational background, teaching and/or research experience (if any), and reasons for pursuing an M.A. in English.

Sem. Hours

REQUIRED GRADUATE COURSES 27

ENGL 5000 Introduction to Graduate Study in Language and Literature. 3

This course must be taken the first semester it is offered during the student's enrollment. See graduate adviser for exception.

English Literature 9

Students must take courses from at least three of the following periods, including at least one ENGL 5210

- English Literature Before 1500. 3
- English Literature from 1500-1640. 3
- English Literature from 1640-1800. 3
- English Literature from 1800-1900. 3
- English Literature from 1900 to the present. 3

American Literature 9

Students must take courses from at least two of the following periods, including at least one ENGL 5220

- American Literature to 1830. 3
- American Literature from 1830-1914. 3
- American Literature from 1914 to the present. 3

Rhetoric/Linguistics/Theory 3

ENGL 5230 Studies in Theory and Criticism. 3

OR

Approved course in this area 3

Race/Gender/Ethnicity 3

Students may choose an approved ENGL 5210, ENGL 5220, or ENGL 5230 seminar on this topic; ENGL 4560, ENGL 4660, ENGL 4670, ENGL 4680, or (on approval) ENGL 4990. A course to satisfy this requirement may simultaneously satisfy another requirement.

RESEARCH. 0-3

ENGL 6940 Thesis 3

OR

ENGL 5920 Research Problems 3

OR

Comprehensive Examination 0

GRADUATE ELECTIVES 3-6

MINIMUM GRADUATE HOUR TOTAL. 33

TEACHING ENGLISH AS A SECOND LANGUAGE, Master of Arts 52 473

Student Learning Outcomes—The graduate with a Master of Arts degree in Teaching English as a Second Language will use the knowledge and skills obtained in the program to provide instruction to English learners in accordance with the TESOL/NCATE Program Standards:

- **Standard 1: Language** – Candidates know, understand, and use the major theories and research related to the structure and acquisition of language to help English language learners (ELLs) develop language and literacy and achieve in the content areas.
- **Standard 2: Culture** – Candidates know, understand, and use major concepts, principles, theories, and research related to the nature and role of culture and cultural groups to construct supportive learning environments for ELLs.
- **Standard 3: Planning, Implementing, and Managing Instruction** – Candidates know, understand, and use evidence-based practices and strategies related to planning, implementing, and managing standards-based ESL and content instruction. Candidates are knowledgeable about program models and skilled in teaching strategies for developing and integrating language skills. They integrate technology as well as choose and adapt classroom resources appropriate for their ELLs.
- **Standard 4: Assessment** – Candidates demonstrate understanding of issues and concepts of assessment and use standards-based procedures with ELLs.

- **Standard 5: Professionalism** – Candidates keep current with new instructional techniques, research results, advances in the ESL field, and education policy issues and demonstrate knowledge of the history of ESL teaching. They use such information to reflect upon and improve their instruction and assessment practices. Candidates work collaboratively with school staff and the community to improve the learning environment, provide support, and advocate for ELLs and their families.

This program is designed to provide professional preparation for individuals who wish to teach English as a second language in the United States and/or abroad. For acceptance into this program, non-native speakers of English must score above 565 on the paper version or above 85 on the internet-based version of the International Test of English as a Foreign Language (TOEFL). All applicants must have an undergraduate grade point average of 2.70 or above.

Before completion of the program, all students must fulfill the language requirement. Native speakers must have completed two semesters of a college level foreign language or successfully achieved a Level II on the CLEP Foreign Language Examination. Non-native speakers must successfully complete the university administered exam in spoken and written English. A thesis is optional and requires prior approval from the M.A.-TESL faculty.

Sem. Hours

REQUIRED GRADUATE COURSES 30

- ENGL 4120 Language and Culture 3
- ENGL 5010 Introduction to Graduate Study-TESL. 3
- ENGL 5110 Grammar for Teaching English as a Second Language. 3
- ENGL 5120 Second-Language Acquisition. 3
- ENGL 5800 TESL Methods 3
- ENGL 5820 Assessment and Professionalism in TESL 3
- ENGL 5860 Teaching English as a Second Language I: Spoken Language 3
- ENGL 5870 Teaching English as a Second Language II: Written Language 3
- ENGL 5880 TESL Capstone 3
- ENGL 5890 Practicum in English as a Second Language 3

DEPARTMENT APPROVED GRADUATE ELECTIVES. 3

MINIMUM GRADUATE HOUR TOTAL. 33

**TEACHING ENGLISH AS A SECOND LANGUAGE,
Graduate Certificate 50 998**

Sem. Hours

Students who successfully complete the TESL Graduate Certificate are eligible to apply to add K-12 ESOL (English to speakers of other languages) certification to an existing Missouri teaching certificate. A maximum of 6 semester hours of approved transfer credit may be applied to the certificate. For acceptance into this program, non-native speakers of English must score above 565 on the paper version or above 85 on the internet-based version of the International Test of English as a Foreign Language (TOEFL).

		Sem. Hours
REQUIRED GRADUATE COURSES		21
ENGL 4110	Linguistics	3
OR		
ENGL 5110	Grammar for Teaching English as a Second Language	3
ENGL 4120	Language and Culture	3
ENGL 5120	Second-Language Acquisition	3
ENGL 5800	TESL Methods	3
ENGL 5820	Assessment and Professionalism in TESL	3
ENGL 5860	Teaching English as a Second Language I: The Spoken Language	3
OR		
ENGL 5870	Teaching English as a Second Language II: The Written Language	3
ENGL 5890	Practicum in English as a Second Language	3
MINIMUM GRADUATE HOUR TOTAL		21

Department of History and Anthropology
Wood 136 • 660-543-4404
ucmo.edu/hist-anth

HISTORY, Master of Arts 52 423

Student Learning Outcomes —The graduate with a Master of Arts degree in History will use knowledge and skills obtained in the program to:

- Demonstrate an understanding of the development of history as a discipline, especially as it applies to changing interpretations in the student’s area of specialization.
- Demonstrate a general grasp of the major issues and events in a student’s area of specialization.
- Demonstrate competence in primary research and the ability to present it in a professional manner.

This program is designed for students seeking advanced study in the field of history. To be accepted into this program, a student must have a minimum overall grade point average of 2.75 and a minimum grade point average of 3.0 in at least 20 hours of undergraduate history courses. Students with less than 20 hours of course work in history may be accepted, but before their program of study is approved, they must have completed 20 hours of approved junior and senior-level undergraduate courses in history with a minimum grade point average of 3.0. For the Pre-doctoral, Applied, and Enrichment areas, all students must pass a departmental comprehensive examination before the completion of the program. And of the required colloquia for each area, no more than half can be taken online.

Students pursuing the Pre-Doctoral Area must demonstrate reading proficiency in either one foreign language as determined by passing the MLPA basic reading proficiency as administered by the faculty in the Department of Government, International Studies and Language or must pass PSY 4520 Statistics for Behavioral Services, SOC 5810 Qualitative Research, COMM 5800 Quantitative Research Methods, or GEOG 4220 GIS. For the Enrichment Area students are required to take four Colloquia.

REQUIRED GRADUATE COURSES		9
HIST 5350	Colloquium	6
U.S. History		3
Non-U.S. History		3
HIST 5400	Historical Methods and Historiography	3
GRADUATE ELECTIVES in History		5-13
Elect one of the following Areas		
Area 1 Pre-Doctoral		8-16
HIST 6350	Thesis	4-6
Graduate Electives		2-12
Area 2 Applied		12
HIST 4340	Public History	3
HIST 5500	Public History Internship	3
HIST 5550	Public History Project	3
ANTH 4840	Historical Archaeology	3
OR		
ANTH 4860	Museum Studies	3
Area 3 Enrichment		8-16
HIST 5350	Colloquium	6
U.S. History		0-6
Non-U.S. History		0-6
Graduate Electives in a Related Area		2-10
MINIMUM GRADUATE HOUR TOTAL		30

SCHOOL OF VISUAL AND PERFORMING ARTS

The **School of Visual and Performing Arts** is comprised of:

- The Department of Art and Design
- The Department of Music
- The Department of Theatre and Dance

Department of Music
Utt 111 • 660-543-4682
ucmo.edu/music

MUSIC, Master of Arts 52 438

Student Learning Outcomes — Graduate Students with a Master of Arts degree in Music will use the knowledge and skills obtained in the program to:

- Understand and apply advanced elements and structures of music history, theory, and performance literature.
- Engage in research (analysis, interpretation, and reporting of data) within his/her area of emphasis.
- Demonstrate at an advanced level a mastery of tone, technique, and musicality in his/her primary performance medium.

This program is designed for the student who wishes a graduate degree in music with an emphasis in (1) Theory and Composition, (2) History and Literature, (3) Music Education, (4) Performance, (5) Piano Pedagogy, (6) Conducting or (7) Kodaly Music Education.

To be accepted for graduate study in music, a student must have (1) an undergraduate grade point average of 2.50 in music, (2) completed an undergraduate degree in music or completed the music requirements for a B.A. degree, (3) completed prerequisites for UCM graduate courses and (4) successfully completed entrance examinations appropriate to the proposed area of concentration. Successful completion of a comprehensive review and evaluation is required before graduation.

Sem. Hours

REQUIRED GRADUATE COURSES	18-21
MUS 5000 Introduction to Graduate Study	3
MUS 5105 Analytical Studies	3
Music history and literature	6
Major instrument or voice or conducting, 5000 level	3-6
MUS 5050 Research Problems	3
GRADUATE ELECTIVES IN MUSIC	11-14
MINIMUM GRADUATE HOUR TOTAL	32

A listing of specific courses required for each emphasis is available from the Department of Music office.

Department of Theatre and Dance
Martin 113 • 660-543-4020
ucmo.edu/theatre

THEATRE, Master of Arts 52 367

Student Learning Outcomes — The graduate with a Master of Arts degree in Theatre will use the knowledge and skills obtained in the program to:

- Communicate and collaborate effectively in the interactive and creative process of theatre.
- Form, communicate, and defend written and oral value judgments about quality and aesthetics in works of theatre.
- Communicate complex concepts regarding theatre in both written and oral form.
- Demonstrate a knowledge of bibliographical resources appropriate to critical, historical, and empirical research in theatre.
- Undertake independent research in theatre-related topics.

This program is designed for students seeking advanced study, scholarly research, and production experience in theatre arts for the purposes of career advancement, increased professional competence, personal enrichment, and preparation for further study toward a Ph.D. in Theatre.

To be accepted into this program, a student must have a minimum grade point average of 2.50 in the undergraduate major. A student not meeting this requirement may consult the Theatre Department for possible acceptance on a conditional basis. Before filing a Program of Study, a student must have taken a departmental qualifying examination.

A student is required to complete either a thesis or two research papers as a part of this program. These can be in the area of theatre history/literature or related to the design or direction of a production. A student must pass both a written and an oral comprehensive examination before completion of the program.

Sem. Hours

REQUIRED GRADUATE COURSES	18-24
THEA 5310 Modern Theatrical Styles	3
THEA 5400 Development of American Theatre	3
THEA 5990 Introduction to Graduate Study in Theatre	3
GRADUATE ELECTIVES from the following	6-9
THEA 4310 Principles of Theatre Management	3
THEA 4500 Advanced Acting	3
THEA 4710 Advanced Directing	3
GRADUATE ELECTIVES from the following	3-6
THEA 4600 Advanced Technical Theatre	3
THEA 4610 Advanced Stage Lighting and Sound	3
GRADUATE ELECTIVES in Theatre	2-9
GRADUATE ELECTIVES	0-12
MINIMUM GRADUATE HOUR TOTAL	32

HARMON COLLEGE OF BUSINESS AND PROFESSIONAL STUDIES

Ward Edwards 1600 • 660-543-4560 • ucmo.edu/harmon

The **Harmon College of Business and Professional Studies** is comprised of:

- The School of Business Administration
 - The Department of Economics, Finance and Marketing
 - The Department of Management
 - The School of Accountancy and Computer Information Systems
- The School of Professional Studies
 - The Department of Aviation
 - The Department of Criminal Justice
 - The Department of Communication Disorders and Social Work
 - The Department of Military Science and Leadership

SCHOOL OF BUSINESS ADMINISTRATION

The **School of Business Administration** is comprised of:

- The Department of Economics, Finance and Marketing
- The Department of Management
- The School of Accountancy and Computer Information Systems

The Harmon College, School of Business Administration (SBA) offers three master's degree programs: The Master of Business Administration degree (M.B.A.), the Master of Arts degree in Accountancy, and the Master of Science degree in Information Technology. The M.B.A. degree may be earned in one of five concentration areas: Accounting, Finance, General, Information Systems, or Marketing.

College Admission Policies — The SBA admits students to graduate programs based on evidence of adequate academic preparation and potential to perform high-quality graduate work. To be accepted to any SBA graduate program, an applicant must hold a baccalaureate degree from an accredited institution recognized by University of Central Missouri. Each SBA graduate program has other specific requirements that must be satisfied prior to program admission. Admission to the university in a graduate student, non-degree status does not constitute admission to any SBA graduate program. Students must be admitted to a specific SBA program in order to ensure that graduate work will be accepted for program completion.

In no case will a student be allowed to apply more than 9 graduate credit hours earned before official admission to a SBA graduate degree program toward that degree.

International graduate students applying for admission to a degree program offered by the SBA must achieve a score of 550 or higher (213 or higher if computer based or 79-80 or higher if internet based) on the Test of English as a Foreign Language (TOEFL) with minimally established scores on each sub test. Alternative English language requirements are stated in the Admission to Graduate Studies section of this catalog.

Students who are admitted to SBA graduate programs must enroll in program courses within an 18-month period following the program admission date. After 18 months, the admission is invalid and the student must reapply. All provisions of the *Graduate Catalog* in effect at the time of subsequent application for admission will apply.

MASTER OF BUSINESS ADMINISTRATION 55 505

Additional information regarding the MBA program can be obtain by the following ucmo.edu/mba, 660-543-8601, or WDE 1600.

Student Learning Outcomes — The graduate with a Master of Business Administration (M.B.A.) degree will:

- Possess a common body of knowledge (accounting, CIS, economics, ethical strategic leadership, finance, management, and marketing) necessary to facilitate the management of organizations;
- Be able to identify problems and opportunities, obtain relevant information, analyze and evaluate alternative courses of action, and choose a selected course of action;

- Be able to identify how values and moral principles can influence decision-making and outcomes in organizations and suggest means for influencing organizational ethical decision making;
- Demonstrate the ability to effectively communicate their thoughts, both verbally and in written form; and
- Demonstrate the ability to interact with peers in a team setting.

The Master of Business Administration (M.B.A.) is a professional degree that is offered as an interdisciplinary program through the five departments of the Harmon College of Business Administration (SBA). The M.B.A. program prepares students to assume positions of leadership and responsibility by providing:

- A common body of knowledge that is applicable to the management of organizations.
- Skills and abilities to identify problems and opportunities, obtain relevant information, analyze and evaluate alternative courses of action, and operationalize a selected course of action.
- Simulation and practice needed to experience and integrate the concepts and techniques from the functional areas of business.
- An understanding of the problems and opportunities resulting from environmental, multicultural and global forces impacting management. Comprehensive examinations are not required in the M.B.A. program. During the M.B.A. program, students are required to demonstrate competency in knowledge, skills and abilities requisite to success as a practicing manager. Each M.B.A. course includes a significant written and oral presentation component. A thesis is not required.

M.B.A. Admission Requirements — Beyond the University and College admission requirements, applicants for the M.B.A. program must meet the following additional admission requirements:

1. A minimum undergraduate grade point average of 2.50,
2. A minimum score of 400 on the Graduate Management Admission Test (GMAT), and
3. A minimum "admission score" based on one of the following criteria: (200 X undergraduate cumulative grade point average) + GMAT score over 1000.

OR

(200 X grade point average on last 60 hours of undergraduate credit) + GMAT score over 1050.

Note: If the student has received an undergraduate degree in business from an institution accredited by The Association to Advance Collegiate Schools of Business (AACSB) International with a cumulative undergraduate GPA of 3.75 or higher, the above requirements are waived.

Sem. Hours

REQUIRED UNDERGRADUATE BACKGROUND COURSES *0-30

The following undergraduate courses (or equivalents) are required for all M.B.A. degree concentrations. Undergraduate work already completed may be used to satisfy the undergraduate background requirements.

ACCT	2101	Principles of Financial Accounting	3
BLAW	2720	Legal Environment of Business.	3
CIS	1600	Business Information Management.	3
ECON	1010	Principles of Macroeconomics	3
ECON	1011	Principles of Microeconomics	3
FIN	2801	Business Statistics I.	3
FIN	3801	Business Statistics II.	3
FIN	3850	Principles of Finance.	3
MGT	3315	Management of Organizations.	3
MKT	3405	Marketing Policy	3

*In addition to the 30 hours of undergraduate credit listed above, candidates without an introductory-level managerial accounting course will be required to complete a competency examination over essential managerial accounting topics prior to formal admission to the M.B.A. program. A topic outline and study materials are available through the School of Accountancy. Instead of self-study and completion of the

competency examination, the candidate may instead take a formal course in managerial accounting. Candidates not passing the competency examination after two attempts will be required to take ACCT 2102, Principles of Managerial Accounting, to complete the undergraduate background requirements.

*In addition to the 30 hours of undergraduate credit listed above, the M.B.A. (Accounting Concentration) requires 15 semester hours of undergraduate credit beyond ACCT 2100, including at least one course in auditing. At least 6 of the additional hours in accounting must be earned at the upper division (junior/senior) level.

*In addition to the 30 hours of undergraduate credit listed above, the M.B.A. (Information Systems Concentration) requires 15 semester hours of undergraduate credit in information systems, including at least one course in the following areas: COBOL or Visual Basic or Java, Networking, Database Management, Analysis and Design, and Client Server.

- Accounting Concentration -

		Sem. Hours
REQUIRED GRADUATE COURSES 18		
ACCT	5105	Controllorship and the Treasury Function 3
CIS	5605	Information Management Systems 3
ECON	5005	Technology Based Research and Quantitative Tools 3
FIN	5805	Controllorship and the Treasury Function 3
MGT	5305	Strategic Management and Marketing 3
MKT	5405	Strategic Management and Marketing 3
M.B.A. CONCENTRATION 12		
ACCT	5120	Seminar in Accounting Theory 3
ACCT	5150	Advanced Auditing 3
**Accounting Electives 6		
**GRADUATE ELECTIVES 3		
**All graduate electives require pre-approval of the graduate program adviser.		
MINIMUM GRADUATE HOUR TOTAL 33		

- Ethical Strategic Leadership Concentration -

The ESTL MBA is only offered at the University of Central Missouri's Summit Center Campus in Lee's Summit, MO. Students may not cross register in MBA classes on campus nor may campus students cross register for classes in the ESTL MBA. This five semester cohort program starts only in fall semesters. The 33 hour program includes nine courses and one 3-credit hour MBA Experience which is a faculty-mentored, student-driven project which utilizes the MBA course work to address a real challenge or project within the student's workplace and exhibits the student's mastery of the five ESTL MBA program objectives.

		Sem. Hours
REQUIRED GRADUATE COURSES 12		
ACCT	5105	Controllorship and the Treasury Function 3
ECON	5005	Technology Base Research and Quantitative Tools 3
FIN	5805	Controllorship and the Treasury Function 3
MKT	5405	Strategic Management and Marketing 3
M.B.A. CONCENTRATION 18		
MGT	5320	Crafting Corporate Culture 3
MGT	5340	Building Leadership Credibility 3
MGT	5360	Innovation for Strategic Advantage 3
MGT	5370	Critical INquiry for Strategic Advantage 3
MGT	6000	MBA Applied Learning Experience 3
BLAW	5700	Legal Aspects of Buisness Decisions 3
**GRADUATE ELECTIVES 3		
**All graduate electives require pre-approval of the graduate program adviser. A maximum of 6 semester hours (of the total required graduate credit hours) may be taken at the 4000 level.		
MINIMUM GRADUATE HOUR TOTAL 33		

- Finance Concentration -

		Sem. Hours
REQUIRED GRADUATE COURSES 18		
ACCT	5105	Controllorship and the Treasury Function 3
CIS	5605	Information Management Systems 3
ECON	5005	Technology Based Research and Quantitative Tools 3
FIN	5805	Controllorship and the Treasury Function 3
MGT	5305	Strategic Management and Marketing 3
MKT	5405	Strategic Management and Marketing 3
M.B.A. CONCENTRATION 9		
FIN	5800	Managerial Finance 3
FIN	5830	Advanced Financial Institutions and Markets 3
FIN	5840	Investment Analysis and Practice 3
**GRADUATE ELECTIVES 6		
**All graduate electives require pre-approval of the graduate program adviser.		
MINIMUM GRADUATE HOUR TOTAL 33		

- General Concentration -

		Sem. Hours
REQUIRED GRADUATE COURSES 18		
ACCT	5105	Controllorship and the Treasury Function 3
CIS	5605	Information Management Systems 3
ECON	5005	Technology Based Research and Quantitative Tools 3
FIN	5805	Controllorship and the Treasury Function 3
MGT	5305	Strategic Management and Marketing 3
MKT	5405	Strategic Management and Marketing 3
M.B.A. CONCENTRATION 12		
BLAW	5700	Legal Aspects of Business Decisions 3
MKT	5400	Marketing Strategy 3
MGT	5320	Crafting Corporate Culture 3

OR

MGT	5360	Innovations for Strategic Advantage 3
Elect from the following* 6		

Courses chosen must have different prefixes.

BLAW	4740	Employment Law 3
FIN	4804	Employee Benefits and Retirement Planning 3
FIN	5800	Managerial Finance 3
MGT	4315	Entrepreneurial Business Planning 3
MGT	4370	Supply Chain Management 3
MGT	5390	Internship in Business 3
MKT	4420	Sales Management 3
SOC	4850	Work and the Modern Society 3

* Others must be approved by the MBA Director on a case-by-case basis

**GRADUATE ELECTIVES 3		
**All graduate electives require pre-approval of the graduate program adviser.		
MINIMUM GRADUATE HOUR TOTAL 33		

- Computer Information Systems Concentration -

		Sem. Hours
REQUIRED GRADUATE COURSES 18		
ACCT	5105	Controllorship and the Treasury Function 3
CIS	5605	Information Management Systems 3
ECON	5005	Technology Based Research and Quantitative Tools 3
FIN	5805	Controllorship and the Treasury Function 3
MGT	5305	Strategic Management and Marketing 3
MKT	5405	Strategic Management and Marketing 3
M.B.A. CONCENTRATION 15		
CIS	4655	Software Engineering 3
CIS	5675	Project Management 3
CIS	5650	Managing Corporate Information Systems 3

CIS	5660	Legal Environment of Information Systems . . .	3
CIS	5669	Communications Network Management. . .	3
**GRADUATE ELECTIVES			3

**All graduate electives require pre-approval of the graduate program adviser.

MINIMUM GRADUATE HOUR TOTAL 36

– Marketing Concentration –

			Sem. Hours
REQUIRED GRADUATE COURSES			18
ACCT	5105	Controllership and the Treasury Function. . .	3
CIS	5605	Information Management Systems	3
ECON	5005	Technology Based Research and Quantitative Tools	3
FIN	5805	Controllership and the Treasury Function. . .	3
MGT	5305	Strategic Management and Marketing.	3
MKT	5405	Strategic Management and Marketing.	3

M.B.A. CONCENTRATION 12

MKT	5400	Marketing Strategy.	3
MKT	5480	Applications in Marketing	3

Select two Marketing Courses 6

MKT	4420	Sales Management	3
MKT	4430	Marketing Distribution.	3
MKT	4440	Seminar in Marketing	3
MKT	4450	Integrated Marketing Communications.	3
MKT	4454	Sports Marketing	3
MKT	4460	International Marketing	3
MKT	4470	Marketing Research	3

****GRADUATE ELECTIVES 3**

**All graduate electives require pre-approval of the graduate program adviser.

MINIMUM GRADUATE HOUR TOTAL 33

– Sports Business Concentration –

			Sem. Hours
REQUIRED GRADUATE COURSES			18
ACCT	5105	Controllership and the Treasury Function. . .	3
CIS	5605	Information Management Systems	3
ECON	5005	Technology Based Research and Quantitative Tools	3
FIN	5805	Controllership and the Treasury Function. . .	3
MGT	5305	Strategic Management and Marketing.	3
MKT	5405	Strategic Management and Marketing.	3

M.B.A. CONCENTRATION 9

MKT	4454	Sports Marketing	3
ECON	4054	Sports Economics.	3
BLAV	5700	Legal Aspects of Business Decisions.	3

GRADUATE ELECTIVES 6

MKT	5400	Marketing Strategy.	3
MKT	5435	Intenship in Marketing.	3
MKT	5480	Applications in Marketing	3
MKT	6410	Readings in Marketing	3
FIN	5820	Seminar in Finance	3
FIN	6860	Readings in Finance.	3

MINIMUM GRADUATE HOUR TOTAL 33

SCHOOL OF ACCOUNTANCY AND COMPUTER INFORMATION SYSTEMS

Dockery 400 • 660-543-4631
ucmo.edu/acct

ACCOUNTANCY, Master of Arts 52 504

Student Learning Outcomes — Students pursuing the Master of Arts in Accountancy engage in a program that builds on the undergraduate curriculum with the goal of attaining eligibility to sit for the CPA exam and preparing for careers as accountants.

Professional Accounting Knowledge - Each student can demonstrate the ability to apply professional accounting knowledge in the following areas:

- Audit procedures and programs.
- Tax policy and compliance for taxable and non-taxable entities.
- The evolution of accounting theory.

Professional Accounting Skills - Each student can demonstrate application of professional skills as follows:

- Research complex accounting-related issues and utilize findings in decision making.
- Gather and analyze data for problem solving and decision making.
- Communicate effectively (orally and in writing) in an accounting context.

Professional Orientation - Students can demonstrate an application within the following areas associated with success in the accounting profession.

- Complexities of the global business environment.
- Expectations of professional and ethical conduct and the need for continuing education.
- Roles and responsibilities of accountants to insure the integrity of financial and other business information.

The M.A. in Accountancy program is designed to provide advanced level study in accounting. The program provides graduate exposure to the traditional areas of accounting (financial accounting, income tax, and auditing) through the accounting core. The specialization allows sufficient flexibility in course work to permit advanced study in specific areas such as tax, financial planning, auditing or accounting systems. Completion of the program qualifies the graduate to sit for the CPA examination in Missouri.

M.A. in Accountancy Admission Requirements—Beyond the University and College admission requirements, applicants for the Accountancy program must meet the following additional admission requirements:

1. A student who has earned a B.S.B.A degree (any major) from an AACSB-International accredited school with a GPA of 3.50 or higher is automatically eligible for admission.
2. If the criteria for admission (in No. 1 above) is not met, the following criteria apply:
 - A. A minimum undergraduate grade point average of 2.50,
 - B. A minimum score of 400 on the Graduate Management Admission Test (GMAT), and
 - C. A minimum "admission score" based on one of the following criteria: (200 x undergraduate cumulative grade point average) + GMAT score ≥ 1000.

OR

(200 x grade point average on last 60 hours of undergraduate credit) + GMAT score ≥ 1050.

Sem. Hours

Required Undergraduate Foundational Courses 0-30

ACCT	2101	Principles of Financial Accounting	3
ACCT	2102	Principles of Managerial Accounting	2
ECON	1010	Principles Macroeconomics	3
ECON	1011	Principles Microeconomics.	3
FIN	2801	Business Statistics I.	3
FIN	3801	Business Statistics II.	3
FIN	3850	Principles of Finance.	3
MGT	3310	Principles of Management	3

OR

MGT	3315	Management of Organizations.	3
MKT	3400	Principles of Marketing	3

OR

MKT	3405	Marketing Policy	3
BLAV	2720	Legal Environment of Business.	3

*The MA in Accountancy requires a minimum of 27 undergraduate credit hours in courses with an accounting prefix. These 27 hours are in addition to: (1) the required general business background courses with prefixes other than accounting, and (2) the 33 graduate hours required. See your adviser for verification of your specific requirements.

	Sem. Hours
ACCOUNTING CORE	9
ACCT 5120 Seminar in Accounting Theory	3
ACCT 5130 Seminar in Tax Research and Planning	3
ACCT 5150 Advanced Auditing	3
SPECIALIZATION	24
To be selected with approval of the accounting adviser. (Twelve of the 24 hours must be at the 5000 or 6000 level. At least 9 hours must be in Accounting, of which 6 hours must be at the 5000 or 6000 level. At least 9 hours must be outside of accounting.)	
MINIMUM GRADUATE HOUR TOTAL	33

**ACCOUNTANCY,
Accelerated Master of Arts Degree 52 625**

NOTE: At the completion of the 150-hour program, and not before, the student will earn both a BS and an MA degree in Accountancy. The program combines the Bachelor of Science in Business Administration degree (accounting major) with the Master of Arts in Accountancy, providing the student with a seamless path to complete the 150 hours required to sit for the Certified Public Accountant exam. The program reduces the hours needed to complete each degree separately by 6 hours.

Student Learning Outcomes — In addition to the technical and professional knowledge and skills provided as part of the BSBA (see undergraduate catalog), the School of Accountancy has identified the following graduate student learning objectives:

Professional Accounting Knowledge - Each student can demonstrate the ability to apply professional accounting knowledge in the following areas:

- Audit procedures and programs.
- Tax policy and compliance for taxable and non-taxable entities.
- The evolution of accounting theory.

Professional Accounting Skills - Each student can demonstrate application of professional skills as follows:

- Research complex accounting-related issues and utilize findings in decision making.
- Gather and analyze data for problem solving and decision making.
- Communicate effectively (orally and in writing) in an accounting context.

Professional Orientation - Students can demonstrate an application within the following areas associated with success in the accounting profession.

- Complexities of the global business environment.
- Expectations of professional and ethical conduct and the need for continuing education.
- Roles and responsibilities of accountants to insure the integrity of financial and other business information.

The M.A. in Accountancy program is designed to provide advanced level study in accounting. The program provides graduate exposure to the traditional areas of accounting (financial accounting, income tax, and auditing) through the accounting core. The specialization allows sufficient flexibility in course work to permit advanced study in specific areas such as tax, financial planning, auditing or accounting systems. Completion of the program qualifies the graduate to sit for the CPA examination in Missouri.

UCM students in their first 3000 level accounting course may consult with the School of Accountancy Graduate Adviser and complete a departmental application to declare the Accelerated BS/MA in Accountancy major. A cumulative GPA of 3.00 (4.00 scale) or higher for the first 60 hours of undergraduate college credit and a GPA of 3.00 (or above) on the 24 semester hours of HCBA preadmission courses, and a "B" or higher grade in ACCT 2101, ACCT 2102, and ACCT 3110 is required for admittance. Prior to beginning the graduate portion of the program, students will need to seek formal graduate admissions with UCM School of Graduate Studies.

REQUIRED UNDERGRADUATE COURSES

REQUIRED COURSES	69
ACCT 2101 Principles of Financial Accounting	3
ACCT 2102 Principles of Managerial Accounting	3
ACCT 3110 Intermediate Financial Accounting I	3
ACCT 3111 Intermediate Financial Accounting II	3
ACCT 3112 Intermediate Financial Accounting III	3
ACCT 3120 Cost and Managerial Accounting	3
ACCT 3130 Introduction to Income Tax	3
ACCT 3160 Accounting Information Systems	3
ACCT 4100 Advanced Accounting I	3
ACCT 4105 Auditing	3
ACCT 4130 Advanced Income Tax	3
ECON 1011 Principles of Microeconomics	3
FIN 2801 Business Statistics I	3
FIN 3801 Business Statistics II	3
FIN 3850 Principles of Finance	3
MGT 3315 Management of Organizations	3
MGT 3325 Business Communications	3
MGT 3360 Production/Operations Management	3
MKT 3405 Marketing Policy	3
BLAW 2720 Legal Environment of Business	3
BLAW 3721 Law of Business Transactions	3
3000- or 4000-level Non-Accounting Business Electives	6

GENERAL EDUCATION REQUIREMENTS
(page 42 Undergraduate Catalog)

COMM 1000 DIV. I B (REQUIRED)	3
ICAP 1111 DIV. I C (REQUIRED)	3
CIS 1600 DIV. II A (REQUIRED)	3
ECON 1010 DIV. II B (REQUIRED)	3
PSY 1100 DIV. II B (REQUIRED)	3

OR

SOC 1800 DIV. II B (REQUIRED)	3
ICAP 4357 DIV. IV B (REQUIRED)	3

Non Accounting Free Electives

REQUIRED GRADUATE COURSES

ACCOUNTING CORE	9
ACCT 5120 Seminar in Accounting Theory	3
ACCT 5130 Seminar in Tax Research and Planning	3
ACCT 5150 Advanced Auditing	3

SPECIALIZATION

To be selected with approval of the accounting adviser. (Twelve of the 21 hours must be at the 5000 or 6000 level. At least 9 hours must be in Accounting, of which 6 hours must be at the 5000 or 6000 level. At least 9 hours must be outside of accounting. (May not repeat any courses taken for undergraduate credit)

MINIMUM TOTAL

**COMPUTER INFORMATION SYSTEMS AND
INFORMATION TECHNOLOGY,
Master of Science 53 627**

Student Learning Outcomes — The graduate with a Master of Science degree in Computer Information Systems and Information Technology will be able to use their skills and knowledge to do the following:

- Each student can analyze strategies and demonstrate development of architecture, and familiarity with software tools and network analysis tools in the IT environment.
- Each student can conceptualize different components of a project plan and demonstrate estimation techniques in system planning.
- Each student shall be able to understand, collaborate, converse, write and present reports on issues related to personnel and financial aspects of the Information Systems area in corporate environment.
- Each student shall be able to understand organizational policies, recognize legal issues, appreciate ramification of changes in legal terms, and recognize ethical conflicts. (S)he should learn how to make right choices and defend resolutions in a corporate Information Systems Environment.

- Software Engineering Track - Design, Develop and Implement robust IT solutions using contemporary Architecture and Design methods and varied development platforms.
- Internet Track - Design, Develop and Implement robust Web based IT solutions.

Track Objectives and student outcomes – Software Engineering Track:

- To understand systems architecture and systems development strategies.
- To be familiar with tools to develop quality software.
- To have in-depth knowledge of active directory design, installation and configuration.
- To be familiar with TCP/IP.
- To understand concepts of OO Design.
- To understand standard systems design strategies.
- To understand OO/COM implementation using. NET languages
- To be familiar with development of enterprise wide distributed systems using Visual Studio.

Internet Technologies Track:

- Develop client-based, multi-platform, dynamic Web content following a strong Web design philosophy.
- Develop server-based, dynamic Web content and in managing a Web server resources with consideration for organizational and technical issues.
- To have in-depth knowledge of active directory design, installation and configuration.
- To be familiar with TCP/IP.

The Computer Information Systems and Information Technology program is designed to serve two types of students. First, those who have an undergraduate degree and would like to make a career change to computer information technology, and second, those who are already in the information technology workforce and would like to enhance their career growth in a specialized area. **Students may choose from two areas:**

- Software Engineering
- Internet Technologies

To be admitted to the program, a student must have a minimum undergraduate grade point average of 2.5. Candidates must complete the Graduate Record Examination (GRE) with a minimum score of 1000 in any two areas or Graduate Management Admission Test (GMAT) with a minimum score of 500. Courses completed prior to receipt of an undergraduate degree can not be used toward this program. A thesis is not required.

Sem. Hours

REQUIRED UNDERGRADUATE BACKGROUND COURSES 0-15

The following undergraduate courses (or equivalents) are required. Some of the requirements may be waived on the basis of the Computer Information systems (CIS) track. Undergraduate work already completed may be used to satisfy these requirements.

CIS	2605	Programming with Visual C#	3
CIS	2615	Introduction to Java.	3
CIS	2665	Principles of Data Communications and Local Area Networking.	3
CIS	3650	Database Management Systems.	3
CIS	3660	Analysis and Design of Computer Information Systems	3

REQUIRED GRADUATE COURSES 15 (elect from the following)

CIS	4655	Software Engineering	3
CIS	5675	Project Management	3
CIS	5650	Managing Information Security in Organizations	3
CIS	5690	Advanced Systems Project	3
CIS	5660	Legal Environment of Information Systems	3

**Track 12
Students must complete all requirements in one of the following track areas.**

– Software Engineering Track –

CIS	4660	Applications Development Using JAVA	3
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CIS	4665	Data Communication and Distributed Data Processing	3
CIS	5606	Advanced Applications Development Using Visual C#	3
CIS	5656	Mobile Computing with iOS and Android	3
CIS	5661	Advanced Analysis and Design of Computer Information Systems	3

–Internet Technologies Track –

CIS	4665	Data Communication and Distributed Data Processing	3
CIS	5610	Internet for the Enterprise	3
CIS	5611	Client-side Internet Resources	3
CIS	5612	Server-side Internet Resources	3
CIS	5669	Communications Network Management.	3

GRADUATE ELECTIVES 3

CIS	5670	Internship in Computer Information Technology.	3
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A student is expected to take CIS 5670 - Internship in CIS to meet the elective requirements. If the student does not receive a paid internship, any other graduate level CIS course approved by the adviser, may be taken.

MINIMUM GRADUATE HOUR TOTAL 30

SCHOOL OF PROFESSIONAL STUDIES

The School of Professional Studies is comprised of:

- The Department of Aviation
- The Department of Criminal Justice
- The Department of Communication Disorders and Social Work
- The Department of Military Science and Leadership

**Department of Aviation
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ucmo.edu/aviation**

AVIATION SAFETY, Master of Science 53 158

Student Learning Outcomes – The graduate with a Master of Science degree in Aviation Safety will be able to:

- Apply the knowledge and skills appropriate to aviation and aviation management.
- Understand and use specialized knowledge in aviation safety, and aviation safety program management.

This program is designed to prepare individuals for a career in aviation safety, safety program management, or aviation management. To be accepted into this program, a student must have a minimum grade point average of 2.50 in the undergraduate major. Exceptions to this standard may be granted on a case by case basis. Suitable educational background or experience in aviation and/or safety is required for acceptance. A student must pass a comprehensive examination before completion of the program.

Sem. Hours

REQUIRED GRADUATE COURSES 24

AVIA	4040	Aviation Management	3
AVIA	4090	Aviation Law	3
AVIA	4500	Aviation Safety	3
AVIA	5030	Airport Planning and Design	3
AVIA	5500	Aviation Systems Safety and Risk Management	3
AVIA	5510	Aviation Safety Program Management	3
AVIA	5520	Aircraft Accident Investigation.	3
AVIA	4420	Air Transportation.	3

OR

SAFE	4560	Systems Safety	3
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RESEARCH 3

CTE	5130	Research Methods in Applied Sciences and Technology.	3
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OR

SAFE 5940 Current Literature and Research in Safety . . . 3
GRADUATE ELECTIVES 5
MINIMUM GRADUATE HOUR TOTAL 32

**Department of Communication Disorders
 and Social Work**
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**SPEECH-LANGUAGE PATHOLOGY,
 Master of Science 53 623**

Student Learning Outcomes — The graduate with a Master of Science degree in Speech-Language Pathology will use the knowledge and skills obtained in the program to:

- Apply theory and principle, guided by logic to analyze, synthesize and evaluate information regarding prevention, assessment and intervention concerning communication differences and disorders and swallowing or other upper aerodigestive disorders.
- Provide prevention, assessment and intervention services to children and adults across a wide range of disorders and differences including speech, language, swallowing or other upper aerodigestive functions, cognitive aspects of communication, sensory awareness related to communication and additional recognized and emerging areas of practice.
- Demonstrate skill in oral and written language to achieve effective clinical and professional interaction and communicate in a manner that reflects knowledge appropriate to professional role and diverse settings.
- Exhibit professional behavior as defined in the cardinal documents of the American Speech-Language-Hearing Association (ASHA), including but not limited, to Certification Standards for the Certificate of Clinical Competence in Speech-Language Pathology, ASHA Scope of Practice in Speech-Language Pathology, ASHA Code of Ethics and ASHA Preferred Practice Patterns for the Profession of Speech-Language Pathology.
- Collaborate with professionals, provide counseling to individuals and their families, and initiate community education regarding speech and language differences and disorders, and hearing and swallowing disorders or other upper aerodigestive disorders.
- Use contemporary technological resources and a variety of other methods to support Evidence-Based Practice and the acquisition and utilization of new knowledge and clinical skills.

Overview of Program — The Master of Science degree program in Speech-Language Pathology is designed for the academic and clinical instruction of persons to enter the profession of speech-language pathology. Students receive specific educational and clinical training to prepare them for the provision of services in a broad range of settings. This program is accredited in speech-language pathology by the Council on Academic Accreditation (CAA) of the American Speech-Language-Hearing Association (ASHA).

Admission — The Communication Disorders program admits students each semester. To be considered for admission, the applicant must have a minimum undergraduate grade point average of 3.00 in Speech-Language Pathology courses and a cumulative undergraduate grade point average of 3.00 (on a 4.00 scale). Meeting the initial requirements to enter the program, however, does not guarantee admission to the program.

Complete applications will include the following:

1. Transcripts from an undergraduate program in Communication Disorders (post baccalaureate students refer to the section titled Post-baccalaureate Students);
2. Graduate Record Examination (GRE) score.
3. Three UCM Communication Disorders Program Recommendation forms completed by university instructors, clinical instructors, and/or employers; and,

4. Letter of Intent which includes a Professional Goal Statement covering relevant qualifications, experience, and interest. The statement should not exceed three double-spaced, typed pages.

Applicants who wish to be considered for financial assistance are highly encouraged to complete and submit a Free Application for Federal Student Aid (FAFSA) when applying for admission.

Application due dates: Completed applications received on or before the deadlines will be considered by the Communication Disorders' Program Graduate Admissions Committee (GAC) for ranking and admission on a space available basis. Applications for the summer and/or fall semesters are due February 1. Applications for the spring semester are due September 1. Applications received after the due dates may be considered for the following semester.

Notification of status: Admission to the graduate program in the Communication Disorders program may be approved, deferred, or rejected. If admission is approved, the applicant will receive a letter of admission. Applicants whose admission is deferred or rejected will be notified by letter. Selection will be completed and notification will be mailed by March 1 for those applying for the summer or fall semesters and by October 1 for those applying for the spring semester. According to the Council of Academic Programs in Communication Sciences and Disorders, applicants must return their letters of commitment to their chosen program by April 15 for the summer and fall start dates. Letters of commitment for the spring semester are due by Nov. 15.

Post-baccalaureate Students: Applicants with diverse undergraduate degrees are encouraged to apply to the graduate program. Post-baccalaureate students who meet the graduate admission requirements and are selected for admission to the graduate program in Speech-Language Pathology are admitted provisionally. Post-baccalaureate students must successfully complete basic prerequisite courses with a minimum GPA of 3.0, with no course grade lower than a C, prior to beginning graduate work. Post-baccalaureate students who do not meet the prerequisite course criteria will not be allowed to enroll in graduate courses and will undergo administrative dismissal from the program.

Criteria for Administrative Dismissal - Administrative dismissal from the program will occur under the following circumstances:

1. Two (2) grades of "C" in clinical practicum.
2. The second semester the overall GPA falls below 3.0.

Only clinical clock hours for graduate clinical practicum experiences in which the student has earned a grade of C or better will apply toward certification or licensure requirements. Thus, if a student receives a grade below C in an on-campus clinic, off-site placement, or internship, the clinical clock hours accrued during that experience will not be applicable toward the 375 hours required by ASHA for the Certificate of Clinical Competence.

Transfer of Graduate Credits — Students may transfer a maximum of nine credit hours from another CAA accredited graduate program.

Transfer credits must meet eligibility criteria as outlined in the Graduate Catalog.

Graduation Requirements — Graduation requirements for the program are based largely on requirements set forth by ASHA. ASHA requirements are based on professional practice trends and as such, are updated periodically. Although this does not happen frequently, if the ASHA requirements change, students must meet the new requirements in order to graduate. Additional graduation requirements are outlined below:

Clinical Clock Hour Requirements — Program specifications are required to provide each student clinical experience with person's exhibiting various communication disorders and differences across the lifespan. The minimum number of required hours is outlined here:

- 24 clock hours of supervised observation
- 375 clock hours of supervised clinical practicum in direct client contact
- 325 of the 375 hours must be obtained at the graduate level
- 50 clinical hours must be obtained in each of three different clinical settings

Orientation Policy and Procedures-All first-semester clinicians (not previously enrolled in CD 4802) must enroll in CD 5810 Graduate Clinical Practicum. Students will pay a one-time fee for a clinic shirt and name tag.

Praxis — All students must pass the Praxis examination in Speech-Language Pathology as the comprehensive exit examination before the degree is conferred. A passing score is determined by the Council for Clinical Certification of the American Speech-Language-Hearing Association (ASHA) and is required to meet ASHA Certification standards. The examination is scheduled and administered through the Educational Testing Service and is offered only at specific times and locations. Students should register through the Assessment and Testing Office at UCM to take the examination during their internship semester. Students should not take the exam prior to completion of CD 5910 Praxis Exam Preparation for Speech-Language Pathology.

Knowledge and Skills Acquisition (KASA) — The Master of Science Degree in Speech-Language Pathology is a competency based program. These competencies reflect the knowledge and skills required by the ASHA Certification Standards III, Program of Study-Knowledge Outcomes and IV, Program of Study-Skill Outcomes. The required knowledge and skills are delineated on the KASA. To understand the procedures associated with the KASA documentation, students are required to attend KASA trainings offered each semester. Students will be expected to demonstrate competency related knowledge and skills throughout their graduate program through formative and summative assessments. Additionally, students need to demonstrate acquisition of knowledge and skills through documentation on the KASA. Students not demonstrating the achievement of course-related knowledge and skills need to successfully complete remediation procedures that provide documentation of knowledge and skill acquisition. Before the degree is conferred, students must demonstrate successful completion of the KASA through a review process with the Director of Clinical Services and the Chair of the Department.

Clinical Practicum Requirements — All students must fulfill the academic and clinical practicum requirements for the Certificate of Clinical Competence (CCC) in Speech-Language Pathology. Graduate clinicians must be enrolled in clinical practicum every semester to meet the practicum requirements and needs of the Welch-Schmidt Center for Communication Disorders Center. Any graduate student who has not completed practicum requirements by the end of the internship assignment must return to the University's Welch-Schmidt Center for Communication Disorders to complete requirements.

CPR Certification — Students will obtain certification in adult and child cardiopulmonary resuscitation prior to enrolling in clinical practicum experiences. Students must maintain re-certification throughout all clinical practicum experiences including the internship/externship experiences.

Immunizations — Students must be tested annually for Tuberculosis (TB) and submit results of testing to the Director of Clinical Services prior to beginning clinic each year. Additionally, students must also submit proof of having initiated the Hepatitis B immunization series prior to beginning clinical practicum.

Student Clinicians participating in the Welch-Schmidt Center for Communication Disorders are expected to comply with all University of Central Missouri health requirements. This includes current tuberculosis (TB) test and updated immunizations as recommended by the US Center for Disease Control (CDC) and the Missouri Department of Health and Senior Services.

All immunizations that are required by the University of Central Missouri and recommended by the Centers for Disease Control and Prevention (CDC) and the Missouri Department of Health and Senior Services must be up to date when students enter our program. People who are not properly immunized pose a public health risk to their patients, co-workers and themselves.

If immunizations and TB tests are not up to date, you may not be accepted at medical and/or educational clinical rotation sites, etc. This could prevent you from participating in a variety of clinical experiences which would ultimately prevent you from graduating.

Seasonal flu shots are being required by many external clinical sites and will not accept student clinicians who have not had this immunization.

Criminal Background Check — Satisfactory criminal background checks must be completed and validated prior to beginning clinic in the Welch-Schmidt Center for Communication Disorders and again, prior to placement in internship and externship sites. If a background check is unsatisfactory, placement in clinic and externship/internship sites may not be possible. A student unable to be placed in clinic or externship/internship will not be able to complete the program.

Grades — A graduate student who is placed on academic probation may not enroll in any clinical practicum courses while on probation.

Internship/Externship — Internships and externship placements are arranged by the program two semesters prior to placement. Entry level clinical skills as defined by obtaining a Level 4 or Level 5 will be demonstrated for Certification Standard IV prior to beginning the internship/externship experience. A minimum number of 300 clinical practicum hours must be completed prior to the internship. Students will need to provide their own transportation and housing during the internship/externship experiences.

Clinician Meetings — Clinicians are required to attend clinician meetings which cover a variety of topics ranging from paperwork and procedures to assessment and intervention tools available in the Center. These meetings are scheduled as needed throughout the semester.

Certification and Licensure — Upon completion of the Master of Science degree and the Clinical Fellowship, graduates are eligible for the Certificate of Clinical Competence from the ASHA and licensure as a Speech-Language Pathologist by the Missouri Department of Economic Development, Division of Professional Registration. Upon obtaining their unencumbered license as a Speech-Language Pathologist, graduates are also eligible for a Student Services Certificate through application to the Missouri Department of Elementary and Secondary Education. This Student Services Certificate provides the graduate with the opportunity for employment as a Speech-Language Pathologist in Missouri's public schools.

		Sem Hours
Required Graduate Courses		38
CD	5101 Professional Issues in Communication Disorders	2
CD	5402 Advanced Issues in Child Language Disorders	3
CD	5501 Articulatory and Phonological Disorders	3
CD	5502 Fluency Disorders	3
CD	5503 Voice Disorders	3
CD	5504 Adult Neurogenic Language Disorders	3
CD	5506 Motor Speech Disorders	3
CD	5508 Adult Swallowing Disorders	2
CD	5509 Pediatric Feeding and Swallowing Disorders	2
CD	5511 Assistive Technology Across the Lifespan	2
CD	5515 Rehabilitation of Cognitive Linguistic Communication Disorders	2
CD	5801 Internship in Communication Disorders	4
CD	5802 Externship in Communication Disorders	2
CD	5902 Research Design in Communication Disorders	3
CD	5910 Praxis Exam Preparation for Speech-Language Pathology	1
Elect from the following		6-8
CD	5810 Graduate Clinical Practicum	1
CD	5811 Advanced Graduate Clinical Practicum	1
RESEARCH		2-5
CD	5507 Research Projects in Speech-Language Pathology	2

OR

CD 6901 Thesis 1-5
MINIMUM GRADUATE HOUR TOTAL **46-51**

The following is an example for the course sequence for the Master of Science in Speech-Language Pathology for a student admitted to begin study in the fall. As indicated previously, students are admitted during fall, spring, or summer semesters. A student will follow the sequence associated with the semester they begin graduate studies. Students who follow

this course sequence will have priority for all externship and internship placements.

When starting the Fall semester

1st Fall Semester

CD	5504	Adult Neurogenic Language Disorders	3
CD	5502	Fluency Disorders	3
CD	5507	Special Projects or CD 6901 Thesis	2-3
CD	5810	Graduate Clinical Practicum	1
TOTAL			9-10

1st Spring Semester

CD	5503	Voice Disorders	3
CD	5902	Research Design	3
CD	5811	Advanced Graduate Clinical Practicum	1
CD	5508	Adult Swallowing Disorders	2
TOTAL			9

1st Summer Semester

CD	5402	Advanced Issues in Child Language Disorders	3
CD	5811	Advanced Graduate Clinical Practicum	1
CD	5515	Rehabilitation of Cognitive Linguistic	2
TOTAL			6

2nd Fall Semester

CD	5101	Professional Issues in CD	2
CD	5509	Pediatric Feeding and Swallowing Disorders	2
CD	5506	Motor Speech Disorders	3
CD	5811	Advanced Graduate Practicum (optional extern R/F)	2
TOTAL			9

2nd Spring Semester

CD	5910	Praxis Exam Preparation for Speech-Language	1
CD	5501	Articulatory and Phonological Disorders	3
CD	5811	Advanced Graduate Clinical Practicum	1
CD	5802	Externship	2
CD	5511	Assistive Technology Across the Lifespan	2
TOTAL			9

2nd Summer Semester

CD	5801	Medical Internship*	4
TOTAL			4

Students who have not taken Aural Rehab, will need to add this course.

**Department of Criminal Justice
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It is the mission of the Department of Criminal Justice to ensure that all our graduates master a comprehensive curriculum in criminal justice which is dynamic, rigorous, and that prepares them to excel and become leaders in their profession and contribute to the betterment of society.

CRIMINAL JUSTICE, Master of Science 53 704

Student Learning Outcomes — The graduate with a Master of Science degree in Criminal Justice will use the knowledge and skills obtained in the program to:

- Articulate knowledge of the major issues facing the criminal justice system in the nation and world.
- Conduct and present an independent research project.
- Communicate and interact professionally in scholarly, academic settings.
- Delineate the ethical principles of human subject protection in social science research.

This program is designed for those students who wish to enter and/or progress in the criminal justice fields of law enforcement, corrections, and juvenile justice; or who plan to seek positions in leadership, professional specialization, research, or instruction in criminal justice.

Admission - To be considered for admission into the program of studies for the Criminal Justice M.S. degree, the applicant must have earned an undergraduate degree in criminal justice or a related field prior to enrollment at UCM in the coursework for the program, submitted a complete graduate application, and earned a minimum grade point average of 3.0 on all undergraduate course work and 3.0 of all graduate coursework. A student without a criminal justice degree may be required to complete up to 15 hours of background courses in criminal justice prior to taking graduate level courses. The requirement to take background courses may be waived by the Criminal Justice Coordinator based on previous courses taken and/or relevant professional experience.

Students with a cumulative undergraduate grade point average of 2.75 to below 3.0 may be considered for admission by the Criminal Justice Graduate Committee upon taking the Graduate Record Examination (GRE) and submitting a minimal combined score on the General Test (Quantitative and Verbal Reasoning) of 300 points and a minimal score of 4.0 on the Analytic Writing Test. Any application deviating from these admissions criteria will be considered at the discretion of the Criminal Justice Graduate Committee.

Application due dates - To be considered for admission into the Criminal Justice M.S. degree program and to ensure available capacity, early submission of application materials is recommended. Priority consideration will be given to students who apply at the beginning of the semester prior to the anticipated admissions term. To apply later will put students at a distinct disadvantage regarding course availability. The Criminal Justice Graduate Committee will meet monthly to review completed applications. All applicants will be notified of their admission status via an email. Admission decisions will be based upon the merit of the application and the available space in the program for the student.

Prior to completion of the program, a student must select either the thesis or non-thesis option. The thesis option requires the student to complete six hours of thesis (CJ 6600) as part of the 36-hour degree program. Students in the non-thesis option must take three hours of CJ 5600 Individual Research as part of their program of study/degree audit.

Consent to enroll in additional arranged courses must be obtained from the department graduate program coordinator. These include CJ 4602, CJ 5600, CJ 5602, and/or CJ 6600.

Sem Hours

REQUIRED GRADUATE COURSES		21	
CJ	5000	The Criminal Justice Philosophy and Policy	3
CJ	5003	Causes of Crime	3
CJ	5006	Comparative Criminal Justice Systems	3
CJ	5102	Administration in Criminal Justice	3
CJ	5301	Legal Aspects of the Criminal Justice System	3
CJ	5610	Statistics for Criminal Justice	3
CJ	5620	Methods of Criminal Justice Research	3
RESEARCH		15	

– Thesis Option –

CJ	6600	Thesis	6
DEPARTMENT APPROVED GRADUATE ELECTIVES			9

OR

– Non-Thesis Option –

CJ	5600	Individual Research	3
DEPARTMENT APPROVED GRADUATE ELECTIVES			12
MINIMUM GRADUATE HOUR TOTAL			36

CRIMINAL JUSTICE

Accelerated Master of Science Degree 53 624

Student Learning Outcomes — The graduate with an Accelerated Master of Science degree in Criminal Justice will use the knowledge and skills obtained in the program to:

- Articulate knowledge of the major issues facing the criminal justice system in the nation and world.
- Conduct and present an independent research project.

- Communicate and interact professionally in scholarly, academic settings.
- Delineate the ethical principles of human subject protection in social science research.

This program is designed for those students who wish to enter and/or progress in the criminal justice fields of law enforcement, corrections, and juvenile justice; or who plan to seek positions in leadership, professional specialization, research, or instruction in criminal justice.

Admission - To be considered for admission to the Accelerated M.S. Degree in Criminal Justice, students must have completed 45 hours of undergraduate coursework towards a degree in criminal justice at the University of Central Missouri and have earned a 3.0 GPA. To apply students must have submitted a completed Application for the Accelerated Degree through the Department of Criminal Justice, a 1000-word writing sample expressing educational and career goals and reasons for interest in the program, 2 satisfactory letters of recommendation, and a minimal combined score of 300 on the General GRE test.

Upon entry into the program, in order to continue in the program, the student must earn at least a "B" in all coursework and meet all other reporting and progress requirements for the CJ Department.

	Sem Hours
REQUIRED UNDERGRADUATE COURSES	107
REQUIRED COURSES	30
CJ 1000 Introduction to Criminal Justice	3
CJ 2300 The Criminal Court System	3
CJ 3006 Corrections	3
CJ 3010 Policing a Democratic Society	3
CJ 3600 Introduction to Criminal Justice Research and Statistics	3
CJ 4605 Senior Seminar in Criminal Justice	3
SOC 3890 Criminology	3
OR	
CJ 4503 Dynamics of Criminal Behavior	3
Undergraduate Criminal Justice electives	9
GENERAL EDUCATION REQUIREMENTS (page 41 Undergraduate Catalog)	45
In the major, CJ 1000 is allowed to fulfill 3 s.h of Div IIB	
Undergraduate Free Electives	32
REQUIRED GRADUATE COURSES	21
CJ 5000 The Criminal Justice Philosophy and Policy	3
CJ 5003 Causes of Crime	3
CJ 5006 Comparative Criminal Justice Systems	3
CJ 5102 Administration in Criminal Justice	3
CJ 5301 Legal Aspects of the Criminal Justice System	3
CJ 5610 Statistics for Criminal Justice	3
CJ 5620 Methods of Criminal Justice Research	3
RESEARCH	12
- Thesis Option -	
CJ 6600 Thesis	6
DEPARTMENT APPROVED GRADUATE ELECTIVES	6
OR	
- Non-Thesis Option -	
CJ 5600 Individual Research	3
DEPARTMENT APPROVED GRADUATE ELECTIVES	9
MINIMUM GRADUATE HOUR TOTAL	33
MINIMUM TOTAL	140

COLLEGE OF EDUCATION

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The **College of Education** is comprised of:

- The Department of Career and Technology Education
- The Department of Educational Foundations and Literacy
- The Department of Educational Leadership and Human Development
- The Department of Elementary and Early Childhood

**Department of Career
and Technology Education**
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**CAREER AND TECHNICAL EDUCATION LEADERSHIP/
CTE TEACHING LEADERSHIP,
Master of Science 53 254**

**CTE ADMINISTRATION LEADERSHIP,
Master of Science 53 255**

CTE INDUSTRY TRAINING, Master of Science 53 256

Student Learning Outcomes — The graduate with a Master of Science degree in Career and Technical Education Leadership will use the knowledge and skills obtained in the program to:

- Communicate effectively orally and in writing.
- Develop a personal philosophy statement related to the student's discipline/career field.
- Recognize, investigate, and discuss current issues related to the student's discipline/career field.
- Solve problems related to the student's discipline/career field.
- Practice life-long learning as it relates to the student's professional responsibilities.
- Read, interpret, and conduct scholarly research consistent with department, university, state, and federal practices.
- Interact with and contribute to professional, government, and other leadership organizations in the student's discipline/career field.

This program is designed to strengthen the leadership skills for, 1) students and teachers in career and technical education (agriculture education, business education, family and consumer sciences education, health sciences education, marketing education, engineering and technology education, and trade and industrial education) in middle schools, high schools, career centers, or community colleges; 2) employees in CTE-related industry environments.

To be accepted to this program, students must have no fewer than 15 approved undergraduate or graduate hours in the major field of study, equivalent work experience, or a combination of both. Students must also have a minimum grade point average of 2.5 in the undergraduate major or a 3.0 grade point average during the last 60 semester hours of undergraduate study. Applicants who do not meet any of the preceding criteria must achieve a 3.5 graduate grade point average during their first 12 semester hours of graduate study which must include required degree courses. In addition, applicants must submit two professional letters of recommendation and a personal letter of intent describing how this degree will assist them in meeting their career goals.

Graduation requirements include completing one of the following four options: (1) a Thesis (2) two research papers consistent with university requirements; (3) a comprehensive examination; or (4) successfully complete the Missouri Assessment Center Examination for their content area.

Sem. Hours

REQUIRED GRADUATE COURSES 12		
CTE	4110	Foundations of Career and Technical Education 3
CTE	4165	Performance Assessment in Career and Technical Education 3
CTE	5120	Curriculum Development Theory in Career and Technical Education 3
CTE	5900	Introduction to Research Methods 3
Elect from one of the following options 18		
MINIMUM GRADUATE HOUR TOTAL 30		

Option 1

– CTE Teaching Leadership Option –

This option is designed for new CTE teachers pursuing post-baccalaureate professional teacher certification or occupational career and technical certification through their official state certifying body for professional licensure to teach in public education (Plan A) or current professionally certified instructors pursuing additional professional teaching coursework for teaching enhancement (Plan B). New or future teachers pursuing post-baccalaureate teacher certification must obtain an official certification plan and take teacher certification courses identified by either the UCM Director of Clinical and Field Services or an appropriate professional certification official from their state. All students in Plan A should create a program of study based on deficiencies listed on their certification plan or professional teaching certificate.

Plan A –

Post-Baccalaureate Teaching Certification 18

SUGGESTED COURSES (based on candidate's career goals):

Professional Education per candidate's teacher certification plan (if applicable). 18

OR

CTE	4140	New Teacher Institute 3
CTE	4145	Curriculum Construction in Career and Technical Education 3
CTE	4150	Vocational Guidance 3
CTE	4160	Methods of Teaching Career and Technical Education 3
BTE	4241	Coordination of Career and Technical Education Programs 2
		Professional/content courses per one's professional individual certification requirements 4

Plan B –

Professional Education Coursework for Teaching Enhancement 18

SUGGESTED COURSES (substitutions allowed based on candidate's career goals):

CTE	4150	Vocational Guidance 3
CTE	4180	Adult Programs in Career Education 3
BTE	4241	Coordination of Career and Technical Education Programs 2
CTE	5160	Legal Issues in Career Education 2
T&OE	5170	Financing Career Education. 2
CTE	6120	Current Issues and Topics in Industrial Arts and Technology Occupational Education 3
CTE	6900	Thesis (or research-based electives) 3-6

OR

Professional Board Certification Courses 6

CONTENT ELECTIVES 3-12

(Agriculture Education, Business Teacher Education, Family and Consumer Science Education, Occupational Education, Engineering and Technology Education, Trade and Industrial Education)

Option 2

– CTE Administration Leadership Option –

This option is designed for current or new CTE administrators pursuing administrator certification and should be pursued consistent with the candidate’s official certification plan. This option may also be selected by candidates planning to pursue CTE administration in the future or for current CTE administrators pursuing additional leadership coursework:

SUGGESTED COURSES (substitutions allowed based on candidate’s career goals):
(Individualized based on candidate’s needs) 18

CTE	4180	Adult Programs in Career Education	3
CTE	5150	Introduction to Career Administration	3
CTE	5160	Legal Issues in Career Education	2
T&OE	5170	Financing Career Education	2
EDAD	5120	School Law.	3
EDAD	5130	School Supervision	3
EDAD	5520	Secondary School Administration	3
EDAD	5710	Public School Finance	3

Option 3

– CTE Industry Training Option –

This option is designed for CTE industry personnel who plan and/or conduct training in their environment or who desire to become more effective leaders in their current positions. This option will be tailored to the candidate’s specific needs in any CTE-related field. The approved electives below are a sample listing of potential university-wide electives (department consent required).

REQUIRED GRADUATE COURSES 9

CTE	4145	Curriculum Construction in Career and Technical Education	3
CTE	4160	Methods of Teaching Career and Technical Education	3
CTE	6990	Thesis	3

OR

SOT	5022	Internship	3-6
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SUGGESTED COURSES (substitutions allowed based on candidate’s career goals):
(Individualized based on candidate’s needs) 9

INDM	4210	Industrial Management	3
INDM	4220	Human Factors Engineering	3
INDM	4230	Lean Quality Management	3
INDM	5015	Legal Aspects of Industry	3
MGT	4300	Health Care Administration	3
MGT	4310	Total Quality Management	3
SAFE	4000	Ergonomics in Safety and Health	3
SAFE	4430	Workers Compensation Legislation	3
SAFE	5010	Organization, Administration, and Supervision of Safety Programs.	3
HRM	4930	Compensation and Benefits	3
HRM	4960	Employment and Development	3

HUMAN SERVICES/TECHNOLOGY AND OCCUPATIONAL EDUCATION, Education Specialist 61 247

Student Learning Outcomes — The graduate with an Education Specialist degree in Technology and Occupational Education will use the knowledge and skills obtained in the program to:

- Lead others to effectively communicate orally and in writing.
- Refine one’s personal philosophy statement related to their discipline/career field.
- Analyze and lead discussions on current issues related to the student’s discipline/career field.
- Solve problems related to the student’s discipline/career field.
- Practice and lead life-long learning activities as they relate to professional responsibilities.

- Read, interpret, conduct, and contribute scholarly research consistent with department, university, state, and federal practices.
- Apply statistical methods to interpret, describe, and infer from existing or newly generated data.
- Interact with, contribute to, and lead professional, government, and other stakeholder organizations in the student’s discipline/career field.

This advanced program is designed for individuals who are currently involved in or planning careers in the administration and/or teaching Career and Technical education programs.

To be accepted into this program, students must: (1) have earned a masters degree in the area of specialization or have completed 15 semester hours of appropriate background courses at either the undergraduate or graduate level; and (2) have achieved a cumulative grade point average of 3.25 in the masters degree.

In addition, applicants must submit two professional letters of recommendation and a personal letter of intent describing how this degree will assist them in meeting their career goals.

Applicants who do not meet the above criteria will be classified as a “non-degree student” until they: (1) provide evidence of having completed 15 semester hours of appropriate background courses; and (2) obtain a 3.5 GPA during the first 12 hours of graduate study in courses appropriate to the degree program.

Graduation requirements include one of the following four options: (1) a Thesis (unless completed for a Master’s Degree) ; (2) two scholarly research papers consistent with University requirements to be submitted for publication; (3) a comprehensive examination; or (4) successfully complete the Missouri Assessment Center Examination for their content area.

Sem. Hours

REQUIRED GRADUATE COURSES 24

Aided by an adviser in the student’s area of specialization and in conjunction with the other two members of the student’s advisory committee, each student shall select courses in the area of specialization. Complete the following courses (one from each group) unless the course(s) was/were completed as part of the master’s degree.

FOUNDATION COURSES 6

PSY	4520	Statistics for the Behavioral Sciences	3
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OR

SAFE	4940	Introductory Quantitative Methods.	3
CTE	6990	Thesis	3

OR

SOT	5010	Applied Research for Technology	3
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MINIMUM GRADUATE HOUR TOTAL 30

EDUCATIONAL TECHNOLOGY, Master of Science 53 846

Student Learning Outcomes—The graduate with a Master of Science degree in Educational Technology will use the knowledge and skills obtained in the program to:

- Inspire and participate in the development and implementation of a shared vision for the comprehensive integration of technology to promote excellence and support transformational change throughout the instructional environment.
- Assist teachers in using technology effectively for assessing student learning, differentiating instruction, and providing rigorous, relevant, and engaging learning experiences for all students.
- Create and support effective digital-age learning environments to maximize the learning of all students.
- Conduct needs assessments, develop technology-related professional learning programs, and evaluate the impact on instructional practice and student learning.
- Model and promote digital citizenship.
- Demonstrate professional knowledge, skills, and dispositions in content, pedagogical, and technological areas as well as adult

learning and leadership and are continuously deepening their knowledge and expertise.

Professional studies in educational technology provide individuals desiring to become teachers, educational technology coordinators, and school administrators with technological concepts and skills, field experiences, instructional technology leadership skills, and a foundation in educational research related to the application of technologies in education. Our graduates in educational technology address critical societal needs for technology leadership from such professional positions as teachers and trainers, instructional designers and developers in business and industry, school library media specialists, distance learning teachers and specialists, producers of computer mediated learning materials, technology administrators and policy makers, and performance technologists and university faculty members and administrators. With a statewide technology mission, the University of Central Missouri is a leader in the region.

Acceptance into the program requires three letters from references who can attest to the applicant's professional and academic abilities, and one of the following: a 2.75 or higher cumulative GPA or a GPA of 3.0 on the last 60 undergraduate hours. Applicants who do not meet one of the above must work with the graduate coordinator to design a program and must complete the first 12 hours of that program with a minimum GPA of 3.5 to be accepted.

Students without background courses in Education or Educational Technology may require additional course work. A Bachelor of Science in Education is strongly recommended.

			Sem. Hours
REQUIRED GRADUATE COURSES			21
INST	5100	Foundations of Educational Technology	3
INST	5220	Communication in Online Learning Communities	3
INST	5320	Assessing and Evaluating Online Instruction	3
INST	5330	Educational Product Development and Management	3
INST	5390	Educational Technology Leadership	3
CTE	5900	Introduction to Research Methods	3
INST	5500	Online Course Development	3
OR			
INST	6930	Internship in Educational Technology	3
GRADUATE ELECTIVES in Related Areas			9
MINIMUM GRADUATE HOUR TOTAL			30

HUMAN SERVICES/EDUCATIONAL TECHNOLOGY, Education Specialist 61 990

This advanced program is designed for students who have already earned their master's degree in educational technology, education, or a related field. The program prepares teachers, educators, and others within education and training to enhance their understanding of incorporating technology into the educational environment and provide the tools and skills to find, utilize, and conduct research to advance their own use of educational technology.

Student Learning Outcomes — The graduate with an Education Specialist degree in Educational Tehcnology will use the knowledge and skill obtained in the program to:

- Inspire and participate in the development and implementation of a shared vision for the comprehensive integration of technology to promote excellence and support transformational change throughout the instructional environment.
- Assist teachers in using technology effectively for assessing student learning, differentiating instruction, and providing rigorous, relevant, and engaging learning experiences for all students.
- Create and support effective digital-age learning environments to maximize the learning of all students.
- Conduct needs assessments, develop technology-related professional learning programs, and evaluate the impact on instructional practice and student learning.
- Model and promote digital citizenship.

- Demonstrate professional knowledge, skills, and dispositions in content, pedagogical, and technological areas as well as adult learning and leadership and are continuously deepening their knowledge and expertise.
- Interpret, conduct, and contribute to the scholarly research of the field.

Admissions Process — To be accepted into the program a student must have a Master's degree, a minimum graduate GPA of 3.25, and three letters from references who can attest to the applicants professional and academic abilities. An applicant who does not meet the overall graduate grade point average must be classified as "a non-degree seeking student" until achieving a minimum graduate grade point average of 3.25 during the first nine hours of graduate study in the courses appropriate to the degree program.

Requirements — Students will earn a minimum of 30 semester hours of graduate credit within an approved program of study beyond a master's degree. At least 18 semester hours of this program must be 5000 and 6000 level courses. A minimum of 6 semester hours must be 6000 level courses. Aided by an adviser each student shall select between 15 to 18 credit hours of courses which may be from the required courses for the Master's degree in Educational Technology, electives from the educational technology program or related courses from other program areas. The program concludes with a formal three to six hours research component consisting of a three hour research paper and/or a six hour thesis.

Sem. Hours

REQUIRED GRADUATE COURSES			12-15
Aided by an adviser each student shall select courses in the area of specialization. Students without a master's degree in educational technology will complete a research paper and those with a master's degree in educational technology will be encouraged to conduct research for a formal thesis.			
PSY	4520	Statistics for the Behavioral Sciences	3
CTE	5900	Introduction to Research Methods	3
INST	6950	Seminar in Educational Technology	3
INST	6960	Research Problems	3
OR			
CTE	6990	Thesis	6
GRADUATE ELECTIVES in Related Areas			15-18
MINIMUM GRADUATE HOUR TOTAL			30

ONLINE TEACHING AND LEARNING, Graduate Certificate 50 995

This entirely online program equips k-20 teachers, administrators, and corporate trainers to keep pace with the demands of virtual instruction and Web-enhanced classrooms. By being immersed in the online environment students learn from both a teacher and student perspective. Those who want to teach online and/or include online components within the traditional classroom will be interested in this program.

After completing the certificate students are eligible to apply to the Master of Science degree in Educational Technology and, if accepted, apply these completed courses towards that degree.

To be accepted into the program, a student must have a Bachelor's degree with a minimum overall GPA of 2.5 (based on 4.0). Students may have an undergraduate degree in any area.

Note: The Graduate Certificate in Online Teaching and Learning does not include certification to teach in a k-12 setting. A certificate is an award of completion. Certification is awarded by the state, authorizing an individual to teach in a k-12 school. If you do not have certification to teach but wish to do so then contact the certification office to determine what additional course work would be required.

			Sem. Hours
REQUIRED GRADUATE COURSES			15
INST	5100	Foundations of Educational Technology	3
INST	5220	Communication in Online Learning Communities.	3
INST	5320	Assessing and Evaluating Online Instruction.	3
INST	5330	Educational Product Development and Management	3
INST	5500	Online Course Development	3
MINIMUM GRADUATE HOUR TOTAL			15

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MASTER OF ARTS IN TEACHING 54 800

Student Learning Outcomes —The graduate with a Master of Arts in Teaching degree will use the knowledge and skills obtained in the program to:

- Demonstrate a commitment to students and their learning.
- Understand the subjects he/she teaches and how to teach those subjects.
- Be responsible for managing and monitoring student learning.
- Think systematically about his/her practice and learn from experience.
- Demonstrate his/her commitment as a member of learning communities.

To be accepted into the Master of Arts in Teaching (MAT) degree program in the Department of Educational Foundations and Literacy, students must: (a) complete an undergraduate degree with a minimum cumulative grade point average of 2.50, and (b) contact Graduate Studies to apply for the MAT. Candidates must submit a certification plan, signed by the Director of Certification, for the purpose of assigning a MAT graduate adviser and identifying the MAT area of concentration.

To complete the MAT, students must (a) complete EDFL 5900 or an adviser-approved alternative research course within the first 12 hours of their MAT program of study course work; (b) complete EDFL 5100 – Internship I. To enroll in EDFL 5100, MAT candidates must participate in student teaching or be a contracted teacher, and must complete 24 hours of their MAT Program of Study course work; (EDFL 5100 is not offered during the summer sessions). A portfolio is required for the internship. There are two areas of concentration for the MAT: Middle School and Secondary.

– Secondary –

			Sem. Hours
REQUIRED GRADUATE COURSES			27
EDFL	5100	Internship I	3
EDFL	5120	Advanced Foundations of Education	3
EDFL	5200	Advanced Educational Psychology	3
EDFL	5208	Content Area Literacy	3
EDFL	5300	Advanced Assessment and Evaluation	3
EDFL	5320	Curriculum Development and Assessment	3
EDFL	5330	Classroom Discipline and Motivation.	3
EDFL	5340	Contemporary Instruction: Theory and Practice	3
EDFL	5900	Introduction to Research	3
DEPARTMENT APPROVED GRADUATE ELECTIVES			3
MINIMUM GRADUATE HOUR TOTAL			30

– Middle School –

			Sem. Hours
REQUIRED GRADUATE COURSES			30
EDFL	5100	Internship I	3
EDFL	5120	Advanced Foundations of Education	3
EDFL	5130	Middle School Foundations	3
EDFL	5200	Advanced Educational Psychology	3
EDFL	5208	Content Area Literacy	3
EDFL	5210	Assessment of Literacy Development	3
EDFL	5300	Advanced Assessment and Evaluation	3
EDFL	5320	Curriculum Development and Assessment	3
EDFL	5440	Middle School Curriculum and Instruction	3
EDFL	5900	Introduction to Research	3
MINIMUM GRADUATE HOUR TOTAL			30

CURRICULUM AND INSTRUCTION, Master of Science in Education 51 626

Student Learning Outcomes — The graduate with a Master of Science in Education degree will use the knowledge and skills obtained in the program to:

- Demonstrate a commitment to students and their learning.
- Understand the subjects he/she teaches and how to teach those subjects to students.
- Be responsible for managing and monitoring student learning.
- Think systematically about his/her practice and learn from experience.
- Demonstrate his/her commitment as a member of learning communities.

The Department of Educational Foundations and Literacy Master of Science in Education degrees are designed to address the five propositions of accomplished teaching as prescribed by the National Board for Professional Teaching Standards (NBPTS). Three M.S.E. degree programs are available from the Department of Educational Foundations and Literacy.

To be accepted into a Master of Science in Education degree program in the Department of Educational Foundations and Literacy, a student must: (a) have a minimum undergraduate grade point average of 2.5; (b) submit proof of teacher certification or professional endorsement from any of the 50 states or territories and have graduated from an NCATE or regionally accredited university; (c) submit a copy of his/her last summative teaching evaluation (i.e., a PBTE or similar evaluation form), or a letter from a school superintendent, principal or professor attesting to teaching skills and/or graduate studies potential. International applicants should meet these requirements in comparable ways.

The following requirements apply to M.S.E. degree programs listed above— A student may apply a maximum of six hours of graduate study in EDFL Special Projects courses. (Students must consult and get consent from their graduate adviser for exceptions). A maximum of 12 graduate semester hours taken prior to the development of a program of study at Central and approved by the student’s graduate program adviser may be accepted on a program of study. EDFL 5900 or an adviser-approved alternative research course must be taken within the first 12 hours of a program.

– Curriculum and Instruction, K-12 Option (6261) –

			Sem. Hours
REQUIRED GRADUATE COURSES			21
EDFL	5120	Advanced Foundations of Education	3
EDFL	5320	Curriculum Development and Assessment	3
EDFL	5340	Contemporary Instruction: Theory into Practice	3
EDFL	5400	Differentiation in K-12 Learning Environments.	3
EDFL	5410	Advanced Curriculum Development and Assessment.	3
EDFL	5900	Introduction to Research	3
EDFL	6110	Capstone	3
GRADUATE ELECTIVES within the discipline			9
MINIMUM GRADUATE HOUR TOTAL			30

– Curriculum and Instruction/Middle Level Education Option (6262) –

		Sem. Hours
REQUIRED GRADUATE COURSES		24
EDFL 5120	Advanced Foundations of Education	3
EDFL 5130	Middle School Foundations	3
EDFL 5340	Contemporary Instruction: Theory into Practice	3
EDFL 5400	Differentiation in K-12 Learning Environments	3
EDFL 5410	Advanced Curriculum Development and Assessment	3
EDFL 5440	Middle School Curriculum and Instruction	3
EDFL 5900	Introduction to Research	3
EDFL 6110	Capstone	3

GRADUATE ELECTIVES within the discipline 6
MINIMUM GRADUATE HOUR TOTAL 30

– Curriculum and Instruction, Secondary Education (6263) –

		Sem. Hours
REQUIRED GRADUATE COURSES		21
EDFL 5120	Advanced Foundations of Education	3
EDFL 5320	Curriculum Development and Assessment	3
EDFL 5340	Contemporary Instruction: Theory into Practice	3
EDFL 5400	Differentiation in K-12 Learning Environments	3
EDFL 5410	Advanced Curriculum Development and Assessment	3
EDFL 5900	Introduction to Research	3
EDFL 6110	Capstone	3

GRADUATE ELECTIVES within the discipline 9
MINIMUM GRADUATE HOUR TOTAL 30

LITERACY EDUCATION,

Master of Science in Education 51 836

The Master of Science in Education in Literacy Education is nationally accredited by the International Reading Association (IRA).

The Master of Science in Education in Literacy Education degree from the Department of Educational Foundations and Literacy is designed to address the five International Reading Association's Standards for Reading Professionals.

Student Learning Outcomes — The graduate with a Master of Science in Education degree in Literacy Education will use the knowledge and skills obtained in the program to:

- Demonstrate expertise in the foundations of reading and writing processes and instruction.
- Foster the use of instructional approaches, materials integrated, comprehensive, balanced curriculum to support learning in reading and writing.
- Be responsible for managing and monitoring a variety of assessment tools and practices to plan and evaluate effective reading and writing instruction.
- Model, create and engage students in literacy practices that develop awareness, understanding, respect, and a valuing of differences in our society.
- Create a literate environment that fosters reading and writing by integrating foundational knowledge, instructional practices, approaches and methods, curriculum materials, and the appropriate use of assessments.
- Demonstrate a commitment to professional development as a career-long effort and responsibility.

There are three M.S.E. degree programs available from the Department of Educational Foundations and Literacy. To be accepted into the Master of Science in Education in Literacy Education degree program in the Department of Educational Foundations and Literacy, a student must: (a) have a minimum undergraduate grade point average of 2.5; (b) submit proof of teacher certification or professional endorsement from any of the 50 states or territories and have graduated from an NCATE or regionally accredited university; (c) submit a copy of his/her last summative teaching

evaluation (i.e., a PBTE or similar evaluation form), or a letter from a school superintendent, principal or professor attesting to teaching skills and/or graduate studies potential. Applicants who do not meet these criteria must design, with a department adviser or graduate coordinator, a conditional program and complete the first 12 hours of that program (including the department's research course) with a minimum grade point average of 3.50. International applicants should meet these requirements in comparable ways.

The following requirement applies to the M.S.E. in Literacy Education degree program EDFL 5900 or an adviser-approved alternative research course must be taken within the first 12 hours of a program. A portfolio is required for the completion of the degree.

		Sem. Hours
REQUIRED GRADUATE COURSES		26
EDFL 4210	Teaching of Reading in Secondary Schools	2
EDFL 5205	Methods and Materials for Literacy Enhancement	3
EDFL 5210	Assessment of Literacy Development	3
EDFL 5240	Advanced Language Arts	3
EDFL 5250	Language Development in Literacy Program	3
EDFL 5260	Evaluation of Abilities and Achievement in the Literacy Program	3
EDFL 5900	Introduction to Research	3
EDFL 6220	The Literacy Coach	3
EDFL 6240	Supervision of the Literacy Program	3
	Required Clinical Practicum in Literacy Education	6
EDFL 5220	Practicum in Literacy Assessment	3
EDFL 5230	Practicum in Instructional Techniques for Literacy Enhancement	3

MINIMUM GRADUATE HOUR TOTAL 32

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**COLLEGE STUDENT PERSONNEL ADMINISTRATION,
Master of Science 53 770**

Student Learning Outcomes — Learning objectives have been set forth, and are revised periodically, for students preparing to practice as university administrators. These objectives include:

General Objectives:

- Students will learn to interact with others with sensitivity and understanding, to listen effectively to the words and ideas of others, to communicate orally and in writing with appropriateness and precision, to be able to examine their own personal values and issues that impact their relationships.
- Students will learn to conduct themselves professionally and in compliance with current NASPA and/or ACPA ethical standards.

Further, upon completion of the program, students are expected to demonstrate mastery and/or satisfactory attainment of the following topics:

Student Affairs Administration

- Higher education culture, governance structures, and politics.
- Leadership and organizational theories.
- Higher education law.
- Higher education finance.
- Student affairs functions and roles.
- History of higher education.
- Staff selection, development, and retention.
- Professional standards and benchmarks.
- Professional ethics.
- Consultation skills.

Student Development

Sem. Hours

- Knowledge of student development theory and its application.
- Characteristics of college students including subcultures.
- Knowledge of effective college environments and learning communities.
- Assessment instruments relevant to college students.
- Techniques to construct programs and events.

Assessment

- Research design and data analysis.
- Skill in statistics sufficient to interpret research reports and to participate in research projects.
- Skill in selecting, administering, and interpreting standardized group assessments.
- Competence in determining the effectiveness of programs and policy.

Professional Development

- Knowledge of professional issues and trends.
- Involvement in professional organizations.
- Writing skill sufficient to prepare clear and understandable reports and descriptions of programs and services.
- Commitment to life-long professional development.
- Strong interpersonal communication skills.

The mission of the Master of Science degree program in College Student Personnel Administration is to prepare outstanding generalists for a broad range of entry-level positions in higher education.

The curriculum emphasizes the integration of theory and practice in both classroom and field-based settings in order to graduate professionals with the necessary knowledge, skills, dispositions, commitment to ethics, respect for diversity, and caring to enrich the lives of students with whom they work. The curriculum meets the standards set forth by the Council for the Advancement of Standards in Higher Education for Student Affairs graduate preparation programs.

The program consists of 39 credit hours and is designed to be completed within two academic years and the intervening summer. Required courses comprise 36 hours and three are elective. Three hundred hours of supervised practice comprise the three credits of internship which are required for graduation. A comprehensive examination is also required for graduation.

The strength of the CSPA program is the close relationship and partnership that exists between the program and student affairs professionals on the campus. Practitioners in student life, housing, student activities, the campus union, and a variety of other settings are very involved in mentoring and teaching students in the program. Students benefit from working closely with active practitioners who are recognized leaders in their areas of expertise.

Admission — Applicants must possess an overall undergraduate grade point average of at least 2.70, or a 3.0 in the final 60 hours (requirements for those receiving a graduate assistantship may be higher). Candidates must also submit a writing sample describing his or her career goal and how the academic program fits with that goal. Lastly, two letters of recommendation are required. One letter should come from a former professor, while the second should be completed by a work supervisor. These documents should be emailed to elhd@ucmo.edu with the "CSPA Application Materials" in the subject line.

For information about specific course requirements, candidates should contact the Department of Educational Leadership and Human Development, College Student Personnel Administration program, in Lovinger 4101.

REQUIRED GRADUATE COURSES36

CSPA	5110	Introduction to Student Affairs Administration	3
CSPA	5120	Helping Skills for Student Affairs Administrators	3
CSPA	5130	Leadership and Organizational Theory in Higher Education	3
CSPA	5210	Student Development Theory I	3
CSPA	5220	History of Higher Education	3
CSPA	5230	The College Student	3
CSPA	5310	Student Development Theory II	3
CSPA	5320	The Law in Higher Education	3
CSPA	5330	Governance and Finance in Higher Education	3
CSPA	5410	Assessment and Program Evaluation in Student Affairs Administration	3
CSPA	5500	Seminar in Higher Education	3
CSPA	5980	Internship in Student Affairs Administration	1-3

DEPARTMENT APPROVED GRADUATE ELECTIVES3

MINIMUM GRADUATE HOUR TOTAL39

COUNSELING, Master of Science 53 820

Student Learning Outcomes — The graduate with a Master of Science degree in Counseling will use the knowledge, skills and dispositions obtained in the program to:

- Know and understand human and personality development and how these domains affect individuals, and to apply this knowledge in his or her work with individuals.
- Know and understand how human diversity affects learning and development within the context of a global society and a diverse community of families.
- Know and understand the principles of measurement and assessment, for both individual and group approaches and to apply this knowledge in his/her professional work.
- Understand career development and planning processes across the life-span, and assist individuals in their career exploration, decision-making and planning.
- Know, understand, and use both psycho-educational and interactive group methods and techniques.
- Know, understand, and use planning and goal setting for the personal, social, educational, and career development of the individual.
- Know, understand, and use various methods for delivering responsive counseling services to individuals and groups in school and community settings.
- Know, understand, and use various methods to develop and maintain comprehensive school counseling programs for all students in schools and prevention program services for the broader community.
- Know, understand, and use technology as a management and counseling tool in promoting the personal, educational, social and career development of individuals.
- Understand, develop, and use professional relationships in the school, family and community, through consultation and collaboration to promote development of all individuals.
- Know, understand, and practice in accord with the ethical principles of the counseling profession.
- Know, understand, and adhere to the legal aspects of the role of the counselor in the school and community.
- Know, understand, and implement methods to promote his or her professional development and well-being.

The Counselor Education Program offers two degrees, the Master of Science in Counseling and the Education Specialist Degree in Human Services, Professional Counseling. The Counselor Education Program is designed to meet the academic requirements for certification as professional school counselors and for licensure as a professional counselor (LPC). The program is approved for the school counselor certificate issued by the Department of Elementary and Secondary Education (DESE). The Counselor Education Program also provides assistance to students who desire a planned program leading to renewal of or change in certification as school counselors and school Psychological examiners (SPE).

Students may also select courses that fulfill academic requirements for registered play therapists (RPT) and licensed professional counselors (LPC). All students, including those seeking additional certification and licensure must apply to and be accepted by graduate studies and the Counselor Education program.

The Counselor Education Program operates within the framework of the American Counseling Association (ACA) Code of Ethics and Standards of Practice and the most current American School Counselor Association (ASCA) Code of Ethics. Students are expected to comply with the ACA and ASCA Codes of Ethics and all applicable University and Department rules, policies and bulletins, which are subject to change from time to time.

1. **Admissions Criteria** — To be considered for admission to the Counselor Education Program, applicants must first be admitted to Graduate Studies and provide the Counselor Education Admissions and Standards Committee with a completed application file that contains:
 - a. A completed Counselor Education Application Form.
 - b. Official transcripts of all undergraduate and graduate course work from any post secondary educational or professional institution or any other school experience following high school. To be considered for eligibility, the applicant's GPA must be 2.50 or higher in the total undergraduate course work, 2.75 or higher in the last 60 hours of undergraduate course work and 3.0 or higher for graduate course work. It is the applicant's responsibility to request and ensure that all official transcripts are on file.
 - c. An official report of the results for the student's Graduate Record Examination (GRE) General Test taken during the last three years. To be considered for eligibility, a minimum combined score of 900 (GRE completed prior to August 2012) or 295 (GRE completed after August 2012) on the verbal and quantitative portions of the examination and 3.5 or greater on the analytical writing measure are required. Applicants who have completed a graduate degree from a regionally accredited institution may petition the Admissions and Standards Committee for an exception to the GRE requirement. (See Requirements for Progression in the Program, item 2.)
 - d. A resume with complete listing of previous educational and employment experiences.
 - e. Three recommendations, prepared within the last three years, on the Counselor Education Program Recommendation Form. One recommendation should be from a certified or licensed mental health professional, or counselor educator. All recommendations must be from non-relative individuals who have direct knowledge of the applicant's professional experience and can attest to the individual's potential to work effectively as a counselor.
 - f. An articulate and satisfactory essay explaining the impact of previous employment and professional experiences upon the decision to apply to the counselor education program, reasons for seeking the Master of Science Degree or Education Specialist Degree and appropriate future professional goals in counseling.
 - g. Such other information as deemed necessary and requested of the applicant by the Admissions and Standards Committee.
 - h. To be eligible for consideration, the applicant must also meet all other requirements for admission to graduate study as outlined in the general requirements for graduate studies and all applicable department rules, policies and bulletins, which may be subject to change.
2. **Admissions Process** — Complete application files as described above must be submitted to the Counselor Education Admissions

and Standards Committee. When the file is complete, the applicant must submit a written request for the Admissions and Standards Committee to review the file. Files are typically reviewed within two weeks from the date of request. Applicants with consent from the program coordinator may enroll in COUN 5100 Foundations of Professional Counseling and COUN 5110 Orientation to the Profession Counseling and Ethics as non-degree seeking students. Note: COUN 5100 must be taken prior to COUN 5110 or concurrently with COUN 5110. Contact the Department of Educational Leadership and Human Development-Counselor Education Program for further information.

- a. Application files must be completed by the end of the semester for which the applicant is seeking admission. Student will not be considered for admission unless the application file is completed as described above at the date of review. Application files will be carefully reviewed for eligibility by the Admissions and Standards Committee.
- b. If, in the best professional judgment of the Admissions and Standards Committee, the applicant meets the standards for eligibility and his/her file demonstrates the professional dispositions necessary to function effectively and within the current Codes of Ethics of the American Counseling Association and the American School Counselor Association, an interview may be scheduled with the counselor education program faculty.
- c. At any time during the review process, should any information come to light which in the best professional judgment of the committee requires additional information, further follow-up or investigation, the applicant will be notified. Applicants whose records indicate an inability to conform to the professional and ethical standards will be denied admission. Applicants who are denied admission may appeal the decision to the Admissions and Standards Committee (see Appeals Process in Student Handbook)

The applicant is considered to be admissible and is rank ordered by the Admissions and Standards Committee if, in the best professional judgment of the Admissions and Standards Committee:

1. The applicant meets all criteria stated herein,
 2. The interview confirms the individual's potential for developing professional dispositions required to function effectively and ethically as a counselor, and
 3. The applicant has no impediment that would render him/her ineligible for department endorsement on the school counseling certificate or recommendation for the LPC.
- d. Admission is competitive among all applicants and admission is granted as class size permits according to rank.

3. Requirements for Progression in the Program

- a. First, students must take COUN 5100 Foundations of Professional Counseling and then they may take COUN 5110 Orientation to the Professional Counseling and Ethics. Note: COUN 5100 must be taken prior to COUN 5110 or concurrently with COUN 5110. Course work completed prior to admission to the Counselor Education Program may not be accepted toward a program of study in Counselor Education.
- b. Students who score lower than 3.5 on the GRE Analytical Writing must seek assistance for improvement of their writing skills and must demonstrate satisfactory improvement before seeking advanced status. Participation in the Learning Center at the Department of Academic Enrichment or equivalent remedial services is required.
- c. A satisfactory program of study approved by the student's adviser, Chair of the Department of Educational Leadership and Human Development and the Dean of Graduate Studies must be filed within one month after completion of 12 semester hours of graduate study. University and Counselor Education Program policies will govern the appropriate application of previously completed coursework.

- d. Students must complete the online orientation to Counselor Education Program process during the first semester after admission.
- e. After completion of the foundation courses students must submit a request for advanced status. Advanced status requires a GPA of 3.0, an approved program of study, and demonstration of professional dispositions and competencies in all foundation courses. If in the best professional judgment of the Admissions and Standards Committee, an oral examination is necessary to establish competency to undertake advanced course activities, the student will be notified. They are then eligible to enroll in advanced courses
- f. Advanced courses require graduate students to have direct contact with individuals in school or community settings. Each graduate student is responsible for obtaining pre-approved written agreements with individuals and parents of minor children to observe, administer tests, conduct case studies, engage in counseling and other such activities to meet course requirements.
- g. In clinical courses (practicum and internships) the graduate student is responsible for obtaining a standard written agreement with a school district or a community setting to perform the activities required by the clinical courses and to establish a written plan with a certificated school counselor or licensed professional counselor who is approved by the counselor education faculty and willing to serve as a site supervisor. Students are required to complete a total of six (6) semester hours in COUN 6910 Internship in Counselor Education. Documentation of a total of 600 clock hours is required.
- h. During one of the last two semesters before graduation, students are required to pass the comprehensive exit examination.
- i. Students admitted to the program are expected to comply at all times with the current Codes of Ethics as set forth by ACA and ASCA. Students who choose to accept professional counseling positions prior to attaining full certification or licensure must agree to use the title, "Professional School Counselor in Training" or "Professional Counselor in Training", to practice within the boundaries of their competence, to work under the supervision of a fully certified or licensed counselor, and to secure, maintain and provide documentation of professional counselor liability insurance. Students must also comply with all current DESE regulations governing certification. Violation of the ACA or ASCA Codes of Ethics by a student may lead to disciplinary action, up to and including dismissal from the program. Students who are dismissed may appeal the decision through the regular appeal process as described in the policies of University of Central Missouri.

Sem. Hours
REQUIRED GRADUATE COURSES 54

Foundation Courses

COUN 5100	Foundations of Professional Counseling	3
COUN 5110	Orientation to Counseling Profession and Ethics	3
COUN 5500	Pre-Practicum in Professional Counseling. . . .	3
COUN 5510	Counseling Theories	3
COUN 5610	Introduction to Group Work	3

Common Core Courses

(Required for all areas of concentration, Advanced Status Not Required)

COUN 5310	Development Across the Life Span	3
COUN 5320	Mental Health Issues in Counseling	3
COUN 5410	Career Development and Counseling	3
COUN 5710	Introduction to Assessment	3
COUN 5810	Program Evaluation and Research in Counseling	3

Advanced Status Courses (Require achievement of Advanced Status)

COUN 5230	Counseling Diverse Populations	3
COUN 5520	Introduction to Play Therapy	3
COUN 5720	Analysis and Diagnosis of the Individual. . . .	3
COUN 5900	Practicum in Counseling	3
COUN 6540	Parent and Family Counseling	3
COUN 6910	Internship in Professional Counseling	6

CONCENTRATION - Students must complete all requirements in one of the following concentration areas 3

- School Counseling Concentration (Elementary and/or Secondary)-

COUN 5130	Management of Comprehensive School Counseling Programs	3
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- Community Counseling Concentration -

COUN 5131	Management of Community Counseling Programs	3
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MINIMUM GRADUATE HOUR TOTAL 54

Certification Requirements for School Counselors—To qualify for the Missouri Elementary Counselor Certificate, Grades K-8; or the Missouri Secondary Counselor, Grades 7-12, persons must meet the following requirements: (1) A valid Missouri teaching certificate (elementary or secondary) as required to teach in the public schools of Missouri; or completion of an approved curriculum in teaching methods and classroom management * (2) Completion of a course in Advanced Education of the Exceptional Child; (3) Achieve the qualifying score on the Praxis Examination for school counseling; (4) Completion of a master's or higher degree in school counseling, counseling or counseling psychology; (5) Completion of the following program of required courses or equivalent.

*Individuals who do not possess a bachelor's degree in education from a state-approved teacher preparation program or hold a certificate to teach will need to take the following additional courses for certification as a school counselor in Missouri:

EDFL 5330	Classroom Discipline and Motivation.	3
EDFL 5340	Contemporary Instruction: Theory into Practice	3
EDSP 5200	Advanced Education of the Exceptional Child	3

License Requirements for Community Counselors—To qualify for the Missouri LPC persons must meet the following requirements: (1) Complete a master's or higher degree in counseling; (2) Achieve the qualifying score on the National Counselor Examination, and (3) Successfully complete 3,000 hours of post-graduate supervised experience.

Certification Requirements for School Psychological Examiners (SPE)—To qualify for the Missouri School Psychological Examiner Certificate, persons must meet the following requirements: (1) Complete a master's degree or higher in Counseling Psychology, Educational Psychology, Education or Counseling and (2) Complete a DESE approved SPE certification program consisting of a minimum of twenty-four (24) semester hours of specific professional preparation coursework at the graduate level, and (3) Achievement of a qualifying score on the assessments designated by the State Board of Education.

**HUMAN SERVICES/PROFESSIONAL COUNSELING,
Education Specialist 61 293**

Applicants who hold a master's degree from an accredited institution are eligible to apply to Graduate Studies for admission to the Education Specialist degree programs. Individuals interested in this degree should review the appropriate section of the graduate catalog for the general policies and requirements for this degree. To be accepted into the Professional Counseling Education Specialist program, students must have achieved a cumulative graduate GPA of 3.25 on the master's degree, a combined score of 900 (GRE completed prior to August 2012) or 295 (GRE completed after August 2012) on the verbal and quantitative portions, and 3.5 or greater on the analytical writing measure of the Graduate Record Examination. If an applicant has not achieved the admission criteria, a written request documenting evidence of potential success may be submitted to the Admissions and Standards Committee for consideration. All other application procedures for admittance to the Counselor Education Program apply to admission for the Education Specialist Degree

Students who desire to complete requirements for the elementary or secondary school counselor certificate in an education specialist program of study must satisfy requirements for the provisional school counselor certificate prior to beginning the education specialist degree program of study. The remaining requirements for certification may be fulfilled as part of the education specialist degree.

Working with a program adviser, each student will develop an individualized program of study that is appropriate to career objectives, certification, or licensure goals. Currently, courses are available for specialization in school counseling, licensed professional counseling, play therapy, and psychological examiner.

An approved post-degree supervision plan is required for the Licensed Professional Counselor by the Missouri licensure committee.

Candidates applying for licensure on the basis of a master's degree must have a minimum of 3,000 hours of post-degree supervised experience. Candidates applying for licensure on the basis of an education specialist's degree must document a minimum of 1,500 hours of post-degree supervised experience.

Sem. Hours

REQUIRED GRADUATE COURSES 30

Aided by an adviser in the student's area of specialization and in consultation with the other members of the student's advisory committee, each student shall select courses in the area of specialization. To be accepted into this program, a student must present a masters degree in area of specialization or with appropriate background courses.

MINIMUM GRADUATE HOUR TOTAL 30

**ELEMENTARY SCHOOL ADMINISTRATION,
Master of Science in Education 51 764**

**SECONDARY SCHOOL ADMINISTRATION,
Master of Science in Education 51 765**

Student Learning Outcomes — The graduate with the Master of Science in Education degree in School Administration will use the knowledge and skills obtained in the program to promote the success of all students by:

- Facilitating the development, articulation, implementation, and stewardship of a vision of learning that is shared and supported by the school community.
- Advocating, nurturing, and sustaining a school culture and instructional program conducive to student learning and staff professional growth.
- Ensuring management of the organization, operations, and resources for a safe, efficient, and effective learning environment.

- Collaborating with families and community members, responding to diverse community interests and needs, and mobilizing community resources.
- Acting with integrity, fairness, and in an ethical manner.
- Understanding, responding to, and influencing the larger political, social, economic, legal, and cultural context.

The M.S.E. in School Administration program prepares school leaders who are reflective practitioners by requiring candidates to think analytically, practically and creatively about the teaching, learning, and the decision making processes associated with educational leadership.

A student who holds or is eligible for a valid Missouri teaching certificate and has teaching experience may pursue the Master of Science in Education Degree in Elementary School Administration or Secondary School Administration. To be accepted into either of these options, a student must have a minimum overall undergraduate grade point average of 2.75 or a 3.0 grade point average during the last 60 semester hours of undergraduate study. Applicants who do not meet any of the above GPA criteria must achieve a minimum of a 3.50 graduate grade point average during their first 12 hours of graduate study (which must include required degree courses) and have a minimum combined (verbal and quantitative) score of 900 on the Graduate Record Exam (GRE).

The M.S.E. in School Administration includes the course requirements for initial certification as either an Elementary or Secondary Principal by the Missouri Department of Elementary and Secondary Education. Initial certification requirements include the completion of a masters degree in educational leadership; completion of a course in Education of the Exceptional Child; a valid Missouri certificate to teach; a minimum of two years of teaching experience; and the satisfactory completion of the School Leaders Licensure Assessment designated by the Missouri State Board of Education.

A student's program must be planned with the advice and consent of a department adviser. The M.S.E. in School Administration requires a minimum of 24 semester hours be taken in school administration, with additional courses to include a minimum total of 34 semester hours. Two semesters of internship are required and represents a significant practicum component within the program. Students who currently hold a UCM masters degree in education or in an education-related field are eligible for the 24 hour 2nd masters degree option available to UCM graduates.

For information concerning specific course requirements contact the School Administration program coordinator in the Department of Educational Leadership and Human Development in Lovinger 4101.

An applicant for an initial principal's certificate must receive a recommendation for certification from the Director of Clinical Services and Certification. Recommendation will be based upon the completion of all requirements established by the Missouri Department of Elementary and Secondary Education.

A program may be planned which could lead to endorsement and certification as a middle school principal, a vocational school director, or a special education administrator. All of these endorsements require satisfactory completion of the School Leaders Licensure Assessment. Inquiries regarding certification in school administration can be directed to the Director of Clinical Services and Certification at 660-543-8441 or to the Department of Educational Leadership and Human Development 660-543-8834.

– Elementary School Administration –

		Sem. Hours
REQUIRED GRADUATE COURSES 34		
EDAD	5110	Foundations of Ed. Administration (should be taken in first 6 hours of program). 3
EDFL	5900	Introduction to Research (should be taken in first 12 hours of the program) 3
EDAD	5120	School Law. 3
EDAD	5130	School Supervision. 3
EDAD	5150	Ethics in Leadership 3
EDAD	5710	Public School Finance. 3
EDAD	5720	Administration of the Middle Grades. 3
EDAD	5770	Instructional Leadership and School Improvement. 3
EDFL	5320	Curriculum Development and Assessment . . . 3
EDAD	5420	Elementary School Administration 3
EDAD	6971	Spring Internship in School Administration . . 2
EDAD	6969	Fall Internship in School Administration. . . . 2
MINIMUM GRADUATE HOUR TOTAL 34		

– Secondary School Administration –

		Sem. Hours
REQUIRED GRADUATE COURSES 34		
EDAD	5110	Foundations of Ed. Administration (should be taken in first 6 hours of program). 3
EDFL	5900	Introduction to Research (should be taken in first 12 hours of the program) 3
EDAD	5120	School Law. 3
EDAD	5130	School Supervision. 3
EDAD	5150	Ethics in Leadership 3
EDAD	5710	Public School Finance. 3
EDAD	5720	Administration of the Middle Grades. 3
EDAD	5770	Instructional Leadership and School Improvement. 3
EDFL	5320	Curriculum Development and Assessment . . . 3
EDAD	5520	Secondary School Administration 3
EDAD	6971	Spring Internship in School Administration. . . 2
EDAD	6969	Fall Internship in School Administration. . . . 2
MINIMUM GRADUATE HOUR TOTAL 34		

SCHOOL ADMINISTRATION/ELEMENTARY SCHOOL PRINCIPALSHIP, Education Specialist 61 766

SCHOOL ADMINISTRATION/SECONDARY SCHOOL PRINCIPALSHIP, Education Specialist 61 768

SCHOOL ADMINISTRATION/SUPERINTENDENCY, Education Specialist 61 767

Student Learning Outcomes — The graduate with the Education Specialist degree in School Administration will use the knowledge and skills obtained in the program to promote the success of all students by:

- Facilitating the development, articulation, implementation, and stewardship of a vision of learning that is shared and supported by the school community.
- Advocating, nurturing, and sustaining a school culture and instructional program conducive to student learning and staff professional growth.
- Ensuring management of the organization, operations, and resources for a safe, efficient, and effective learning environment.
- Collaborating with families and community members, responding to diverse community interests and needs, and mobilizing community resources.
- Acting with integrity, fairness, and in an ethical manner.
- Understanding, responding to, and influencing the larger political, social, economic, legal, and cultural context.

The Education Specialist in School Administration program prepares school leaders who are reflective practitioners by requiring candidates to think analytically, practically and creatively about the teaching, learning, and the decision making processes associated with educational leadership.

The degree options available include Elementary School Principalship, Secondary School Principalship, and Superintendency. Course requirements and degree concentrations within these options vary dependent upon a student’s master’s degree and/or existing certification.

If one’s interest is certification in school administration, the student must have a master’s degree in educational administration, or in a certifiable content area recognized by the Missouri Department of Elementary and Secondary Education.

To be accepted into any one of the above options the student must have a minimum overall graduate grade point average of 3.25. Applicants who do not meet the above criteria will be classified as a “non-degree student” until achieving a minimum graduate grade point average of 3.50 during their first nine hours of graduate study in courses appropriate to the degree program and meet one of the following: 1) a minimum combined (verbal and quantitative) score of 950 on the Graduate Record Exam (GRE); or 2) a passing score (167) on the School Leaders Licensure Assessment (state test for Principal certification).

The program includes a research component consisting of a three-hour Research Problem course and satisfactory completion of a research paper. Satisfactory completion of the School Superintendent Assessment or the School Leader Licensure Assessment is required for candidates pursuing superintendent or initial principal’s certification.

Inquiries regarding certification or degree programs in school administration can be directed to the Department of Educational Leadership and Human Development 660-543-8834.

Education Specialist degree program for students with an MSE in School Administration (or Educational leadership) or who currently hold or are eligible for principal’s certification

– Elementary School Principalship –

		Sem. Hours
REQUIRED GRADUATE COURSE 18-21		
EDAD	5730	School Personnel Administration *. 3
EDAD	5760	School and Community Relations 3
EDAD	5770	Instructional Leadership and School Improvement*. 3
EDAD	6120	Advanced School Law 3
EDAD	6720	School Facilities. 3
EDAD	6730	Administration of K-12 Curriculum 3
EDAD	6960	Research Problems 3
Concentration: Elementary School Principalship 8-12		
EDAD	5150	Ethics in Leadership 3
EDAD	5420	Elementary School Administration*. 3
EDAD	6969	Fall Internship in School Administration*. . . . 2
EDAD	6971	Spring Internship in School Administration*. . 2
EDSP	4700	IEP and the law 3
INST	5390	Educational Technology Leadership 2
PSY	4520	Statistics for the Behavioral Sciences 3

GRADUATE ELECTIVES (if necessary)
MINIMUM GRADUATE HOUR TOTAL 30

* If course was not taken in the master’s program or if needed for additional certification.

– Secondary School Principalship –

			Sem. Hours
REQUIRED GRADUATE COURSE			18-21
EDAD 5730	School Personnel Administration *	3	
EDAD 5760	School and Community Relations	3	
EDAD 5770	Instructional Leadership and School Improvement*	3	
EDAD 6120	Advanced School Law	3	
EDAD 6720	School Facilities	3	
EDAD 6730	Administration of K-12 Curriculum	3	
EDAD 6960	Research Problems	3	
Concentration: Secondary School Principalship			8-12
EDSP 4700	IEP and the law	3	
EDAD 5150	Ethics in Leadership	3	
EDAD 5520	Secondary School Administration*	3	
EDAD 6969	Fall Internship in School Administration*	2	
EDAD 6971	Spring Internship in School Administration*	2	
INST 5390	Educational Technology Leadership	2	
PSY 4520	Statistics for the Behavioral Sciences	3	

GRADUATE ELECTIVES (if necessary)
MINIMUM GRADUATE HOUR TOTAL **30**

* If course was not taken in the master's program or if needed for additional certification.

– Superintendency –

			Sem. Hours
REQUIRED GRADUATE COURSE			18-21
EDAD 5730	School Personnel Administration *	3	
EDAD 5760	School and Community Relations	3	
EDAD 5770	Instructional Leadership and School Improvement*	3	
EDAD 6120	Advanced School Law	3	
EDAD 6720	School Facilities	3	
EDAD 6730	Administration of K-12 Curriculum	3	
EDAD 6960	Research Problems	3	
Concentration: Superintendency			10
EDAD 6700	School District Administration	3	
EDAD 6710	Adv. School Finance	3	
EDAD 6972	Internship: Central Office Administration**	4	
MINIMUM GRADUATE HOUR TOTAL			30

* Only required if course was not taken in the master's program.

** Students must take 4 hours (two semesters) of internship for Superintendent Certification.

Education Specialist degree program for students without an M.S.E. in School Administration

– Elementary or Secondary School Principalship –

			Sem. Hours
REQUIRED GRADUATE COURSES			18-27
EDAD 5110	Foundations of Ed. Administration (should be taken in first 6 hours of program).	3	
EDAD 5120	School Law	3	
EDAD 5130	School Supervision	3	
EDAD 5150	Ethics in Leadership	3	
EDAD 5710	Public School Finance	3	
EDAD 5720	Administration of the Middle Grades	3	
EDAD 5760	School and Community Relations	3	
EDAD 5770	Instructional Leadership and School Improvement	3	
EDAD 6960	Research Problems	3	
Concentration: Elementary School Principalship			10
EDAD 5420	Elementary School Administration	3	
EDFL 5320	Curriculum Development and Assessment	3	

OR

EDAD 6730	Administration of K-12 Curriculum	3	
EDAD 6969	Fall Internship in School Administration*	2	

EDAD 6971	Spring Internship in School Administration*	2	
MINIMUM GRADUATE HOUR TOTAL			30

Concentration: Secondary School Principalship **10**

EDAD 5520	Secondary School Administration	3	
EDFL 5320	Curriculum Development and Assessment	3	

OR

EDAD 6730	Administration of K-12 Curriculum	3	
EDAD 6969	Fall Internship in School Administration*	2	
EDAD 6971	Spring Internship in School Administration*	2	
MINIMUM GRADUATE HOUR TOTAL			30

* Only required if course was not taken in the Master's program.

EDUCATIONAL LEADERSHIP AND POLICY ANALYSIS, Doctor of Education

Students may pursue a Doctor of Education (Ed.D.) in Educational Leadership at the University of Central Missouri. The degree is conferred by the University of Missouri-Columbia.

The program uses a cohort format that requires the student to complete required course work in two years. A dissertation follows the coursework. Students are accepted into the cohort group every two years by meeting entrance requirements which include a master's or education specialist degree, a substantiated goal of Educational Leadership, GRE scores, undergraduate and graduate GPA, evaluation of a writing assessment and a personal interview. The curriculum includes the following broad themes:

Leadership Theory Practice, Organizational Analysis, Analyzing Educational Policy, Content Context of Learning, and Research, Inquiry Evaluation.

Study commences with a summer schedule on the university of Missouri-Columbia campus. Fall and spring semester courses are taught at UCM by Central Missouri faculty. Following a second summer of study in Columbia and fall and spring study at UCM, students enter the dissertation stage of the degree. For more information contact the Department of Educational Leadership and Human Development: Educational Administration program in Lovinger 4101 or call 660-543-4720.

LIBRARY SCIENCE AND INFORMATION SERVICES, Master of Science 53 775

The Library Science program is guided by the ALA/AASL Standards for Initial Programs for School Library Media Specialist Preparation (2003) and the MoSTEP Standards for Teacher Preparation Programs (2006).

Student Learning Outcomes — The graduate with a Master of Science degree in Library Science and Information Services will use the knowledge and skills obtained in the program to:

- **Teaching for Learning:** Applies knowledge of the academic, personal, social, and cultural characteristics of students and relates them to learning through effective instructional strategies and assessments. Collaborates effectively with classroom teachers and other educators. Documents and communicates the impact of instruction on student achievement.
 Quality Indicator 1: Knowledge of learners and learning
 Quality Indicator 2: Instructional partner
 Quality Indicator 3: Effective and knowledgeable teacher
- **Reading and Literacy:** Promotes and encourages reading for enjoyment, personal growth, and learning. Provides fiction and non-fiction literatures appropriate to the students and grade levels served. Selects reading materials in multiple formats to facilitate maximum access for all members of the school community. Models a variety of research-based literacy strategies. Advocates for students' intellectual freedom.
 Quality Indicator 1: Reading promotion
 Quality Indicator 2: Literatures

Quality Indicator 3: Diversity and inclusiveness
 Quality Indicator 4: Literacy strategies
 Quality Indicator 5: Intellectual freedom

- **Information and Knowledge:** Provides access to information for students, teachers, staff, and administrators to satisfy all learning needs. Teaches information literacy skills to build proficiency for student-driven research and individual creation of knowledge through critical thinking. Promotes equitable access to resources in a variety of formats and services for a variety of needs.
 Quality Indicator 1: Access to information
 Quality Indicator 2: Information literacy skills
 Quality Indicator 3: Equitable access to resources and services
- **Leadership and Advocacy:** Provides leadership by articulating ways in which school libraries contribute to student achievement. Advocates for dynamic school library programs and positive learning environments by collaborating and connecting with the school community.
 Quality Indicator 1: Instructional leadership
 Quality Indicator 2: Advocating with the school community
- **Program Management and Administration:** Administers the school library media program using research-based data to analyze and improve services in alignment with the school's mission to support student achievement. Selects, acquires, catalogs, retrieves, integrates, circulates, preserves, and deselected information resources. Manages fiscal, physical, and personnel resources. Practices professional ethics with regard to intellectual property and information privacy. Develops policies and procedures in support of the library program.
 Quality Indicator 1: Strategic planning, program evaluation, and program reporting
 Quality Indicator 2: Collection management
 Quality Indicator 3: Fiscal, physical, and personnel resources management
 Quality Indicator 4: Professional ethics
 Quality Indicator 5: Policies and procedures
- **Technology Integration:** Provides equitable access to technology for the school community. Continually upgrades technological skills to enhance student and teacher learning. Integrates technology tools to communicate and facilitate learning. Promotes digital citizenship instruction to support appropriate academic use of information.
 Quality Indicator 1: Access to technology
 Quality Indicator 2: Knowledge of technology
 Quality Indicator 3: Communicate and facilitate learning
 Quality Indicator 4: Digital Citizenship
- **Professional Development:** Seeks opportunities to grow professionally by taking advantage of information, events and services provided by local, state, and national organizations. Seeks opportunities for service through professional associations.
 Quality Indicator 1: Professional Learning
 Quality Indicator 2: Professional Involvement

The Library Science and Information Services program prepares candidates to become PK-12 school library media specialists. Our graduates provide learning environments that are rich in information resources and collaborate with teachers to maximize student learning. They promote the success of teachers by enabling students to develop the 21st century information literacy skills necessary to

- Use information resources and tools effectively;
- Learn, make decisions, and create;
- Function productively in a democratic society; and
- Pursue personal interests.

Full admission to the program requires a minimum undergraduate GPA of 2.75, three letters from references who can attest to the applicant's professional and academic abilities and an interview. An applicant who does not meet the overall graduate grade point average must be classified as "a non-degree seeking student" until achieving a minimum 3.5 GPA in 11 hours, taking the following courses: LIS 5100, Foundations of Librarianship; LIS 5250, Developing and Managing Collections; LIS 5240, Library Media Administration and LIS 5322, Reference Sources Services. These courses must be taken and grades received prior to enrolling in other courses required for the degree or reapplying for admission.

Sem. Hours

REQUIRED GRADUATE COURSES 30

LIS	5100	Foundations of Librarianship	2
LIS	5240	Library Media Administration	3
LIS	5250	Developing Managing Collections	3
LIS	5260	Library Systems and Information Technology	3
LIS	5270	Organizing Information	3
LIS	5322	Reference Sources Services	3
LIS	5340	Children's, Adolescent, and Young Adult Literature	3
LIS	5750	Using Online Resources	3
LIS	5770	Curriculum and the Media Center	3
LIS	5820	Practicum I	2
LIS	5910	Action Research in School Libraries	2

RESEARCH 2-6

LIS	6960	Research Problem	2-4
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OR

LIS	6990	Thesis	3-6
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GRADUATE ELECTIVES IN LIBRARY SCIENCE 0-4

MINIMUM GRADUATE HOUR TOTAL 36

Students who seek Missouri School Library Media Specialist PK-12 certification are advised to consult with the Director of Clinical Services and Certification, University of Central Missouri, Warrensburg, MO 64093.

HUMAN SERVICES/LEARNING RESOURCES, Education Specialist 61 776

Students who have already earned their master's degree in library science or education may pursue an Education Specialist degree in Human Services with an option in Learning Resources. Students may complete the requirements for certification while pursuing this degree. Those who already have certification may pursue a wide variety of educational goals.

Admissions Process — To be accepted into the program, applicants must have a minimum GPA of 3.25 and a earned master's degree, three letters from references who can attest to the applicant's professional and academic abilities, and an interview. An applicant who does not meet the overall graduate grade point average must be classified as "a non-degree seeking student" until achieving a minimum graduate grade point average of 3.25 during the first nine hours of graduate study in the courses appropriate to the degree program.

Students will earn a minimum of 30 semester hours of graduate credit within an approved program of study beyond a master's degree. At least 18 semester hours of this program must be 5000 and 6000 level courses. A minimum of 6 semester hours must be 6000 level courses. Aided by an adviser in the student's area of specialization and in consultation with the other members of the student's advisory committee, each student shall select between 23 and 24 credit hours of courses which may be from the required courses for the Master's degree in Library Science and Information Services. The program concludes with a formal six to seven hour research component consisting of an action research or other research methods course, a 2 hour research problem, and a 2 hour thesis.

Sem. Hours

REQUIRED GRADUATE COURSES 23-24

RESEARCH	6-7		
LIS	5910	Action Research in School Libraries	2

OR

EDFL	5900	Introduction to Research	3
LIS	6960	Research Problem	2
LIS	6990	Thesis	2

MINIMUM GRADUATE HOUR TOTAL 30

**K-12 SPECIAL EDUCATION,
Master of Science in Education 51 834**

Student Learning Outcomes — The learner outcomes for the Masters of Science in Special Education Degree are the advanced Content Standards established by the Council for Exceptional Children (2009). These outcomes include:

- Develop leadership skills, including proficiency in policy analysis and advocacy.
- Acquire a deep understanding of Special Education program development and organization.
- Acquire skill in research and inquiry and apply those skills to insure continuous instructional improvement.
- Gain a broad understanding of individual and program evaluation and apply that understanding to all stages and purposes of evaluation to make informed educational decisions.
- Promote the success of individuals with exceptional learning needs, their families, and colleagues by embracing professional development and ethical practice.
- Develop and apply a deep understanding of consultation and collaboration to integrate services to individuals with exceptional learning needs, promote understanding, resolve conflicts, and build consensus among educational stakeholders.

At the advanced level, special educators share an array of functions and responsibilities. Reflecting this commonality, the Council for Exceptional Children has validated the above skill set and determined that all special educators shall have mastered these skills as a part of their preparation for advanced practice.

Provisional admission requirements include a valid teaching certificate or a degree in Speech-Language Pathology, and a minimum overall undergraduate grade point average of 2.75 or a grade point average of 3.0 in the last 60 undergraduate credit hours. Admitted students submit official Graduate Record Exam (GRE) scores to be analyzed by Special Education Program Faculty. A minimum of 3.0 on the Analytical Writing section of the GRE is required.

The Master of Science in Education degree program with courses in special education may not include more than one third of the course requirements to be met by courses which are open to both graduate and undergraduate students. The Master of Science in Education degree program in special education is a minimum 32 hour program. For additional details, consult with the Special Education Coordinator in the Department of Educational Leadership and Human Development, LOV 4101.

			Sem. Hours
REQUIRED GRADUATE COURSES			24
EDSP	5100	Introduction to Graduate Study in Special Education.	3
EDFL	5900	Introduction to Research	3
OR			
ECEL	5920	Childhood Research and Development	
EDAD	5120	School Law.	3
PSY	5220	Advanced Child Psychology	3
OR			
EDFL	5200	Advanced Educational Psychology	3
EDSP	5700	Advanced Organization and Administration of Special Education	3
EDFL	5320	Curriculum Development and Assessment	3
EDSP	5350	Evaluation of Students with Disabilities	3
EDSP	6980	Internship in Special Education	3
GRADUATE ELECTIVES			8
MINIMUM GRADUATE HOUR TOTAL			32

Aided by an adviser in the student's area of specialization, each student shall select courses in the area of specialization. These areas of specialization include: Behavioral Disorders, Early Childhood Special Education, Learning Disabilities, Mental Retardation, and Severe Developmental Disabilities.

**Department of Elementary
and Early Childhood Education
Lovinger 3300 • 660-543-4235
ucmo.edu/ecel**

**ELEMENTARY EDUCATION/
CURRICULUM AND INSTRUCTION,
Master of Science in Education 51 721**

Student Learning Outcomes- The graduate with a Master of Science in Education degree in Elementary Education will use the knowledge and skills obtained in the program to:

- Demonstrate a commitment to students and their learning.
- Understand the subjects he/she teaches and how to teach those subjects to students.
- Be responsible for managing and monitoring student learning.
- Think systematically about his/her practice and learn from experience.
- Demonstrate his/her commitment as a member of learning communities.

The Master of Science in Education degree in Elementary Education offers courses that are relevant to educators in early childhood and elementary education. The M.S.E. in Elementary Education is designed to address the five propositions of accomplished teaching as prescribed by the National Board for Professional Teaching Standards (NBPTS) for the early and middle childhood education areas.

The M.S.E. degree requires a minimum of 30 hours. To be accepted into the Master of Science in Education degree program in the Department of Elementary Early Childhood Education, a student must: (a) have a minimum undergraduate grade point average of 2.5; (b) submit proof of teacher certification or professional endorsement from any of the 50 states or territories and have graduated from an NCATE or regionally accredited university; (c) submit a copy of his/her last summative teaching evaluation (i.e., a PBTE or similar evaluation form), or a letter from a school superintendent, principal or professor attesting to teaching skills and/or graduate studies potential.

The following requirements apply to the M.S.E. Elementary Education degree program — A student may apply a maximum of six hours of graduate study in Special Projects (ECEL 5000) courses. (Students must consult and get consent from their graduate adviser for exceptions). A maximum of 12 graduate semester hours taken prior to the development of a program of study at UCM and approved by the student's graduate program adviser may be accepted on a program of study. ECEL 5920 must be taken within the first 12 hours of the program.

			Sem. Hours
REQUIRED GRADUATE COURSES			20
ECEL	5170	Advanced Foundations of Childhood Education.	3
ECEL	5240	Leadership and Analysis of Teaching Children	3
ECEL	5720	Childhood Curriculum and Assessment	3
ECEL	5730	Exemplary Instructional Practices	3
ECEL	5920	Childhood Research and Development	3
ECEL	6800	M.S.E. Internship for Childhood Educators	3
ECEL	6810	M.S.E. Capstone for Childhood Educators	2
GRADUATE ELECTIVES IN RELATED AREAS			10
MINIMUM GRADUATE HOUR TOTAL			30

COLLEGE OF HEALTH, SCIENCE, AND TECHNOLOGY

Administration 105 • 660-543-4241 • ucmo.edu/chhs

The **College of Health, Science, and Technology** is comprised of:

- The Department of Biology and Earth Science
- The Department of Mathematics and Computer Science
- The Department of Psychological Science
- The School of Environmental, Physical and Applied Sciences
- The School of Health and Human Performance
 - The Department of Nursing
 - The Department of Nutrition and Kinesiology
- The School of Technology

Department of Biology and Earth Science W.C. Morris 306 • 660-543-4933 ucmo.edu/biology

BIOLOGY, Master of Science 53 382

Student Learning Outcomes — The graduate with a Master of Science degree in Biology will use the knowledge and skills obtained in the program to:

- Demonstrate an understanding of the theories and principles of biology and of the development of biology as a discipline in the student's area of specialization.
- Utilize the language and concepts of biology effectively in oral and written presentations.
- Select, apply and interpret appropriate metrics and computer applications to resolve biological issues and problems in the student's area of specialization.
- Develop, implement and carry through to completion original research (Plan A).
- Develop and report secondary research based on literature search of published resources (Plan B).

Collaborate with other biologists, including researchers, administrators, teachers and students. This program is designed for the student seeking advanced training in professional biology, including the teaching of biology.

To be accepted into the program, a student must have:

- A minimum of 30 semester hours in biology, 8 hours of chemistry, a statistics course, a minimum undergraduate grade-point average of 2.50 in biology and 2.50 overall.
- Submitted to the department graduate coordinator the contact information for the three references, a letter of intent, and documentation of a UCM faculty member agreeing to serve as an adviser.
- Students may be admitted into the program provisionally if the deficiencies in courses are satisfied in addition to the program requirements.
- Students may take graduate courses once accepted by UCM Graduate School but must have an adviser before acceptance into this degree program.

A student must submit a thesis and present departmental seminar (Plan A) or satisfy the additional course requirements shown below (Plan B). All biology graduate students must comply with "The Graduate Guide". All students must pass an oral examination before completion of the program.

Sem. Hours

REQUIRED GRADUATE COURSES 19-22
BIOL 4013 Experimental Design and Analysis 3

OR

Graduate level statistics course 3
BIOL 5005 Graduate Seminar 2
BIOL 5031 Biological Literature 2
BIOL 5952 Graduate Research 4

APPROVED GRADUATE ELECTIVES IN BIOLOGY 6

BIOL 5006	Contemporary Seminar Readings	2
BIOL 5008	Grant Writing for Science Research	2
BIOL 5013	Biometry	2
BIOL 5015	Technical Graphing and Data Illustration	1
BIOL 5016	Statistical Software Application	1
BIOL 5017	Quantitative Biology	2
BIOL 5032	History of Biology	2
BIOL 5614	Bioterrorism	2
BIOL 5720	Biogeography	2

CHOOSE FROM THE FOLLOWING PLANS 2-5

PLAN A:

BIOL 5951	Master's Thesis	2
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PLAN B:

Additional approved electives	5
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BIOLOGY ELECTIVES AND/OR RELATED AREAS 13

PLAN A MINIMUM GRADUATE HOUR TOTAL 32

PLAN B MINIMUM GRADUATE HOUR TOTAL 35

Note: In addition to the department degree requirements, the following University requirements must be satisfied: At least 50% semester hours on the approved program must have been in 5000/6000 level courses for graduate students only; a student is limited to a maximum of 6 semester hours of credit in BIOL 5951 and BIOL 5952 combined on a Master's degree program.

ENVIRONMENTAL STUDIES, Master of Arts 52 860

This program is an interdisciplinary collaboration with departments throughout the University of Central Missouri. It is designed for the student seeking advanced training in the broad interdisciplinary field of environmental studies. The program of study involves core courses and electives that are flexible and designed to accommodate students with various backgrounds and interests in life, physical, and social sciences, who desire careers related to environmental science. The interdisciplinary training promotes analytical and communicative skills required to study the critical problems facing industries, municipalities, and state and federal agencies.

To be accepted into the program, a student must have the following:

- A minimum of 10 semester hours in science including ecology or environmental science and a minimum undergraduate grade point average of 2.50.
- Submitted to the department graduate coordinator the contact information for the three references, a letter of intent, and documentation of a UCM faculty member agreeing to serve as an adviser.

A student, with the guidance of a Graduate Advisory Committee comprised of three members, must develop an individual degree plan according to the student's area of interest. All environmental studies graduate students must comply with "The Graduate Guide". All students must pass an oral examination or written examination before completion of the program.

Sem. Hours

REQUIRED GRADUATE COURSES 11
BIOL 4013 Introduction to Experimental Design and Analysis 3

OR

Graduate level statistics course	3
BIOL 5005 Graduate Seminar	2
BIOL 5031 Biological Literature	2
BIOL 5952 Graduate Research	4

APPROVED GRADUATE ELECTIVES in at Least 2 Disciplines 21

(9 Hours minimum must be in each of the two minimum disciplines, 8 hours must be in 5000/6000 level graduate only courses)

MINIMUM GRADUATE HOUR TOTAL 32

Note: In addition to the Department degree requirements, the following University requirements must be satisfied: At least 50% semester hours on

the approved program must have been in 5000/6000 level courses for graduate students only. A student is limited to a maximum of 6 semester hours of credit in thesis and graduate research combined on a Master's degree program.

**Department of Mathematics and
Computer Science**
W.C. Morris 222 • 660-543-4930
ucmo.edu/math-cs

MATHEMATICS, Master of Science 53 456

Student Learning Outcomes — The graduate with a Master of Science degree in Mathematics will use the knowledge and skills obtained in the program to:

- Interpret and utilized precise mathematical language involving definitions, statements, and proofs.
- Cultivate abilities for independent thinking.
- Think logically, develop various algorithms and implement algorithms to solve mathematical problems.
- Communicate his/her mathematical thinking coherently, analyze and evaluate the mathematical thinking of others, and use the language of mathematics to express mathematical ideas precisely.
- Understand how mathematical ideas interconnect and build on one another to produce a coherent whole.
- Work both individually and collaborative in a specialized area of mathematical sciences.
- Prepare for a career in the mathematical sciences (business, industry, government, education, etc.) or for doctoral study in mathematics or related field.

This program is designed to fit the needs of students in pure mathematics. To be accepted into this program, a student must have an undergraduate major in mathematics, or course work equivalent to a Central major in mathematics, with a minimum grade point average of 3.0 in upper level mathematics courses.

A student not meeting these minimum standards may consult the Department of Mathematics and Computer Science for possible acceptance on a conditional basis. Before completion of the program, a student must either pass a department

–Mathematics –

This is designed to meet the needs of students who are preparing for continued advanced study of mathematics, college teaching, or certain areas of industrial research requiring a depth of understanding of the structure of mathematics.

	Sem. Hours
REQUIRED GRADUATE COURSES	15
Elect from the following (at least one 5000-level course)	3-9
MATH 4711 Introduction to Modern Algebra	3
MATH 5711 Advanced Group and Field Theory	3
MATH 5722 Advanced Ring and Module Theory	3
Elect from the following (at least one 5000-level course)	3-9
MATH 4150 Advanced Calculus I	3
MATH 4171 Functions of a Complex Variable	3
MATH 5150 Advanced Calculus II	3
MATH 5180 Real Analysis	3
Elect from the following (at least one 5000-level course)	3-6
MATH 4211 Topology I	3
MATH 5211 Topology II	3
Elect from the following	0-6
MATH 4312 Probability Models	3
MATH 4400 Combinatorics	3
MATH 4450 Introduction to Graph Theory	3
MATH 4741 Introduction to the Theory of Numbers	3

GRADUATE ELECTIVES	15
MATH 6950 Thesis	6
Graduate courses in Mathematics or Computer Science	9-15
Graduate courses in areas related to Mathematics	0-3
MINIMUM GRADUATE HOUR TOTAL	30

Either thesis or Departmental Comprehensive Exam is required.

APPLIED MATHEMATICS, Master of Science 53 457

Student Learning Outcomes — The graduate with a Master of Science degree in Applied Mathematics will use the knowledge and skills obtained in the program to:

- Develop an ability to use actuarial/statistics packages to analyze and solve various real world problems.
- Cultivate abilities for independent thinking.
- Integrate and apply knowledge in the areas of actuarial science, mathematics statistics, finance, and economics to conduct scientific research.
- Think logically, develop various algorithms and implement algorithms to solve mathematical problems.
- Develop the knowledge and skills to adapt to a dynamic multidisciplinary technological environment thought team work, ethical behavior, and effective communication.
- Prepare for a career in the actuarial science, statistics, or related fields (in business, industry, government, education, etc.) or for graduate studies in actuarial science, statistics or related field.

This program is designed to fit the needs of students in actuarial science, statistics, or related areas. To be accepted into this program, a student must have an undergraduate major in mathematics, or course work equivalent to a Central major in mathematics, actuarial science or statistics with a minimum grade point average of 3.0 in upper level mathematics, actuarial science, or statistics courses.

A student not meeting these minimum standards may consult the Department of Mathematics and Computer Science for possible acceptance on a conditional basis. Before completion of the program, a student must either pass a department comprehensive examination or write and successfully defend a thesis.

–Applied Mathematics –

This is designed to strengthen the actuarial science and/or statistics background of students who plan to work in industry; teach in technical colleges or schools that do not require state certification; or continue the study of applied mathematics.

	Sem. Hours
REQUIRED GRADUATE COURSES	12
MATH 5341 Applied Stochastic Processes	3
MATH 5331 Multivariate Statistical Analysis	3
MATH 6912 Master's Project	6
Select from Plan A or Plan B	
Plan A: Master's Thesis.	18
MATH 6950 Mater's Thesis	6
Elect from the following	12
MATH 4312 Probability Models	3
MATH 4322 Applied Statistics II	3
MATH 4323 Statistical Aspects of Experimental Design	3
MATH 4501 Actuarial Exam Review Problem Set I	1
MATH 4510 Mathematics of Finance	3
MATH 4511 Actuarial Exam Review Problem Set I	1
MATH 4520 Life Contingencies I	3
MATH 4530 Statistical Modeling	3
MATH 5522 Life Contingencies II	3
MATH 5910 Special Projects in Statistics	1-3
MATH 5920 Internship in Actuarial Science/Statistics	1-3
CS 4100 SAS Programming	3
CS 4420 Systems Simulation and Modeling	3
CS 4600 Database Theory and Applications	3
CS 5600 Advanced Database Systems	3
FIN 4817 Managing Financial Derivatives	3

FIN	5830	Advanced Financial Institutions and Markets . . .	3
FIN	5840	Investment Analysis and Practice	3
Plan B: Comprehensive Exam 18			
Elect from the following (at least 3 hours should 5000-level courses)			
MATH	4312	Probability Models	3
MATH	4322	Applied Statistics II	3
MATH	4323	Statistical Aspects of Experimental Design . . .	3
MATH	4501	Actuarial Exam Review Problem Set I	1
MATH	4510	Mathematics of Finance	3
MATH	4511	Actuarial Exam Review Problem Set I	1
MATH	4520	Life Contingencies I	3
MATH	4530	Statistical Modeling	3
MATH	5522	Life Contingencies I	3
MATH	5910	Special Projects in Statistics	1-3
MATH	5920	Internship in Actuarial Science/Statistics . . .	1-3
CS	4100	SAS Programming	3
CS	4420	Systems Simulation and Modeling	3
CS	4600	Database Theory and Applications	3
CS	5600	Advanced Database Systems	3
FIN	4817	Managing Financial Derivatives	3
FIN	5830	Advanced Financial Institutions and Markets . .	3
FIN	5840	Investment Analysis and Practice	3

MINIMUM GRADUATE HOUR TOTAL 30

MATHEMATICS
Accelerated Master of Science Degree 53 979

Student Learning Outcomes — The graduate with an accelerated Bachelor of Science and Masters of Science degrees in Mathematics will use the knowledge and skills obtained in the program to:

- Interpret and utilize precise mathematical language involving definitions, statements, and proofs.
- Cultivate abilities for independent thinking.
- Examine, describe, and represent functions of various types using analysis techniques.
- Solve a variety of mathematics problems using analytic, numeric, and graphing techniques.
- Apply a variety of mathematics to model and interpret physical, natural, and social phenomena.
- Think logically, develop various algorithms and implement algorithms to and solve mathematical problems.
- Recognize and understand the diversity of mathematics and its contributions to mathematically based disciplines.
- Communicate mathematical thinking coherently, analyze and evaluate the mathematical thinking of others, and use the language of mathematics to express mathematical ideas precisely.
- Understand how mathematical ideas interconnect and build on one another to produce a coherent whole.
- Work both individually and collaborative in a specialized area of mathematical sciences.
- Prepare for a career in the mathematical sciences (business, industry, government, education, etc.) or for doctoral study in mathematics or a related field.

UCM students having completed at least 9 hours of mathematics courses above the 1000 level with a Major GPA of at least 3.0 may consult with their department advisor and complete a departmental application to declare the accelerated BS/MS major in mathematics. Prior to beginning the graduate portion of the program, students in the accelerated program will need to apply to the UCM Graduate School for formal admittance to the Accelerated BS/MS program. Before completion of the program, a student must either pass a department comprehensive examination or write and successfully defend a thesis.

REQUIRED UNDERGRADUATE COURSES 116

REQUIRED COURSES 46

MATH	1151	Calculus and Analytic Geometry I	5
MATH	1152	Calculus and Analytic Geometry II	5
MATH	2153	Calculus and Analytic Geometry III	3
MATH	2410	Discrete Mathematics	3
MATH	3151	Differential Equations	3
MATH	3311	Introduction to Mathematical Statistics	3
MATH	3710	Linear Algebra	3
MATH	4150	Advanced Calculus I	3
MATH	4710	Algebraic Structures	3
MATH	4711	Introduction to Modern Algebra	3
CS	1100	Computer Programming I	3

Elect from the following 9

MATH	3221	College Geometry	3
MATH	4171	Functions of a Complex Variable	3
MATH	4400	Combinatorics	3
MATH	4450	Introduction to Graph Theory	3
MATH	4741	Introduction to the Theory of Numbers	3
MATH	4910	Special Problems in Mathematics	3
MATH	4912	Internship in Mathematical Science	3-8

GENERAL EDUCATION REQUIREMENTS (page 39 Undergraduate Catalog) 45

In the major, Math 1151 is allowed to fulfill 3 s.h of div IC

ICAP	4233	DIV. IV B (REQUIRED)	3
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Undergraduate Free Electives 25

REQUIRED GRADUATE COURSES 24

MATH	4211	Topology I	3
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Elect from the following 3-6

MATH	5150	Advanced Calculus II	3
MATH	5180	Real Analysis	3

Elect from the following 3-6

MATH	5711	Advanced Group and Field Theory	3
MATH	5722	Advanced Ring and Module Theory	3

Elect from the following 9-15

(May not repeat courses taken for undergraduate credit)

At most 12 hours can be at or above the 5900 level.

MATH	4171	Functions of a Complex Variable	3
MATH	4400	Combinatorics	3
MATH	4450	Introduction to Graph Theory	3
MATH	4741	Introduction to the Theory of Numbers	3
MATH	5211	Topology II	3
MATH	5900	Special Projects in Mathematics	1-3
MATH	5911	Special Topics in Mathematics	1-3
MATH	5920	Seminar in Mathematics	1-3
MATH	6912	Readings in Mathematics	1-5
MATH	6950	Thesis	6

MINIMUM TOTAL 140

COMPUTER SCIENCE, Master of Science 53 976

Student Learning Outcomes — The graduate with a Master of Science degree in Computer Science will use the knowledge and skills obtained in the program to:

- Design, implement and analyze algorithms in appropriate contemporary computer programming languages.
- Design, implement and analyze computer systems and system software using theoretical and applied knowledge of computer architecture and operating systems.
- Develop and maintain medium to large scale application software using theoretical and applied knowledge of software engineering and project management.
- Design and analyze computer and communications networks using theoretical and applied knowledge of computer networking and security.
- Design and implement database systems using theoretical and applied knowledge of discrete structures, data structures and relational database systems.

- Address the needs of society with a sense of professionalism.
- Adapt to a dynamic multidisciplinary technological environment through teamwork, ethical concerns, and effective communication.
- Enter a career in computer science related industry.
- Stay abreast of advancements in the area of computer science.

This program is designed to produce senior computer professionals in the computer industry, and its focus is on the application of technology to solve a variety of practical problems.

Admission Requirements - To be admitted to the program, a student must have a minimum undergraduate grade point average (GPA) of 2.8. Candidates must complete the Graduate Record Examination (GRE) with a minimum combined score of 291 (1000 on the old scale) in Verbal and Quantitative reasoning The GRE test requirement can be waived if any one of the following conditions is satisfied.

- The student is a graduate of the University of Central Missouri or a regionally accredited college or university with a degree in Computer Science and a GPA of 3.5 or more.
- The student has earned an M.S. or more advanced degree in a closely related discipline.
- The student has a minimum 3 years of significant work experience in the appropriate IT industry.

International students whose native language is not English and do not have a US degree are required to take the Test of English as a Foreign Language (TOEFL). A minimum TOEFL score of 550 (paper based) or 213 (computer-based) or 79 (Internet based) is required. IELTS scores are also accepted at UCM. Regular graduate students should have a band score of 6.0. The TOEFL requirement is waived for applicants who have completed a minimum of 60 semester credit hours or have earned a bachelor or graduate degree from an accredited college or university in the USA. Students who seek graduate assistantships (GA) must submit a Statement of Purpose describing applicants' academic preparation/ experience and how this degree will assist them in meeting their career goals, three letters of recommendation besides other documents required by graduate admission. Applicants who have degrees in some non-computing fields will also be considered for admission. Students may make up their deficiencies in computer science by completing the required undergraduate background courses. Applicants who do not meet one of the above minimum admission requirements may be admitted on a provisional basis and must maintain a 3.0 graduate grade point average during their first semester of study at UCM. Full time students without deficiencies can expect to complete this program in two academic years.

Sem. Hours

REQUIRED GRADUATE COURSES 18

CS	5300	Advanced Algorithms and Data Structures	3
CS	5500	Advanced Operating Systems	3
CS	5600	Advanced Database Systems	3
CS	5800	Advanced Computer Networking and Security	3
CS	5900	Compiler Design and Construction	3
CS	5910	Advanced Software Engineering	3

Choose from Plan A or Plan B or Plan C 0-6

Plan A: Master Project

CS	5040	Master Project	3
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Plan B: All Coursework

Plan C: Thesis

CS	6010	Thesis	6
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Select from the following 6-12

CS	4100	SAS Programming	3
CS	4110	Mobile Applications Programming with Android	3
CS	4120	Advanced Applications Programming in JAVA	3
CS	4300	Algorithm Design and Analysis	3
CS	4420	Systems Simulation and Modeling	3
CS	4500	Operating Systems	3
CS	4600	Database Theory and Applications	3

CS	4700	Artificial Intelligence	3
CS	4800	Computer Networking	3
CS	4810	Computer Graphics	3
CS	4820	Computer Security	3
CS	4830	Game Development	3
CS	4910	Software Engineering	3
CS	5000	Special Topics in Computer Science	3
CS	5010	Seminar in Computer Science	3
CS	5020	Internship in Computer Science	3
CS	5030	Readings in Computer Science	3
CS	5110	Advanced Applications Programming in C# and .Net	3
CS	5310	Theory of Computation	3
CS	5430	Numerical Analysis	3
MATH	4450	Introduction to Graph Theory	3

MINIMUM GRADUATE HOUR TOTAL 30

**Department of Psychological Science
Lovinger 1111 • 660-543-4185
ucmo.EDU/PSYCHOLOGY**

PSYCHOLOGY, Master of Science 53 749

Student Learning Outcomes—The graduate with a Master of Science degree in Psychology will use the knowledge and skills obtained in the program to:

- Demonstrate the ability to interpret and implement advanced statistics in research.
- Employ an understanding of statistics and research designs to evaluate psychological science and practice.
- Demonstrate an understanding of the factors associated with individual and cultural differences within psychology.
- Identify ethical and legal issues encountered by psychologists in research, educational, and practice settings.
- Articulate strategies for managing ethical dilemmas encountered by psychologists.
- Describe and explain how biological, social, learned/cognitive factors impact behavior.
- Evaluate the reliability and validity of psychological assessment methods and measures.
- Demonstrate basic competency in administering and scoring intelligence and other psychological assessments.
- Use written and oral communication skills that demonstrate competence in APA style and language of the psychological profession.
- Create works, products, or outcomes that illustrate technological abilities.

This program is designed to prepare students for employment that utilizes acquired psychological knowledge and skills as well as provide a basis for further graduate study. There are two ways to be considered for admission:

The student must be fully admitted to Graduate Studies and have a minimum GPA of 3.0 in at least 12 hours of undergraduate psychology courses at an accredited institution.

The applicant must also submit three letters of recommendation; a formal statement of purpose; and an official score report from the Graduate Record Examination (GRE) Verbal, Quantitative, and Analytical Writing sections.

- OR -

The student must be fully admitted to Graduate Studies. In addition, the applicant must have a minimum GPA of 3.0 in 12 or more credit hours of graduate Psychology courses at an accredited institution. The applicant must also submit three letters of recommendation; a formal statement of purpose; and an official score report from the Graduate Record Examination (GRE) Verbal, Quantitative, and Analytical Writing sections.

Selection will be based on the applicant's GPA, GRE scores, consistency of the statement of purpose with program goals, and letters of recommendation indicating high potential for graduate work in psychology. There is no minimum score required on the GRE, but preference will be given to applicants with a combined Verbal + Quantitative score of 1000 or higher.

Completed applications will be considered on a space available basis until one week before the first day of classes for the fall and spring semesters. Although admission occurs on a year round basis, the sequence of courses is designed to begin in the fall semester. Starting in the spring or summer may result in an extended time to complete the degree.

No more than 12 graduate hours taken as a non-degree student (i.e., one not officially admitted to the psychology graduate program) may be applied to the M.S. in psychology. The chair of the department must approve these graduate hours. All courses must also meet the time limits established by the Graduate Studies office. Upon acceptance into the M.S. in psychology program, the student will be assigned a departmental graduate adviser and will be able to apply for federal financial aid.

Students should be aware that most graduate courses have prerequisites. These prerequisites must be met before enrolling in the courses. In some situations, a prerequisite may be waived with the consent of the course instructor. Each student must pass a writing proficiency exam prior to filing a program of study. A score of 3.5 or higher on the Analytical Writing section of the GRE satisfies the writing proficiency exam requirement. Each student must write and successfully defend masters thesis.

			Sem. Hours
REQUIRED GRADUATE COURSES			28-31
PSY	5010	Thesis Preparation Seminar I	1
PSY	5020	Thesis Preparation Seminar II	1
PSY	5030	Graduate Thesis Process and Mentorship	1
PSY	5140	Biological Bases of Behavior	3
PSY	5150	Ethics and Professional Issues in Psychology	3
PSY	5310	Personality	3
PSY	5340	Social Bases of Behavior	3
PSY	5410	Adult Psychopathology	3
PSY	5520	Advanced Statistics for the Behavioral Sciences	3
PSY	5560	Individual Intelligence Testing	4
PSY	5990	Thesis	3-6
GRADUATE ELECTIVES in Psychology			6-9
MINIMUM GRADUATE HOUR TOTAL			37

SCHOOL OF ENVIRONMENTAL, PHYSICAL AND APPLIED SCIENCE

GEOGRAPHIC INFORMATION SYSTEMS, Graduate Certificate 50 996

By completion of the Geographic Information Systems Graduate Certificate program, students will be:

- Skilled in geographic data collection, spatial data base development, and data manipulation.
- Skilled in spatial data analysis, modeling, output interpretations, and model calibrations.
- Able to read and analyze remotely-sensed images and integrate spatial and aspatial data.
- Skilled in computer mapping and related forms of graphic representation.
- Able to apply advanced theoretical principles and geo-techniques to real world data to solve problems.
- Familiar with new literature.

The student may hold an undergraduate degree in any field. There are no course prerequisites in geography or cognate fields, although course work in map interpretation, cartography, and data management would facilitate GIS skills development. Graduate Record Exam scores are not required by the department. The student must be accepted admitted by the Graduate College; he/she must also submit a separate application with undergraduate transcripts directly to the department.

			Sem. Hours
REQUIRED GRADUATE COURSES			15
GEOG	5010	Digital Image Processing	3
GEOG	5020	Principles of Geographic Information Systems	3
GEOG	5021	Advanced Geographic Techniques	3
GEOG	5210	Problems in Geography	3
GEOG	5221	Applications of GIS	3
MINIMUM GRADUATE HOUR TOTAL			15

INDUSTRIAL HYGIENE, Master of Science 53 179

*Accredited by the Applied Science Accreditation Commission of ABET
111 Market Place, Suite 1050, Baltimore, MD 21202-4012
Phone: (410) 347-7700*

Program Educational Objectives— The graduate with a Master of Science degree in Industrial Hygiene will use the knowledge and skills obtained in the programs to:

- Demonstrate the ability to communicate professionally, both verbally and in writing..
- Demonstrate knowledge of professional integrity and ethical standards.
- Recognize the importance of contemporary, global and societal issues as they relate to the practice of occupational safety and health.
- Develop, coordinate and / or participate on multidisciplinary teams to protect people, property, and the environment.
- Recognize the importance of life-long learning for the purpose of enhancing discipline-specific technical competencies and effectiveness.
- Identify and evaluate agents, stressors, and work practices that impact occupational and non-occupational settings.
- Collect and analyze data using valid scientific qualitative and quantitative methods and procedures.
- Recommend and evaluate hazard mitigation strategies.

Additionally, graduates with a Master of Science degree in Industrial Hygiene will demonstrate the following specific program outcomes:

- Apply basic skills in developing sampling strategy, sampling methods, and use of control measures.
- Design a hygiene program that mitigates chemical, biological, and physical hazards.
- Collect, analyze, and interpret data using qualitative and quantitative methods of hazard assessment.
- Identify and evaluate agents and stressors in occupational and non-occupational settings.
- Apply techniques of using instrumentation to discover / identify hazards, prioritizing, and implementation for strategies to control or minimize the risks of exposure.
- Evaluate the most appropriate level of protection that considers the degree of hazard, concentration of chemical and nature of the toxicity.

Apply basic skills in developing sampling strategy, sampling methods, and use of control measures. Design a hygiene program that mitigates chemical, biological and physical hazards. Collect, analyze and interpret data using qualitative and quantitative methods of hazard assessment Identify and evaluate agents and stressors in occupational and non-occupational settings. Apply techniques of using instrumentation to discover/identify hazards, prioritizing, and implementation for strategies to control or minimize the risks of exposure. Evaluate the most appropriate level of protection that considers the degree of hazard, concentration of chemical and nature of the toxicity.

A successful applicant must have a cumulative undergraduate GPA of 3.0 and course work, which must include one year of chemistry (including organic) and one semester of physics (one semester of chemistry or physics must include a lab), one year of biology (including mammalian or human physiology), one year of math (including statistics), and SAFE 4140 – Safety and Health Lab, or equivalent, or demonstrated experience. The applicant must complete the Graduate Record Exam (GRE) and must submit a three-to-five page essay that demonstrates writing skills, and relates proposed graduate education to professional goals. Application for admission will not be considered by the department prior to the receipt of the GRE score and essay. The department will consider applicants that do not meet all of the above criteria on a case-by-case basis.

			Sem Hours
REQUIRED GRADUATE COURSES			35
SAFE	4150	Noise Measurements	2
SAFE	4160	Industrial Ventilation for Environmental Safety and Health	3
SAFE	4425	Safety and Health Legislation and Standards.	3
SAFE	4435	Environmental Compliance	3
SAFE	5010	Organization, Administration and Supervision of Safety Programs.	3
SAFE	5120	Principles of Industrial Hygiene	3
SAFE	5130	Industrial Environmental Monitoring	3
SAFE	5170	Industrial Toxicology	3
SAFE	5180	Principles of Epidemiology.	3
SAFE	5940	Current Literature and Research in Safety	3
SAFE	6940	Internship in Safety Science	3
SAFE	6930	Individual Research Problems	3
OR			
SAFE	6950	Thesis	3
MINIMUM GRADUATE HOUR TOTAL			35

OCCUPATIONAL SAFETY MANAGEMENT, Master of Science 53 257

Student Learning Outcomes – The graduate with a Master of Science degree in Occupational Safety Management will use the knowledge and skills obtained in the programs to:

- Demonstrate the ability to communicate professionally verbally and in writing.
- Demonstrate knowledge of professional integrity and ethical standards.
- Recognize the importance of contemporary, global and societal issues as they relate to the practice of occupational safety and health.
- Develop, coordinate and/or participate on multidisciplinary teams to protect people, property and the environment.
- Recognize the importance of life-long learning for the purpose of enhancing discipline specific technical competencies.
- Analyze injury, illness and liability trends to help establish priority direction.
- Organize limited resources for optimum risk control.
- Develop, implement and evaluate hazard control processes for a performance safety program.

This professional degree is offered to prepare students to assist management in the effective use of resources for the development, implementation and assessment of a comprehensive safety and health program in a variety of occupational settings.

To be accepted into this program, an applicant must hold a baccalaureate degree with a grade point average of 2.5. An applicant must submit a three-to-five page essay that demonstrates writing skills and relates proposed graduate degree learning outcomes to professional goals. Application for admission will not be considered by the department prior to submission of the required essay.

A Program of Study/Degree Audit should be submitted to the graduate program adviser as soon as admission procedures are complete. An applicant must have completed a semester of business or industrial management, a semester of behavioral science (i.e. psychology or sociology), one semester of two different college level science classes with laboratory (i.e. chemistry, life science or biology), and a semester of college level algebra and statistics.

Sem Hours

REQUIRED GRADUATE COURSES			15
SAFE	5010	Organization, Administration and Supervision of Safety Programs.	3
SAFE	5120	Principles of Industrial Hygiene	3
SAFE	5430	Occupational Hazard Management	3
SAFE	5940	Current Literature and Research in Safety	3
SAFE	5800	Managing Fire Risk	3
RESEARCH			3-6
SAFE	6930	Individual Research.	3
OR			
SAFE	6950	Thesis	6
DEPARTMENT APPROVED GRADUATE ELECTIVES			12-15
MINIMUM GRADUATE HOUR TOTAL			33

SCHOOL OF HEALTH AND HUMAN PERFORMANCE

The **School of Health and Human Performance** is comprised of:

- The Department of Nursing
- The Department of Nutrition and Kinesiology

Department of Nursing
University Health Center 106 • 660-543-4775
ucmo.edu/nursing

RURAL FAMILY NURSING, Master of Science 53 242

Accredited by the Commission on Collegiate Nursing Education.

Student Learning Outcomes – The graduate with a Master of Science degree in Rural Family Nursing will use the knowledge and skills obtained in the program to:

- Use multiple modes (Effective, Oral, Written, Therapeutic, Media, and Technological) in adapting language and communication strategies appropriate to the advanced practice role and diverse settings.
- Use theory and principles, guided by logic and sound judgment, to allow for the provision of advanced practice nursing care.
- Use reasoning and knowledge to assess, plan, intervene and evaluate while providing holistic care in diverse environments utilizing pertinent resources.
- Actively engage in interaction based on mutual respect with collaboration toward goal achievement.
- Internalize and demonstrate ethically grounded behaviors reflective of the ANA Scope and Standards of Advanced Practice Registered Nursing (1996) and ANA Code for Nurses 2001.
- Locate, organize, store, retrieve, evaluate, synthesize, and annotate information from print, electronic, and other sources in preparation for providing advanced nursing care.

This program is designed to emphasize advanced practice nursing knowledge, skills, and attitudes, as well as the application of the research process to clinical phenomena within the context of rural family health. The Nurse Educator emphasis area stresses the use of academic technologies in the educator role. The advanced practice emphasis area of Family Nurse Practitioner provides graduates with the needed course work and practica necessary to sit for the certification exam.

Admission requirements –

- Bachelor’s degree with an upper division nursing major from a program accredited by the National League for Nursing or the Commission on Collegiate Nursing Education.
- Admission to UCM’s graduate studies including specific requirements for the Department of Nursing.
- Completion of the Department of Nursing’s application for admission including undergraduate transcripts.
- A minimum of one year of post baccalaureate nursing experience for students choosing the Family Nurse Practitioner emphasis area. This year may be completed while taking core theory courses for the program.

- Undergraduate minimum grade point average of 3.0 on a 4.0 scale.
- Has an active registered nurse license.
- Computer or computer access with hardware compatible with UCM's program software. Basic computer skills are required prior to matriculation.
- Completion of a criminal background check.

Selection is based on the applicant's qualifications, intellectual curiosity, potential for professional growth, and contributions to the profession. Exception to any of the admission requirements will be considered on an individual basis.

Consideration of Applications – Completed applications to the nurse educator concentration will be considered by the Department of Nursing on a space available basis throughout the year. Students applying for the nurse educator concentration may take graduate courses in nursing prior to official admission to the graduate nursing program. Completed applications to the family nurse practitioner concentration will be considered by the Department of Nursing on or around September 15 for the spring semester and on or around February 15 for the summer or fall semesters. Admission to the family nurse practitioner is competitive based on one's undergraduate grade point average. Students applying for the family nurse practitioner concentration may not take graduate classes in nursing prior to official admission to the graduate nursing program.

Notification of Status – Admission to the Department of Nursing may be approved, deferred, or rejected. If admission is approved, the applicant will receive an email and additional acceptance forms that must be submitted to complete the admission to the graduate nursing program. Applicants whose admission is deferred or rejected will be notified by email.

Full-Time and Part-Time Degree Status – Opportunities for part-time and full-time study are available. Part-time study is encouraged. A full-time graduate student is one enrolled in 9 or more semester hours of graduate credit during the fall and spring semesters and 6 semester hours during the summer session.

Additional Admission Requirements for International Applicants – International students provide a unique cultural and personal addition to UCM. They are encouraged to apply early in the academic year prior to the year they wish to attend Central Missouri to ensure time to complete the following additional requirements:

1. Evidence of adequate financial support for the duration of the program.
2. A minimum score of 600 paper-based or 100 internet based on the Test of English as a Foreign Language (TOEFL) if English is not the primary language.
3. A passing score on the Commission on Graduates of Foreign Nursing Schools (CGFNS) examination.

The CGFNS examination is a prerequisite for taking the Registered Nurse Licensing examination in the state of Missouri and for obtaining a non-immigrant occupational preference visa (H-1A) from the United States Immigration and Naturalization Service. CGFNS offers a two-part certification program that includes a credentials review followed by a test of nursing and English language skills. The CGFNS examination is given in March, August, and Nov.. Application materials may be requested from CGFNS, Attn: CP, 3600 Market Street, Philadelphia, Pennsylvania, 19014-2651 (Phone 215/349-8767). The registration deadline for these exams is approximately four months prior to their administration. Early application is therefore essential.

Health and Immunization Record – As a professional nurse, the graduate student is expected to maintain immunizations according to departmental policy. The University of Central Missouri, Department of Nursing Student Health Immunization Form, furnished by the Department of Nursing, should be completed.

CPR Certification – Students must be trained and certified in adult and child cardiopulmonary resuscitation (CPR) prior to enrollment in graduate courses requiring clinical experience. Students must maintain re-certification throughout the program.

Non-Degree Students – Individuals may take graduate level courses as a non-degree student, provided they have a Bachelor of Science in Nursing

degree from a National League for Nursing (NLN) or Commission on Collegiate Nursing Education (CCNE) accredited school. Non-degree students are admitted to individual classes by permission of the instructor on a space available basis.

To apply, applicants must send an official copy of all undergraduate nursing transcripts to the Department of Nursing, along with a completed application for admission as a non-degree student. Students who also register for clinical courses must submit evidence of licensure as a nurse in the state of Missouri.

All non-degree application requirements must be received by the deadline for the semester during which the course will be offered (cf. "Consideration of Application" in this book). Requests for non-degree status will be considered within two weeks after the appropriate deadline.

If permission is granted by faculty, the student will be notified by the Chair of the Department of Nursing. (Non-degree students requesting a second course may make the request to the Department of Nursing). Up to seven credits earned as a non-degree student may be accepted for credit toward the M.S. degree if the applicant is later admitted to the master's program.

Transfer of Graduate Credits – Transfer credit will be given only for academic work completed within eight years before matriculation at Central. Such units are transferable only if the student has earned a minimum of 6 units of graduate credit at University of Central Missouri's Department of Nursing. A student wishing to transfer course work should make a written request and provide a syllabus or some other description of the course to his/her academic adviser. (See *Central's Graduate Catalog* or other policies related to the transfer of graduate credit).

Transfer to Another Graduate Nursing Emphasis Area – A change of graduate nursing emphasis area may be made, contingent upon approval of the faculty involved. Should a change be made, a student must meet all requirements of the new emphasis area.

Advisement – The Graduate Program Coordinator will assign students to graduate faculty for advisement. The graduate faculty adviser assists the student in planning and implementing his/her course of study throughout the master's program.

Grades – All courses counting toward the master's degree must be taken for the following grades: A (4.0); B (3.0); C (2.0). Master's degree students with a GPA of less than 2.7 after completing 20 credits will be asked to withdraw from the program. An F (0.0) in any graduate level course will result in administrative withdrawal from the program at the end of the semester in which the grade is received. In case of illness or other nonacademic problems, it is the student's responsibility to negotiate with the professor for a U (uncompleted grade).

Withdrawal from a Course – Students may make changes in their schedules during the drop/add periods of the fall, spring and summer semesters. A fee is charged by the university if changes are made after that period. If a student withdraws from a course after the drop/add period, the progress of the student at the time of withdrawal from the course will be indicated on the record as Withdrew Passing (WP) or Withdrew Failing (WF).

Interruption of Program and Withdrawal from the Graduate Program – The Department of Nursing reserves the right, and matriculation by the student is a concession of this right, to request the withdrawal of any student whose performance at any time does not comply with the Missouri State Board of Nursing Practice Act (1993) and the American Nurses' Association Code for Nurses (2001).

If a student for any reason wishes to withdraw from the program, notification should be made in writing to the coordinator before the expected date of withdrawal. Students who have withdrawn from the program must apply for readmission according to regular admission policies. Students who find it necessary to interrupt their programs of study should request in writing a leave of absence addressed to the Graduate Program Coordinator of the Department of Nursing. A maximum of one calendar year's leave may be granted; this will be counted toward the total time allowed to complete the program.

Commencement – Graduation exercises are held twice a year, in May and December, when degrees are conferred and diplomas issued to

students who have completed all requirements. Diplomas cannot be issued until they are approved by the Academic Council and Board of Governors.

			Sem Hours
REQUIRED GRADUATE COURSES			18
NUR	5000	Methods of Research in Nursing	3
NUR	5015	Theories of Nursing	3
NUR	5016	Family/Population Health	3
NUR	5017	Organizational Leadership in Complex Health Systems	3
NUR	5018	Health Care Policy and Advocacy	3
GRADUATE STATISTICS			3
CONCENTRATION			15-26

Students must complete all requirements in one of the following concentration areas

– Nurse Educator Concentration –

REQUIRED GRADUATE COURSES			15
NUR	5035	Measurement in Nursing	2
NUR	5038	Nurse Educator: Concepts of Physiology/ Pathophysiology, Pharmacology and Health Assessment	3
NUR	5039	Nurses Educator: Direct Patient Care Clinical Practica	1
NUR	5040	Teaching Theory in Nursing	3
NUR	5041	Teaching Clinical Practica in Nursing	3
NUR	5050	Designing Nursing Curricula	3

– Family Nurse Practitioner Concentration –

REQUIRED GRADUATE COURSES			26
NUR	5020	Pharmacology for Advanced Practice Nursing	3
NUR	5200	Family Nurse Practitioner: Primary Care of the Childbearing Family	3
NUR	5201	Family Nurse Practitioner: Primary Care of the Childrearing Family	3
NUR	5202	Family Nurse Practitioner: Primary Care of Adults and the Elderly I	3
NUR	5203	Family Nurse Practitioner: Primary Care of Adults and the Elderly II	3
NUR	5204	Family Nurse Practitioner: Primary Care Practicum	4
NUR	5300	Advanced Pathophysiology	3
NUR	5310	Advanced Health Appraisal	4

MINIMUM GRADUATE HOUR TOTAL **33-44**

NURSE EDUCATOR, Graduate Certificate 50 618

NURSE PRACTITIONER, Graduate Certificate 50 619

In addition to a Master of Science in Rural Family Nursing, we offer a post-master certificate in Nursing Education and Family Nurse Practitioner.

Student Learning Objectives - Specific objectives include:

- Use multiple modes (Effective, Oral, Written, Therapeutic, Media, and Technological) in adapting language and communication strategies appropriate to the advanced practice role and diverse settings.
- Use theory and principles, guided by logic and sound judgment, to allow for the provision of advanced practice nursing care.
- Use reasoning and knowledge to assess, plan, intervene and evaluate while providing holistic care in diverse environments utilizing pertinent resources.
- Actively engage in interaction based on mutual respect with collaboration toward goal achievement.
- Internalize and demonstrate ethically grounded behaviors reflective of the ANA Scope and Standards of Advanced Practice Registered Nursing (1996) and ANA Code for Nurses 2001.

- Locate, organize, store, retrieve, evaluate, synthesize, and annotate information from print, electronic, and other sources in preparation for providing advanced nursing care.

To be admitted into the program, applicants must have completed a Bachelors of Science in Nursing and a Master's Degree in Nursing. Consult with the Graduate Program Coordinator prior to applying for the Nurse Practitioner certificate program.

– Nurse Educator Certificate –

			Sem. Hours
REQUIRED GRADUATE COURSES			15
NUR	5035	Measurement in Nursing	2
NUR	5038	Nurse Educator: Concepts of Physiology/ Pathophysiology, Pharmacology and Health Assessment	3
NUR	5039	Nurses Educator: Direct Patient Care Clinical Practica	1
NUR	5040	Teaching Theory in Nursing	3
NUR	5041	Teaching Clinical Practica in Nursing	3
NUR	5050	Designing Nursing Curricula	3
MINIMUM GRADUATE HOUR TOTAL			15

– Nurse Practitioner Certificate –

			Sem. Hours
REQUIRED GRADUATE COURSES			26
NUR	5020	Pharmacology for Advance Practice Nursing	3
NUR	5200	Family Nurse Practitioner Primary Care of the Childbearing Family	3
NUR	5201	Family Nurse Practitioner Primary Care of the Childbearing Family	3
NUR	5202	Family Nurse Practitioner Primary Care of the Adult and Elderly I	3
NUR	5203	Family Nurse Practitioner Primary Care of the Adult and Elderly II	3
NUR	5204	Family Nurse Practitioner Primary Care of the Primary Care Practicum	4
NUR	5300	Advanced Pathophysiology	3
NUR	5310	Advanced Health Appraisal	4
MINIMUM GRADUATE HOUR TOTAL			26

Department of Nutrition and Kinesiology
Morrow 125 • 660-543-4256
ucmo.edu/nutrition

KINESIOLOGY, Master of Science 53 880

Student Learning Outcomes — The graduate with a Master's of Science degree in Kinesiology in the Department of Nutrition and Kinesiology will use the knowledge and skills obtained in the program to:

- Demonstrate creative thinking, problem solving and independent study skills.
- Demonstrate and apply an understanding of current technology available in their area of expertise.
- Use kinesiology as a catalyst for proactive change in personal health and wellness.
- Explore interdisciplinary relationships within kinesiology and associate disciplines.
- Examine the nature and effects of discipline-related skills as they are applied in a professional setting.

This program is designed to prepare students for careers in areas associated with physical activity and sports. The student has a choice of area specialization from one of the following options: Sports Management, Exercise Science, or Pedagogy (Teaching Physical Education).

Students may contact the department graduate coordinator for specific course requirements.

Student Learning Outcomes Per Option

Sport Management

- Apply theoretical concepts of Sport Administration and Management in a practical setting.
- Conduct research that contributes to the creation, expansion, and application of knowledge in the field of Sport Administration and Management.
- Demonstrate an understanding of an area of specialization in the field of Sports Administration and Management.

Exercise Science

- Apply Exercise principles with diverse populations in a variety of situations.
- Demonstrate and apply skills and knowledge of Exercise Science through laboratories, internships, and other appropriate programs.

Pedagogy:

- Advance content and pedagogical knowledge for improved professional practice.
- Enhance instructional effectiveness in Physical Education
- Continue professional development in the field of Physical Education K-12

To be accepted into Exercise Science, a student must have a major in Exercise Science, Physical Education or appropriate exercise science background courses. To be accepted into Pedagogy, a student must have a major in Physical Education K-12. This degree is not appropriate for individuals seeking teaching certification. To be accepted into Sport Management, a student must have a major related to Business Management, Sport Management or appropriate background courses. For all Master of Science in Kinesiology degree programs a minimum undergraduate grade point average of 2.75 or a grade point average of 3.0 on 9 semester hours of earned graduate credit is required.

For graduate applicants who do not meet the 2.75 GPA requirement, additional items will be required:

- Statement of Purpose - statement articulating why the prospective student wants to pursue and advanced degree in our program.
- Reference - Names of references will be requested in order to contact these individuals regarding the potential graduate student's ability to successfully complete the graduate degree.

NOTE: GRE score is recommended for students not meeting GPA requirements.

Application Due Dates: To be considered for admissions into the M.S. in Kinesiology degree program and to ensure available capacity, early submission of application materials is recommended. Priority consideration will be give to students who apply at the beginning of the semester prior to the anticipated admissions term. They will be notified of their admission status via an email. Admission decision will be based upon the merit of the application and the available space in the program for the student.

The student's program must be planned with the advice and consent of a department adviser. The elective hours may not merely be a collection of courses but must be an integrated and related group of advanced courses fulfilling the department's and student's objectives.

- Sport Management -

	Sem Hours
REQUIRED GRADUATE COURSES	12
PE 5740 Legal Aspects for Kinesiology	3
PE 5760 Sport Marketing	3
PE 5770 Sport Finance	3
PE 5780 Organizational Leadership in Athletics and Sport	3
RESEARCH	5-12
PE 6980 Internship	2-4

OR

PE 6990 Thesis	6
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The following two (2) courses are designed to meet the research requirements of the MS in Kinesiology and are required for Thesis option

students. One (1) of the following two (2) is required for Internship option students.

PE 5210	Statistics in Kinesiology	3
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OR

PE 5900	Introduction to Research in Kinesiology	3
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Elect from the following **9-14**

PE 5110	Philosophy of Sport	3
PE 5720	Sport Facilities Management	3
PE 5730	Risk Management in Kinesiology	3
PE 5750	Foundations in Sport Management	3
PE 5800	Sport Sponsorship and Sales	3
PE 5810	Sport Event Management in Kinesiology	3
PE 5820	Sport Public Relations	3
PE 5860	Sport and Media	3
PE 5880	Sport Consumer Behavior	3
PE 6190	Trends and Issues in Kinesiology	3
PE 6900	Readings in Kinesiology	1-5

MINIMUM GRADUATE HOUR TOTAL **30-33**

- Exercise Science: Thesis Option -

REQUIRED GRADUATE COURSES **15**

PE 5830	Advanced Exercise Physiology	3
PE 5840	Principles of Motor Learning	3
PE 5850	Stress Testing and EKG Interpretation	3
PE 5870	Mechanical Analysis of Sport Skills	3
PE 5890	Laboratory Procedures in Exercise Science	3

RESEARCH - Thesis Option **15**

PE 5210	Statistics in Kinesiology	3
PE 5900	Introduction to Research in Kinesiology	3
PE 6600	Seminar in Kinesiology	3
PE 6990	Thesis	6

Elect from the following **3**

PE 4830	Psychological Aspects of Physical Education	2
PE 5840	Principles of Motor Learning	3
PE 5910	Analysis of Movement	3
PE 5930	Exercise Metabolism	3
PE 5940	Body Composition	3
PE 6900	Readings in Kinesiology	1-5

MINIMUM GRADUATE HOUR TOTAL **33**

- Exercise Science: Internship Option -

REQUIRED GRADUATE COURSES **15**

PE 5830	Advanced Exercise Physiology	3
PE 5850	Stress Testing and EKG Interpretation	3
PE 5870	Mechanical Analysis of Sport Skills	3
PE 5890	Laboratory Procedures in Exercise Science	3
PE 6980	Internship	3

RESEARCH - Internship Option **9**

PE 5210	Statistics in Kinesiology	3
PE 5900	Introduction to Research in Kinesiology	3
PE 6600	Seminar in Kinesiology	3

Elect from the following **9**

PE 4830	Psychological Aspects of Physical Education	2
PE 5840	Principles of Motor Learning	3
PE 5910	Analysis of Movement	3
PE 5930	Exercise Metabolism	3
PE 5940	Body Composition	3
PE 6900	Readings in Kinesiology	1-5

MINIMUM GRADUATE HOUR TOTAL **33**

- Pedagogy -

REQUIRED GRADUATE COURSES **33**

PE 5200	Analysis of Teaching in Physical Education	3
PE 5370	Advanced Curriculum in Physical Education	3
PE 5450	Physical Activity Promotion	3
PE 5500	Behavior Intervention in Physical Education	3
PE 5650	Physical Education in Special Populations	3

PE 5730	Risk Management for Kinesiology	3
PE 5840	Principles of Motor Learning	3
PE 5950	Assessment in Physical Education	3
PE 5900	Research Methods in Physical Education	3
PE 6190	Trends and Issues in Kinesiology	3
PE 6950	Professional Seminar in Physical Education	3

MINIMUM GRADUATE HOUR TOTAL 33

School of Technology
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ucmo.edu/technology

INDUSTRIAL MANAGEMENT, Master of Science 53 141

Student Learning Outcomes—The graduate with a Master of Science degree in Industrial Management will use the knowledge and skills obtained in the program to:

- Apply management skills and concepts to specific situations.
- Plan and implement a project.
- Analyze and develop a human relations strategy.
- Demonstrate the ability to communicate effectively.
- Explain and apply the basic concepts of an Industrial Economy.
- Introduce and adapt technical expertise to a given process or product.
- Perform, interpret and explain research.

This program is designed for students who are preparing for supervisory or management positions in industry. To be accepted into this program, a student shall have a minimum overall grade point average of 2.60 in the undergraduate major. A student not meeting this requirement may petition the department for admittance on a conditional basis. The 4000-level courses may be completed in the undergraduate program of study or through approved work experience. If these requirements are completed in this manner, elective courses are required to achieve the 33-semester-hour degree requirement.

Students selecting the thesis must enroll in 3 hours for two consecutive semesters or 6 hours for a single semester. The applicant must complete the course SOT 5010 Applied Research for Technology prior to submitting the application for candidacy. A "Career Goal Statement" is required of all applicants to this degree program.

	Sem. Hours
REQUIRED GRADUATE COURSES	21-24
INDM 4210 Industrial Management	3
INDM 4260 Organizational Dynamics	3
INDM 5212 Production and Operations Management	3
INDM 5240 Engineering Economy	3
SOT 5010 Applied Research for Technology	3
ENGT 4580 Quality Systems Engineering	3
OR	
INDM 4230 Lean and Quality Management	3
Culminating Experience (last semester of student's program)	
INDM 5230 Seminar in Industrial Management	3
OR	
SOT 5290 Thesis	3-6

COGNATE REQUIREMENTS 9-12
 (choose any 3 with Thesis or 4 with Seminar)

INDM 4010	Current Issues in Industry	3
INDM 4220	Human Factors Engineering	3
INDM 4240	Facilities Engineering	3
INDM 4250	Project Management	3
INDM 4280	Industrial Statistics	3
INDM 5015	Legal Aspects of Industry	3
INDM 5020	International Technology Management	3
INDM 5222	Principles and Practices of Lean Systems	3
INDM 5232	Seminar in Lean Six Sigma Implementation	3
INDM 5260	Systems Analysis and Management Information Systems	3
INDM 6580	Advanced Strategic Quality and Standard	3

DEPARTMENT APPROVED GRADUATE ELECTIVES 3
MINIMUM GRADUATE HOUR TOTAL 33

TECHNOLOGY, Master of Science 53 589

Student Learning Outcomes - The graduate with a Master of Science degree in Technology will gain knowledge and skills relating to:

- Organizational Style
- Global Orientation
- Quality Systems
- Technology Management
- Technological Ethics and Society
- Research for Innovation

The Master of Science degree in Technology is focused on preparing students for professional positions in technology related organizations, enterprises, and activities. Graduates are prepared in a range of rapidly evolving technological disciplines, as entrepreneurs and members of an organizational enterprise. Applicants must have an appropriate distribution of undergraduate course work including a minimum of 18 semester hours of relevant technology, discipline specific related courses and/or work experience. Students are able to select coursework to meet their individual career goals. The program of study will include a blend of advanced technologies, management, communication, safety, research, quality assurance and relevant computer applications depending on a specific discipline. Prior to admission to this program, a student must submit to the graduate office all official transcripts indicating a minimum grade point average of 2.50 in the undergraduate major, a "Statement of Purpose", a Resume` including three contact references, and an application form. The Photography specialization also requires submission of a "Photographic Portfolio". More information is available on the program website. Students selecting the thesis option must enroll in 3 hours for two consecutive semesters to total a minimum of 6 semester hours. A student must also pass a comprehensive examination before completion of the program

Sem. Hours

REQUIRED BACKGROUND COURSES 18

For entry into this program, students must have college credit in these courses or equivalent work experience.

Applied Statistics course (INDM 4280, CJ 5610, SAFE 4940)	3
Management course (INDM 4210, MGT 3315)	3
Quality course (ENGT 4580, INDM 4230)	3

REQUIRED GRADUATE COURSES 15

INDM 4010	Current Issues in Industry	3
INDM 4260	Organizational Dynamics	3
INDM 5015	Legal Aspects of Industry	3
INDM 5020	International Technology Management	3
SOT 5010	Applied Research for Technology	3

RESEARCH 3-6

INDM 5230	Seminar in Industrial Management	3
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OR

SOT 5290	Thesis	6
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APPROVED GRADUATE ELECTIVES in Technology (elect from the following) 12-15

Agriculture, Electronics Technology, Graphics, Automation, Automotive Technology Management, Drafting and Design Technology, Construction Management, Engineering Technology, Fashion and Apparel Merchandising, Graphic Technologies, General Technology, Lean Six-Sigma, Manufacturing Management, Network Security, Photography, or other approved departments. Graduate electives are to be taken at UCM and may include a concentration of study in technology

MINIMUM GRADUATE HOUR TOTAL 33

LEAN SIX-SIGMA, Graduate Certificate 50 993

The Lean Six-Sigma program consists of fifteen semester hours intended for industrial and service managers, supervisors and others who desire to bridge their companies' productivity to "Lean-Six Sigma" methods.

Program Description - This online certificate program is designed for industrial professionals seeking insight to techniques of Lean Six Sigma systems while preparing for the Lean Certification by the Society of Manufacturing Engineers (SME), Six Sigma Green Belt Certification and/or the Manager of Quality/Organizational Excellence Certification from

the American Society for Quality (ASQ). The five required courses will integrate with the Industrial Management and Technology Masters Degree programs as an area of specialization. The program will be delivered via the Internet using web-based tools for effective learning.

In order to be awarded the certificate, students will complete all five required courses with a "B" or better average. These courses must be completed within six calendar years, beginning with the date the student first registers as a graduate level certificate student.

Student Learning Outcomes - Students will gain the most recent skills and knowledge in Lean systems, Six Sigma, quality tools, and quality management principles while preparing for certification examinations.

Specific Objectives:

- Apply lean concepts in various industrial situations to eliminate waste and maximize quality.
- Use seven statistical tools and quality techniques to problem solve a given industrial scenario.
- Develop a continuous improvement plan using quality standards criteria established by the International Standards Organization series and Malcolm Baldrige Awards program.
- Prepare for Lean certification by the Society of Manufacturing Engineers (SME) and/or the Manager of Quality/Organizational Excellence Certification from the American Society for Quality (ASQ).

This online graduate certificate program utilizes the same format to present all five courses included in the program of study. Course deliverables and materials will have a complete set of course components, including learning outcomes, instructional modules, handouts, assignments, and assessment. Interactive discussions with peers and course facilitators in a virtual class meeting, video conference, discussion board, and telephone conferences are encouraged.

To be admitted applicants must have completed a baccalaureate degree from an accredited college or university with a GPA of 2.5 overall. Contact your adviser and Instructor for consent to enroll in this sequence of courses. Applicants must also demonstrate proficiency in English communication and an ability to work in a technology management-driven environment. Students must maintain a grade point average of 3.0. The certificate can be completed in one calendar year.

Sem. Hours

REQUIRED GRADUATE COURSES 15
 ENGT 4580 Quality Systems Engineering 3

OR

- INDM 4230 Lean and Quality Management 3
- INDM 5212 Production and Operation Management . . . 3
- INDM 5222 Lean Sigma Technique 3
- INDM 5232 Seminar in Lean Implementation 3
- INDM 6580 Advanced Strategic Quality and Standards. . 3

MINIMUM GRADUATE HOUR TOTAL 15

NETWORK SECURITY, Graduate Certificate 50 994

The Network Security program includes fifteen semester hours designed for networking professionals seeking to enhance their skill set in designing and implementing Cisco Systems hardware-based network security measures. Students will gain the most recent skills and knowledge in securing corporate network infrastructure.

Program Description - This certificate program is designed for networking professionals seeking to enhance their skill set in designing and implementing Cisco Systems hardware-based network security measures. The four courses are currently integrated with the Industrial Technology Masters Degree program as an area of specialization. The courses would also serve as electives for other CHST graduate programs.



Student Learning Objectives - Students will gain the most recent skills and knowledge in securing the corporate network infrastructure. Specific objectives include:

- Security policy design and management.
- Security technologies, products, and solutions.
- Firewall and secure router design, installation, configuration, and maintenance.
- Intrusion Prevention (IPS) implementation using routers and firewalls.
- Virtual Private Network (VPN) implementation using routers and firewalls.
- Preparation for Cisco Firewall Specialist certification.

To be admitted applicants must have completed a baccalaureate degree from an accredited college or university with a GPA of 2.5 overall. Contact your adviser and Instructor for consent to enroll in this sequence of courses. Applicants must also demonstrate proficiency in English communication and an ability to work in a technology management-driven environment. Students must maintain a grade point average of 3.0. The certificate can be completed in one calendar year.

Additionally, candidates seeking the Network Security area must have an Electronics Technology degree with an emphasis in Networking OR satisfy one of the following two choices:

1. Bachelor's degree in a related field AND NET 4100 - Network Device Configuration OR Instructor's consent based on experience and skills testing.
2. Bachelor's degree in a non-related field AND NET 4100 - Network Device Configuration AND Instructor's consent based on experience and skills testing.

Sem. Hours

REQUIRED GRADUATE COURSES 15

NET	4500	Managerial Design for Secure Networks . . .	3
NET	4501	Network Security Management I.	3
NET	4502	Network Security Management II	3
INDM	5015	Legal Aspects of Industry	3
INDM	5260	Systems Analysis and Management Information Systems	3

MINIMUM GRADUATE HOUR TOTAL 15

TECHNOLOGY MANAGEMENT, Doctor of Philosophy

UCM is participating as a charter member of a five-university consortium offering this degree, which is conferred by Indiana State University. This degree takes advantage of distance education technology with courses available through Internet, telecommunication, and other media. Selected courses are also available on the respective campuses. The doctoral program is designed to provide students with planned opportunities to increase their depth and breadth of knowledge in technological studies. Students must complete a minimum of 90 semester hours of graduate study above the baccalaureate degree, with a majority of the course work at the 6000 level or higher. The program of study includes 24-30 semester hours in an area of technical specialization. Admission occurs through Indiana State University. The Graduate Record Exam (GRE) is required. For more information, contact the School of Technology, call 660-543-4439 or visit web.indstate.edu/ConsortPhD.

SECTION V

Course Descriptions

The following are course descriptions of all classes taught at the undergraduate level. Course descriptions can also be found online in MyCentral.

Information regarding course availability is subject to change.

Please see the academic department for the most current availability information. Course offerings are also available online (ucmo.edu/portal/) prior to the start of registration for each semester.

Sample:

ACCT 4115 Financial Statement Analysis (3) Allows students to gain financial statement analytical perspectives required of credit and equity analysts and others impacted by financial statements. Prerequisite: 'C' or better in FIN 3850 and admission to BSBA degree program or graduate status.

Course descriptions include the prefix of the course (ACCT), the course number (4115), the course title (Financial Statement Analysis), and the number of credit hours (3) the course is worth. Following this information is a brief description of the course and then any prerequisites (if applicable). Prerequisites must be completed prior to enrollment in the course, unless concurrent enrollment is listed as an option. Some course descriptions will also include the semester(s) the course is offered (FA = Fall; SP = Spring; SU = Summer). This information is not available for all courses and is subject to change. Some course descriptions may also include fee information such as "An additional fee is associated with this course."

☒ Those courses designated as Professional Education Courses for educator certification purposes are designated by a book symbol. Students must earn at least a C grade, and maintain at least a 3.00 GPA in all Professional Education Courses.

ACCT - Accounting

ACCT 4115 Financial Statement Analysis (3) Allows students to gain financial statement analytical perspectives required of credit and equity analysts and others impacted by financial statements. Prerequisite: 'C' or better in FIN 3850 and admission to BSBA degree program or graduate status.

ACCT 4160 Information Systems Audit and Control (3) The course covers types of IT auditing, evaluation audit risks, internal control models and processes, IS audit planning and management, and effective communication techniques. Prerequisites: CIS 2665 or equivalent and ACCT 3160 or equivalent.

ACCT 4165 Special Projects in Accounting (1-3) Individualized or group study under the supervision of departmental faculty. May be repeated for a maximum of 6 semester hours. Prerequisite: Instructor consent.

ACCT 5100 Advanced Managerial Accounting (3) An in-depth analysis of advanced managerial accounting topics and literature. Prerequisite: ACCT 3120.

ACCT 5105 Controllership and the Treasury Function (3) Advanced managerial accounting and finance topics necessary to compete in a global market place. Prerequisites: Undergraduate MBA background and admission to MBA program; must be taken concurrently with FIN 5805.

ACCT 5120 Seminar in Accounting Theory (3) The development and application of current accounting theory. Prerequisite: ACCT 4105.

ACCT 5130 Seminar in Tax Research and Planning (3) Graduate course in federal income taxes. The obtaining of tax information from its various sources and using it to make important management and financial decisions. Prerequisite: ACCT 4130.

ACCT 5136 Estate and Trusts (3) Provides students with the knowledge base and analytical skills needed for effective planning and administration, with emphasis on tax. Prerequisite: 'C' or better in ACCT 4130.

ACCT 5137 Partnership Taxation (3) Graduate course in federal income taxes. Examines detailed rules concerning the taxation of partnership and S Corporations. Prerequisite: ACCT 4130.

ACCT 5138 Corporate Taxation (3) Graduate course in federal income taxes. Examines detailed rules concerning corporations and their shareholders including formation, operation, distributions, reorganizations, liquidations, multi-state issues and exempt organizations. Prerequisite: ACCT 4130.

ACCT 5139 Seminar in Selected Tax Topics (3) Graduate course in federal income taxes. Advanced examination of topics including individual tax planning, international taxation and tax strategy. May be repeated for a maximum of 6 semester hours when topics vary. Prerequisite: ACCT 4130.

ACCT 5140 Advanced Accounting II (3) In-depth study of preparation of consolidated financial statements. Prerequisite: ACCT 3112.

ACCT 5150 Advanced Auditing (3) An in-depth study of external and internal auditing including the theory and application of auditing standards, authoritative literature, statistical techniques, the attest function and audit reports, and current topics in auditing. Prerequisite: ACCT 3160.

ACCT 5155 Fraud Detection and Prevention (3) This course is designed to develop the student's awareness of the nature of fraud. The course will introduce students to the concept of the fraud triangle, red flags that may indicate the existence of fraud and different types of financial statement fraud schemes and analytical tools that are useful in searching for fraud. Prerequisite: ACCT 4105.

ACCT 5191 International Accounting (3) Accounting for international transactions, the operations of international firms, foreign exchange markets, comparisons of accounting standards in foreign countries and the procedures by which they and international standards are established. Integrates financial, managerial, and tax accounting in the conduct of international business. Prerequisites: ACCT 4100, ACCT 3120 and ACCT 4130.

ACCT 6160 Readings in Accounting (1-3) A directed study of selected accounting literature. May be repeated for a maximum of 6 semester hours. Prerequisite: ACCT 3112 and instructor consent.

AE - Academic Enrichment

AE 4800 Special Projects (.5-3) AE 4800 Special Projects (.5-3) Individual or group study of material in special areas of interest. May be repeated for a maximum of 6 semester hours.

AGRI - Agricultural

AGRI 4000 Special Projects in Agriculture (1-6) Investigation of contemporary problems and issues in agriculture by selected individuals or groups. May be repeated for a maximum of 9 semester hours.

AGRI 4110 Agricultural Futures Trading (3) Examination of techniques used in pricing products in the agricultural commodities futures market. Emphasis on futures trading as a marketing tool with some consideration of alternative speculating techniques. Prerequisites: AGRI 2010 and AGRI 3120 or equivalent.

AGRI 4120 International Agriculture (3) Economic, cultural, governmental and environmental factors which influence agricultural production and trade among countries. Prerequisites: AGRI 2130 and AGRI 3120.

AGRI 4140 Agricultural Policy (3) History, principles, settings, objectives, and methods of policy development as applied to agriculture in our society. Prerequisites: AGRI 3110 and AGRI 3120.

AGRI 4150 Natural Resource Economics (3) Nature of natural resources; economic efficiency as basis for natural resource use; externalities in natural resource use; factors influencing environmental quality; alternate public policy tools for influencing natural resource use. Prerequisites: ECON 1010 and ECON 1011.

AGRI 4200 Advanced Agriculture Mechanics (3) Application of shop principles to the design and construction of farm mechanical projects. Prerequisite: AGRI 1200.

AGRI 4300 Soil Fertility and Fertilizers (3) Theory and practice of utilizing agricultural fertilizers to maximize soil productivity. Prerequisite: AGRI 2330.

AGRI 4310 Plant Breeding and Genetics (3) The principles involved in the selection and development of economically important plants. Traditional and modern practices (cell culture and biotechnology) will be discussed. An additional fee is associated with this course. Prerequisites: AGRI 1600 or AGRI 2315 or BIOL 1111.

AGRI 4320 Plant Diseases (3) An introduction to plant diseases with emphasis on recognition and control of economically and environmentally important species. An additional fee is associated with this course. Prerequisites: AGRI 1600 or AGRI 1310 or AGRI 2315 or BIOL 1111.

AGRI 4330 Soils Management (3) Principles of soils management as applied to physical improvement and fertility maintenance of soils. Prerequisite: AGRI 2330.

AGRI 4340 Agricultural Sprays and Chemicals (3) Types of agricultural chemicals and their application in control of insects, parasites, and weeds. Prerequisites: AGRI 2330, AGRI 1310 or AGRI 2315.

AGRI 4410 General Veterinary Science (3) Anatomy, physiology, disease control, parasitic control, and sanitation of farm animals. Prerequisites: AGRI 1420 and CHEM 1104.

AGRI 4415 Reproduction of Farm Animals (3) Reproductive physiology of farm animals with practice in evaluation of semen, artificial insemination, and methods of pregnancy diagnosis. Prerequisites: AGRI 1420 and AGRI 3410.

AGRI 4430 Animal Science: Beef (3) Systems of beef production. Includes breeding, feeding, and management of commercial and purebred beef. Prerequisite: AGRI 1420.

AGRI 4435 Animal Science: Pork (3) Systems of pork production. Includes breeding, feeding, and management of commercial and purebred swine. Prerequisite: AGRI 1420.

AGRI 4600 Horticultural Plants I: Woody (3) Identification, description, climatic adaptation, classification, characteristics, and best landscape use of woody horticultural trees and shrubs.

AGRI 4605 Horticultural Plants II: Herbaceous (3) Identification, description, adaptation, classification, cultural characteristics, and best use of herbaceous horticultural plants. Prerequisites: AGRI 1300, AGRI 1600 and AGRI 1610.

AGRI 4610 Turfgrass Science (3) Selection, identification, establishment and maintenance of turf grasses. Prerequisites: AGRI 1600 and AGRI 2330.

AGRI 4800 Topics in Agriculture (1-3) Individual investigation of a special problem in agriculture in the student's major field not available under regular classes. May be accomplished by reports, surveys, discussions, bibliographies, experiments, and library research. May be repeated for a maximum of 3 semester hours. Prerequisite: Instructor consent.

 **AGRI 4900 Planning and Conducting Programs in Agricultural Education (2)** Development and organization of vocational agriculture programs at the secondary level to meet the needs of local schools and community.

 **AGRI 4910 Supervised Agricultural Experience Programs in Agricultural Education (2)** Understandings and competencies required to establish, administer, and evaluate supervised agricultural experience programs. Prerequisite: AGRI 4930.

 **AGRI 4920 Laboratory Management in Agricultural Education (2)** The selection and organization of teaching materials for agriculture labs, planning facilities, selection of supplies essential in establishing and teaching agriculture labs. Prerequisite: AGRI 4900.

 **AGRI 4930 Methods of Teaching Vocational Agriculture (2)** Focuses on the fundamentals of Agricultural Education, units included: Foundations

of Agricultural Education, methods of teaching Ag Ed, teaching special populations, and evaluation of the learning process. Prerequisite: Admission to the Teacher Education Program.

AGRI 5000 Advanced Readings in Agriculture (1-3) Advanced readings in the student's field of interest or related areas. May be repeated for a maximum of 6 semester hours. Prerequisite: Instructor consent.

AGRI 5230 Agricultural Machinery Management (3) The capacities, costs, and practicalities of various mechanical systems used in the agricultural industry. Prerequisite: 15 semester hours of agriculture courses.

AGRI 5310 Pasture Management (3) Maintenance and uses of grasses and legumes for pastures. Prerequisites: AGRI 2330 and AGRI 2315.

AGRI 5410 Advanced Animal Breeding (3) An in-depth study of methods of livestock selection utilizing genetic variation. Prerequisite: AGRI 3410.

AGRI 5800 Research Problems in Agriculture (1-3) Meets individual student needs for additional experience in selected areas of agricultural research. Requires the completion of an original research project, presentation of the results in a public forum, and the completion of a formal, bound research paper. May be repeated for a maximum of 6 semester hours. Prerequisites: AGRI 5160 and CTE 5130.

AGRI 5850 Research and Thesis (2-4) Designed to give experience in executing research and analyzing agricultural data. Required for collecting data to complete a thesis. Maybe repeated for a maximum of 6 semester hours. Prerequisites: AGRI 5160 and CTE 5130.

AGRI 5920 Induction to Teaching Year I (2) This course is for the professional development of first-year agriculture teachers. Focus is placed on knowledge and skills needed by a beginning teacher. Prerequisite: Instructor consent.

AGRI 5930 Induction to Teaching Year II (2) This course is for the professional development of second-year agriculture teachers. Focus is placed on knowledge and skills needed by a beginning teacher. Prerequisite: Instructor consent.

AMT - Aerospace Manufacturing Technology

AMT 4060 Aerospace Manufacturing Safety (3) Safety, health and environmental issues in aerospace manufacturing with an emphasis on the management of safety programs in manufacturing industries. Prerequisite: AMT 3210.

AMT 4221 Manufacturing Problem Solving (3) A micro-level look at issues that directly affect processes, procedures, and management within the manufacturing industry.

AMT 4250 Project Management in Aerospace Manufacturing (3) Managing aerospace manufacturing projects. Students deal with decision making, organizing, planning, and controlling manufacturing projects in the aerospace industry. Prerequisite: AMT 3510.

ANTH - Anthropology

ANTH 4815 Special Projects in Anthropology (1-6) Study, interpretation, and discussion of special topics and problems in anthropology. May be repeated for a maximum of 6 semester hours. Prerequisites: Instructor consent.

ANTH 4820 Sexual Dynamics and Culture (3) Explores cultural factors influencing roles of women and men in a variety of cultures, from small foraging bands to large industrialized states. Topics include cultural influences on sexual equality, sexual hierarch, heterosexuality and homosexuality.

ANTH 4830 Archaeological Field Research (3) Field experience in which students learn archaeological methods of surveying, recording, and excavation, as well as how and why we investigate and preserve sites.

ANTH 4840 Historical Archaeology (3) The study of artifacts, architecture, and other material culture to address anthropological topics, such as race, gender, and class, within historic North America.

ANTH 4850 The North American Indian (3) The anthropology study of the native peoples of America north of Mexico; the physical types of American Indian populations; the comparative study of native American languages, North America prehistory, and North American ethnology.

ANTH 4860 Museum Studies (3) Introduction to museum professionalism, including ethical and legal concerns, collections care, exhibition and interpretation, and curatorship. Includes field experience and practicum hours in museum collections.

ANTH 4870 Comparative Culture (3) Compares various aspects of cultures in selected societies and helps students to collect and analyze data on cultural patterns in their own and other societies.

ART - Art

ART 4010 Special Projects in Art (1-3) May be repeated for credit as topics vary. Prerequisites: Instructor consent.

ART 4020 Studio Seminar (3) By arrangement, with consent of the instructor involved, and through individual directed study. May be repeated for a maximum of 6 semester hours. Prerequisite: Senior status with instructor consent.

ART 4310 Design Internship (2-3) An elective course for interior design and commercial art majors operated in conjunction with various business firms, wherein students are afforded the opportunity of working alongside professional designers in the field. May be repeated for a maximum of 6 semester hours. Prerequisites: A major on the undergraduate level of either interior design or commercial art and with approval of departmental committee.

ART 4324 Papermaking (3) Introduces the student to western techniques in hand papermaking: sheet forming and two and three-dimensional paper structures. May be repeated for a maximum of 9 semester hours. Prerequisite: 20 semester hours of art.

ART 4340 Corporate and Institutional Design (3) Increasing emphasis on space arrangement for commercial and institutional use; introduction to specifications of materials and specification writing; emphasis in office design. May be repeated for a maximum of 6 semester hours. Prerequisites: ART 3330 for art majors, GRAP 3160 or instructor consent for non-majors.

ART 4412 Ceramics III (3) Production of advanced ceramics projects with emphasis on the search for individual styles and choices of forming methods. Advanced study of glaze chemistry, clay body formulation, and kiln construction. May be repeated for a maximum of 9 semester hours. Prerequisite: ART 3412 or instructor consent. An additional fee is associated with this course.

ART 4420 Sculpture IV (3) A repeatable advanced level studio art course in sculpture that allows students to consolidate and increase their skills and abilities while they build a significant body of sculptural work. May be repeated. Prerequisite: ART 3440. An additional fee is associated with this course.

ART 4511 Painting III (3) Application of principles of composition in the medium of oil or acrylic paint. May be repeated for a maximum of 9 semester hours.

ART 4513 Painting III: Plein Air (3) Working in the landscape utilizing direct observation to develop advanced painting skills. May be repeated for a maximum of 9 semester hours. Prerequisite: ART 3511 or ART 3513 or ART 3515.

ART 4515 Painting III: Figure (3) Working from the figure utilizing direct observation to develop advanced painting skills. May be repeated for a maximum of 9 semester hours. Prerequisite: ART 3511 or ART 3513 or ART 3515.

ART 4850 Twentieth Century Art and Architecture (3) A history of the visual arts of the world in the twentieth century.

ART 4860 Contemporary Art and Design (3) The exploration of contemporary art and design in a context of art historical style by utilizing specialized information networks which chart and chronicle its development.

ART 5110 Special Problems in Drawing (3) Drawing in all media from models and from imagination leading to finished drawings. Emphasis on composition. Study of old masters and contemporary drawings. May be repeated for a maximum of 9 semester hours. Prerequisite: ART 3110.

ART 5210 Advanced Life Drawing (3) Drawing from the model at rest and in action in all media. Studies in composition and the analysis of the work of the old and modern masters. Special emphasis given to techniques. May be repeated for a maximum of 9 semester hours. Prerequisite: ART 3209. An additional fee is associated with this course.

ART 5410 Sculpture Studies (3) Stylistic direction involving preliminary cartoons and scale model forms with an evaluation of the work problems in sculpture. Materials will include clay (terra cotta), plaster, wood, metal, and cast metals with special emphasis placed upon originality, finish, and presentation. The student will be encouraged to select his/her own media. May be repeated for a maximum of 9 semester hours. Prerequisite: ART 2420. An additional fee is associated with this course.

ART 5412 Ceramics Studio (3) Encourages the development of stylistic direction and exhibition involvement through the intensive study of student/instructor selected areas of ceramics. May be repeated for a maximum of 9 semester hours. Prerequisite: ART 4412. An additional fee is associated with this course.

ART 5511 Advanced Oil Painting (3) Pictorial organization and the methods and techniques of painting in oils. Analysis of subject matter, preliminary sketches, and preparation of frames for exhibitions. May be repeated for a maximum of 9 semester hours. Prerequisites: ART 1325 and ART 4511.

ART 5520 Advanced Watercolor (3) The methods and techniques of painting in watercolor and gouache. Special attention to subject matter, preliminary sketches, and composition. May be repeated for a maximum of 9 semester hours. Prerequisite: ART 3510. An additional fee is associated with this course.

ART 5710 Printmaking Studio (3) Advanced study in the specialized areas of printmaking. May be repeated for a maximum of 9 semester hours. Prerequisites: ART 3710, ART 3720, ART 3730 and ART 3740, or instructor consent.

ATM - Automotive Technology Management

ATM 4025 Motorcycle Systems Maintenance (3: 2 lecture, 1 lab) Theory, maintenance and repair of motorcycles and systems. Special emphasis on diagnostics, repair, and adjustment procedures. Students will need to provide a motorcycle.

ATM 4032 Hydraulics and Pneumatics (3: 2 lecture, 1 lab) Fluid power principles with practical application of hydraulics, pneumatics, and fluidics. Prerequisite: MATH 1111.

ATM 4038 Advanced Hydraulics (3) Hydraulic system analysis and troubleshooting along with servo and electronic control theory and application. Prerequisites: ATM 4032.

ATM 4134 Advanced Vehicle Systems (2) This course is a study of advanced peripheral electronic systems in automobiles. Emphasis is placed on systems as they pertain to hybrid and electric vehicles. Prerequisite: ATM 3134.

ATM 4410 Intermodal Surface Transportation (3) Surface transportation (motor vehicle, pipeline, rail, and water) in the United States as seen from an integrated, intermodal viewpoint. Major aspects include systems analysis, organization, operations, financing, research and development, training, and regulation. Economic, social, and political factors are considered.

AVIA - Aviation

AVIA 4000 Special Projects in Power and Transportation (1-3) Investigation of contemporary problems and issues in power and transportation by selected individuals or groups. May be repeated for a maximum of 6 semester hours.

AVIA 4040 Aviation Management (3) Aviation/airport management and administrative functions, issues, and problems involving both large and small airports, heliports, sea plane bases and related fixed base operations.

AVIA 4045 Airport Management (3) Airport operations and management principles and applications. Personnel, security, budgeting, contracts, maintenance and public relations.

AVIA 4060 Aerospace Education (2-3) Basic aerospace information dealing with the social, scientific, and technological importance of aviation and space with special applications for teachers who desire to utilize such information in the elementary and secondary school.

AVIA 4070 Aviation History (3) Major events, people, and changing technologies in the development of the present day air transportation system.

AVIA 4080 Nondestructive Inspection and Testing (3) Magnetic particle, eddy current, dye penetrant, ultrasonic vibration analysis, acoustics, radiographic, infrared, and liquid crystal methods of nondestructive inspection. Prerequisite: PHYS 1104 or PR&T 1010 or AVIA 1200 (for A&P students).

AVIA 4090 Aviation Law (3) Legal foundations and the federal and state regulatory functions which influence aviation and those who work in the industry.

AVIA 4095 International Aviation (3) Aviation issues in international aviation including ICAO regulations and other factors related to the operation of airplanes in a global environment.

AVIA 4250 Flight Management Systems (3) Familiarization with use of flight Management Systems including practice flights in a 737 NG Flight Training Device. Use of airline dispatch release documents for the programming of the training device from preflight to shut down. Additional fee is required. Prerequisites: AVIA 4220

AVIA 4310 Air Traffic Control (2) Purposes, activities and operational procedures of air traffic control centers, towers and flight service stations. Study will include both standard and emergency services available from ATC/FSS systems.

AVIA 4320 Physiology and Flying (2) Physiological factors related to flying, including those related to changes in pressure, supply of oxygen, spatial disorientation, and both positive and negative effects of chemicals in the body.

AVIA 4330 Sport Aviation (2) Sailplanes, hot air balloons, and related sport aircraft. Students will have flying experience in either sailplanes or hot air balloons. Flight fees are required to cover expenses of flight instruction. Principles of organizing fly-ins, air shows, and contests.

AVIA 4350 Aviation Weather (3) Meteorology for pilots with information for understanding and interpreting aviation weather reports and forecasts, weather hazards including windshear, turbulence, icing and visibility restrictions. Prerequisite: AVIA 1310.

AVIA 4370 Advanced Flight Crew Management (3) Advanced flight crew operations with emphasis on the transition of the professionally qualified pilot into a highly skilled member of a flight management team with knowledge of cockpit resource management, high speed and high altitude flight techniques, turbine-powered operations and advanced avionics systems. Prerequisite: AVIA 3317.

AVIA 4380 Flight Operations Management (3) Airline flight operations management principles and applications.

AVIA 4390 Part 135 Flight Operations (3) Emphasis is placed on the operating systems of a Beechcraft King Air A90 along with the knowledge required to operate in a Part 135 Flight Operation as Second-In-Command. Prerequisites: AVIA 3330, AVIA 3317, and AVIA 3314.

AVIA 4420 Air Transportation (3) Organization and administration of the air transportation industry with attention to airline regulations, rate and route structures, air cargo and freight, scheduled and nonscheduled operations, and contract air transport.

AVIA 4430 Corporate Aviation Management (3) Role, scope and purpose of business aviation. Managerial, administrative and financial business functions related to the use of business aviation aircraft.

AVIA 4500 Aviation Safety (3) To develop a knowledge of contributing factors affecting aviation safety and fostering control methods and techniques to reduce accidents related to aircraft and the aviation field.

AVIA 5010 Special Problems in Aviation Technology (2-6) Meets individual student needs for additional research and/or laboratory experiences in the development of technical knowledge and skills in the

areas of power and transportation. May be repeated for a maximum of 6 semester hours.

AVIA 5030 Airport Planning and Design (3) Criteria involved in the planning, design, development, and improvement of airports. Includes planning for normal operating procedures of modern airport facilities.

AVIA 5500 Aviation Systems Safety and Risk Management (3) Provides background necessary to identify, analyze, and control hazards involved with the air transportation system.

AVIA 5510 Aviation Safety Program Management (3) Provides the student with prevention information and activities necessary to enable the graduate to perform effectively as an aviation safety program manager.

AVIA 5520 Aircraft Accident Investigation (3) Principles and procedures for investigating aircraft accidents to determine probable causes and to make recommendations which will prevent the reoccurrence of accidents and factors which led to them.

BIOL - Biology

BIOL 4011 Special Problems in Biology (1-4) Individual work under supervision of a staff member. Problems may be undertaken in any field of biology. May be repeated for a maximum of 4 semester hours. Prerequisite: Instructor consent.

BIOL 4012 Special Projects in Biology (1-8) May be repeated for a maximum of 9 semester hours. With permission of the Department Chair, functional majors in medical technology may repeat for a maximum of 30 semester hours. Prerequisite: Instructor consent.

BIOL 4013 Introduction to Experimental Design and Analysis (3) This course covers the conceptualization, implementation, analysis, and communication of research in biology. Prerequisites: BIOL 1110 and MATH 1111 or MATH 1150 or instructor consent.

BIOL 4014 Internship in Biology (1-9) Practical experience working within the various components of the Biology discipline. Only 4 credit hours total may be used to satisfy approved Biology electives. Prerequisites: Must be a major in the Department of Biological Sciences with at least 60 hours of credit.

BIOL 4102 Evolution (3) Lecture and discussion of current and historical evolutionary theory. The process of scientific investigation will be contrasted with non-scientific methods. Prerequisites: BIOL 1110 or EASC 1004, or instructor consent.

BIOL 4210 Ichthyology (4:3 lecture, 1 lab) A thorough examination of the biology of fish with special emphasis on the fish of Missouri. Students will be expected to develop a detailed knowledge of the literature on ichthyology. Field trips at additional expense to the student are part of this course. Prerequisite: BIOL 1110 and BIOL 1112.

BIOL 4221 Mammalogy (4:3 lecture, 1 lab) A thorough examination of the Class Mammalia. Students will be expected to develop a detailed knowledge of the literature on mammalogy. Prerequisites: BIOL 1110 and BIOL 1112.

BIOL 4223 Ornithology (4:3 lecture, 1 lab) An examination of the biology of birds with special emphasis on the field study of locally occurring species. Prerequisites: BIOL 1110 and BIOL 1112.

BIOL 4232 Herpetology (4:3 lecture, 1 lab) A thorough examination of the classes Amphibia and Reptilia, including systematics, evolution and ecology of these groups with special attention to identification of local forms. Prerequisites: BIOL 1110, BIOL 1112, and BIOL 2020.

BIOL 4311 Parasitology (4:2 lecture, 2 lab) Animal parasites, with emphasis on identification, morphology, biology, life histories, and host-parasite relationships. Prerequisite: BIOL 1112 and BIOL 2512.

BIOL 4312 Entomology (4:3 lecture, 1 lab) An introduction to the systematics, morphology, physiology, evolution, and ecology of insects. Prerequisites: BIOL 1110 and either BIOL 1112 or BIOL 1112.

BIOL 4400 Endocrinology (2) Examination of the physiology of endocrine glands and the roles of each hormone in the regulation of growth, metabolism, and reproduction. Examples will be selected from humans and domestic species. Prerequisite: BIOL 3431.

BIOL 4403 Environmental Physiology (4:3 lecture, 1 lab) Physiological responses and adaptations to alterations in natural and man-generated environmental factors such as temperature, light cycles, pressure, water, ions, radiation, vibration, chemicals, microorganisms, and exercise. Prerequisite: BIOL 2402 or BIOL 3431.

BIOL 4411 Plant Physiology (4:3 lecture, 1 lab) Life processes occurring in plants, the factors affecting these processes, their measurement, and the significance of these processes to the growth of the plant. Prerequisites: BIOL 1111 or AGRI 1300, and CHEM 1104 or CHEM 1131.

BIOL 4511 Cytogenetics (4:3 lecture, 1 lab) Examination of cellular and molecular mechanisms in cell division and their role in evolution and human health. Laboratory exercises include techniques for experimentally manipulating chromosomes and use of computer and video techniques. Prerequisites: BIOL 2512, and CHEM 1104 or CHEM 1131.

BIOL 4514 Molecular Biology (3) This course emphasizes how biological molecules interact to express cellular phenotypes. Transcriptional and translational controls of gene expression and the latest biotechnological advances are discussed. Prerequisite: BIOL 3511 and CHEM 1132.

BIOL 4515 Molecular Technology Laboratory (2) This course emphasizes the proper use of laboratory equipment, molecular techniques, experimental design, and data analysis. Questions and experiments encountered in molecular biology are addressed. Prerequisite: BIOL 4514 or concurrent enrollment and CHEM 1132.

BIOL 4516 Hematology/Virology (3) The study of blood and viruses. Topics include hematopoiesis, coagulation, viral replication, host responses to viruses, and normal and diseased host responses. Prerequisites: BIOL 2511 and BIOL 2512.

BIOL 4517 Serology Laboratory (1) A combined immunology, hematology, and virology laboratory emphasizing cellular components and identification and differentiation by technological methodologies. Prerequisite: BIOL 3213 or BIOL 3414 or BIOL 3611 or BIOL 4311 or consent of instructor.

BIOL 4709 Plant Ecology (4:3 lecture, 1 lab) Concepts and methods pertaining to the collection and analysis of ecological data. Fundamental principles of interactions between plants and their environment will be addressed. Prerequisites: BIOL 1111, BIOL 2020, BIOL 3711 or equivalent, or instructor consent.

BIOL 4711 Animal Ecology (4:3 lecture, 1 lab) Ecological principles and concepts pertaining to populations, communities, and ecosystems with special emphasis on animals. Both field work with local examples and laboratory work are part of this course. Prerequisites: BIOL 1110, BIOL 1112, and BIOL 2020. An additional fee is associated with this course.

BIOL 4722 Conservation Biology (3) This is a synthetic course applying the multidisciplinary approaches of ecology, biogeography, evolution, genetics and economics to the global biodiversity crisis. Prerequisites: BIOL 1110 and BIOL 2020.

BIOL 4919 Wildlife Policy and Law (3) Introduction to the principles of wildlife policy and law in North America. This course will survey the history of wildlife law in the US and examine the evolution of wildlife law by examining specific legislation. It will also familiarize students with ecosystem and wildlife issues that shape wildlife law, as well as public attitudes toward the value of ecosystems and wildlife. Research and discussion format. Prerequisite: Instructor consent.

BIOL 5005 Graduate Seminar (1) A course designed to prepare students for the development and presentation of scientific seminars. May be repeated for a maximum of 5 semester hours. Prerequisite: Accepted to the Biology graduate program.

BIOL 5006 Contemporary Seminar Readings (1) Studies of current and historical research and literature in various topics of biology. Topics include but are not limited to the following: ecology, paleobiology, pedology, plant physiology, animal physiology, plant biology, animal biology, systematic, molecular biology, animal ecology, plant ecology, population biology, microbiology, and morphology. May be repeated for credit for a maximum of 4 hours.

BIOL 5008 Grant Writing for Research Science (2) Preparation to design, write and submit a science research grant proposal with introduction to the various funding agencies. Prerequisite: Acceptance to a graduate program.

BIOL 5011 Special Topics in Biology (1-5) Reading and analysis of the literature in a special area under the direction of a staff member. May be repeated for a maximum of 5 semester hours. Prerequisite: Accepted to the Biology graduate program and instructor consent.

BIOL 5013 Biometry (2) Multivariate hypothesis testing, experimental design, model construction, and analytical procedures. Specifically this includes applying multivariate parametric and non-parametric statistics to biological data. Prerequisite: An introductory statistics course or instructor consent.

BIOL 5015 Technical Graphing and Data Illustration (1) Advanced aspects of visual presentation of compressed information for biological research. Prerequisites: Acceptance to a graduate program.

BIOL 5016 Statistical Software Application (1) Advanced aspects of using contemporary statistical software in order to analyze data for biology research. Prerequisite: Acceptance to a graduate program.

BIOL 5017 Quantitative Biology (2) Background and principles of Quantitative Biology with an emphasis on community quantitative analysis and interpretation. Prerequisite: Acceptance to a graduate program.

BIOL 5031 Biological Literature (2) Introduction to the research literature of biology with emphasis on the organization of information for oral presentation, thesis, and publication. Prerequisite: Accepted to the Biology graduate program.

BIOL 5032 History of Biology (2) An examination of the historical development and refinement of concepts in the major subdisciplines of biology, and of the integration of these concepts into the present disciplinary framework.

BIOL 5614 Bioterrorism (2) Examination of biological terrorism including agricultural, industrial, and microbiological threats. Prerequisites: BIOL 1110 or instructor consent.

BIOL 5710 Aquatic Ecology (4) Ecology and biology of aquatic species, populations, communities, and ecosystems will be emphasized. Both lentic and lotic habitats will be examined. Field trips at additional expense to the student are part of this course. Prerequisites: BIOL 2020.

BIOL 5720 Biogeography (2) The ecological and historical basis for the distribution and abundance of species including changes in distribution and abundance over time. Prerequisites: Introductory ecology course and animal or plant biology course and instructor consent.

BIOL 5950 Graduate Teaching Internship (2) Under direct supervision, student will prepare, supervise, and assess laboratory/lecture activities in the Department of Biology and Earth Science. May be repeated for a maximum of 4 semester hours of credit. Prerequisites: Acceptance to a graduate program in the Biology and Earth Science department.

BIOL 5951 Master's Thesis (2) Graduate research taken to thesis level. Required for the completion of the Biology MS degree Plan A. May be repeated for credit. Prerequisite: Consent of the student's graduate committee.

BIOL 5952 Graduate Research (2-4) Graduate research required for the completion of the Biology MS degree and the Environmental Studies MA degree. May be repeated for credit. Prerequisite: Consent of the student's graduate committee.

BIOL 5953 Ecology Field Course (1-6) Advanced field methods and analysis of the physical, chemical, and ecological aspects of diverse ecosystems. On a rotating basis, the field course may focus on marine, northern temperate woods, and alpine systems. May be repeated for credit as topics vary. Prerequisite: Instructor consent.

BIOL 5954 Contemporary Topics in Biology (1-4) Contemporary topics and issues of topical themes that warrants course instruction. May be repeated for credit as topics vary. Prerequisite: Instructor consent.

BLAW - Business Law

BLAW 4740 Employment Law (3) Current analysis of legal issues in the workplace relating to the employment process. Focus covers a broad spectrum, including Title VII/Equal Employment Opportunity, Fair Labor Standards Act, OSHA, ERISA and labor law. Policy issues involving discrimination, affirmative action and sexual harassment will be covered, as well as applied topics such as the legality of the hiring process. Prerequisite: BLAW 2720.

BLAW 4750 Collective Bargaining (3) Roles and strategies of labor, management, and the government as the active participants in the negotiation and performance of the labor contract. Prerequisite: BLAW 4740.

BLAW 5700 Legal Aspects of Business Decisions (3) Analytical course that will provide students with a framework for making legal and ethical decisions in business. As a foundation for the course, students will learn traditional philosophical approaches to ethical decision making, as well as modern approaches to identifying and analyzing ethical and legal dilemmas in business. Students will also discuss barriers to making legal and ethical decisions. The course will consider common legal and ethical dilemmas in business. In each area, students will learn to identify, analyze, and resolve both the ethical and legal issues, while avoiding barriers to making appropriate decisions.

BTE - Business Teacher Education

 **BTE 4210 Methods of Teaching Business and Marketing Education (3)** Prepares student as teachers of business education by assisting in the development of instructional methods and techniques for student-oriented classroom instruction. Prerequisite: Admission to the Teacher Education program, senior or graduate status.

BTE 4241 Coordination of Career and Technical Education Programs (2) Organizing and implementing cooperative career and technical education programs.

BTE 4243 Curriculum Construction for Business and Marketing Education (3) Study of curriculum design and development of teaching materials in business and marketing education. Prerequisite: Admission to the Teacher Education Program, upperclassman or graduate status.

BTE 4250 Business/Marketing Education Practicum (1-3) May be repeated for a maximum of 6 semester hours.

BTE 4260 Special Topics in Business Teacher Education (1-3) Topics will be listed in appropriate course schedules. May be used to teach specific microcomputer software or to cover other critical topics in business teacher education as new technologies develop. Prerequisite: Senior or graduate status.

BTE 4510 Desktop Publishing for Business (3) This course includes business publishing concepts that utilize basic to intermediate design principles for creating comprehensive document layouts with polished professional-looking images. Prerequisite: BTE 3536 or instructor consent.

BTE 4550 Publishing Applications for Business (3) Business publishing using application tools and production fundamentals for print or web-ready documents and pages. Explores effective Web communication techniques and principles of e-business. May be taken for graduate credit. Prerequisite: BTE 3536 or instructor consent.

BTE 4560 Emerging Technologies for Business (3) Students will explore current technologies that focus on information management, dynamic communication, and collaboration in the digital business environment, considering attributes and benefits of each. Prerequisites: BTE 3536 or departmental consent.

CADD - Design and Drafting Technology

CADD 4114 Advanced Technical Problems in Drafting (1-3) Individual or group work on advanced technical problems in drafting. Provide exploration of content not available through normal course offerings. May be repeated for a maximum of 6 semester hours. Prerequisites: 2.5 GPA, written contract/proposal with objectives and written department consent.

CADD 4124 Geometric Dimensioning and Tolerancing Principles for Engineering Technology (2) Basic theory and application of geometric dimensioning and tolerancing practices applicable to working drawings of machine parts. Prerequisite: CADD 1120.

CADD 4150 Applied Civil Design/Drafting (3) 3D modeling applications for design objects such as concepts will assist graduates working in the fields of civil design and engineering. Prerequisites: CADD 3150 with a grade of C or better and CMGT 2340. Available to graduate students with instructor consent.

CADD 4162 Commercial Architectural Design/Drawing (BIM) (3) Light commercial architectural plans and problems are studied and drawings are developed using manual and CADD techniques including BIM. Prerequisite: CADD 3160. An additional fee is associated with this course.

CADD 4170 Computer Aided Drafting and Design for Engineering Technology (3: 3 lecture, 0 lab) Advanced industrial applications of computer aided drafting systems. Three dimensional modeling and design using interactive graphics techniques and standard design elements. Prerequisite: CADD 2170. An additional fee is associated with this course.

CADD 4172 MEP (Mechanical, Electrical and Piping/Plumbing) (3) MEP (Mechanical, Electrical and Piping/Plumbing) systems are designed and drawings are developed using manual and CADD techniques including BIM. Prerequisites: CADD 4162 with a grade of C or better.

CADD 4174 Machine Design (3:3 lecture, 0 lab) Drafting problems involving the elements of the designing and/or redesigning of mechanisms and machines. Prerequisites: CADD 1120 with a grade of C or better and CADD 4170 with a grade of C or better; CMGT 2020 and ENGT 2530. An additional fee is associated with this course.

CADD 4175 Advanced 3D Analysis and Rapid Prototyping (3) Advanced course which surveys the application of computer drafting and design systems and how they relate to 3D analysis and rapid prototyping. Prerequisites: CADD 1110, CADD 2170, CADD 4170, CMGT 2020.

CADD 4180 Industrial Design (3) Study and application of the design process and design principles related to industrial products. Prerequisite: CADD 4170. An additional fee is associated with this course.

CD - Communication Disorders

CD 4102 Counseling Persons with Communication Disorders and Their Families (2) Application of counseling and interviewing theory to individuals with communication disorders. Ample opportunity to apply knowledge will be provided. Prerequisite: Admission to the undergraduate program in Speech-Language Pathology or department consent.

CD 4103 Evidence Based Practice in Communication Disorders (2) Introduction to the use of current research results to make clinical decisions regarding client care. Prerequisite: Admission to the undergraduate program in Speech-Language Pathology or department consent.

CD 4401 Language Development (3) Theories and sequence of normal language acquisition.

 **CD 4402 Language Acquisition in Children with Developmental Disabilities (2)** Intended for non-majors; theories and sequences of language development with emphasis on language acquisition and deficiencies exhibited by children with various developmental disabilities.

CD 4501 Basic Neuroscience for Speech-Language Pathologists (2) An introduction to human nervous system structure and function, with special emphasis on neural processing for normal speech, language, hearing and swallowing. Prerequisite: Admission to the undergraduate program in Speech-Language Pathology or department consent.

CD 4504 Introduction to Articulation and Phonological Disorders (3) An introduction to articulation and phonological disorders; diagnostic procedures and treatment approaches; knowledge of multicultural issues related to these disorders. Prerequisites: Admission to the undergraduate program in Speech-Language Pathology or department consent.

CD 4505 School-age Issues in Language and Literacy (3) Types of language and literacy disorders; formal/informal assessment procedures of language and literacy skills; intervention procedures for the remediation of language and literacy disorders. Prerequisites: Admission to the undergraduate program in Speech-Language Pathology or department consent.

CD 4510 Multicultural Issues in Communication Disorders (2) Focused study of various issues important to multiculturalism and diversity when assessing and treating individuals with communication disorders from diverse backgrounds. Prerequisite: Admission to the undergraduate program in Speech-Language Pathology or department consent.

CD 4512 Best Practices in Early Childhood Intervention (3) Nature of communication disorders in the birth – five population, special emphasis on assessment and intervention models. Required for participation in graduate level ECCSEP practicum. Pre-requisite: Admission to the undergraduate program in Speech-Language Pathology or department consent.

CD 4701 Introduction to Audiology (3) Hearing impairment as related to basic acoustics and psychoacoustics, anatomy and physiology of the ear, and theories of hearing. Prerequisite: Admission to the undergraduate program in speech-language pathology.

CD 4706 Hearing Measurement (3) Hearing measurement procedures including pure tone and speech audiometry and some site lesion testing. Prerequisites: CD 4701 and admission to the undergraduate program in Speech-Language Pathology or department consent.

CD 4708 Aural Rehabilitation (3) Effects of hearing impairment of verbal communication. Principles and methods of aural rehabilitation. Prerequisite: CD 4706.

CD 4900 Special Topics in Communication Disorders (1- 3) Selected topics of contemporary interest in speech-language pathology and audiology; variable content. Prerequisite: Department consent.

CD 5101 Professional Issues in Communication Disorders (2) Integration of knowledge and problem solving applied to professional and ethical decision making in communication disorders. The case study approach will be emphasized. Prerequisite: Must be admitted to the Speech-Language Pathology Master of Science Program and must be taken prior to the internship.

CD 5402 Advanced Issues in Child Language Disorders (3) Theories, etiologies, and assessment/intervention procedures for children with severe and /or multiple language impairments and language related literacy impairments. Prerequisite: Must be admitted to the Speech-Language Pathology Master of Science Program and CD 3501 or CD 4401.

CD 5501 Articulatory and Phonological Disorders (3) Best practices in the prevention, assessment, diagnosis, and treatment of young children exhibiting, or at risk for exhibiting, articulatory/phonological disorders and phonological awareness deficits. Prerequisite: Must be admitted to the Speech-Language Pathology Master of Science Program.

CD 5502 Fluency Disorders (3) Theories, etiologies and assessment/intervention procedures for individuals with fluency disorders (developmental, psychogenic and neurogenic stuttering and cluttering) across the lifespan. Prerequisite: Must be admitted to the Speech-Language Pathology Master of Science Program.

CD 5503 Voice Disorders (3) Nature, assessment and intervention of voice disorders resulting from functional, organic or neurological origin. Prerequisite: Must be admitted to the Speech-Language Pathology Master of Science Program.

CD 5504 Adult Neurogenic Language Disorders (3) Aphasia, its possible etiologies, characteristics, diagnostic evaluations and therapy; head trauma, the language of confusion, and other language problems of the aging population. Prerequisite: Must be admitted to the Speech-Language Pathology Master of Science Program.

CD 5506 Motor Speech Disorders (3) Clinical evaluation and treatment of persons with motor speech disorders (dysarthria and apraxia) resulting from neurogenic etiology. Prerequisite: Must be admitted to the Speech-Language Pathology Master of Science Program.

CD 5507 Research Projects in Speech-Language Pathology (2) Individual study and/or research in speech-language pathology. Prerequisite: Graduate adviser consent.

CD 5508 Adult Swallowing Disorders (2) Develops diagnostic and treatment skills in the management of swallowing disorders in children and adults. Prerequisite: Must be admitted to the Speech-Language Master of Science Program.

CD 5509 Pediatric Feeding and Swallowing Disorders (2) Evaluation and treatment of feeding and swallowing disorders in children with emphasis on medical diagnoses and interfering environmental factors. Prerequisite: Must be admitted to the Speech-Language Pathology Master of Science Program.

CD 5511 Assistive Technology Across the Lifespan (2) Assessment and intervention techniques for persons with communication impairments who require assistive technologies; emphasis on broad range of etiologies across the lifespan. Prerequisite: Must be admitted to the Speech-Language Pathology Master of Science Program.

CD 5515 Rehabilitation of Cognitive Linguistic Communication Disorders (2) Exploration of normal and impaired cognitive-linguistic processing, highlighting processing deficits in traumatic brain injury. Methods to assess-treat cognitive-linguistic impairments will be discussed. Prerequisite: Must be admitted to the Speech-Language Pathology Master of Science Program.

CD 5801 Internship in Communication Disorders (4) Scheduled by the Director of Clinical Services, the internship requires ten weeks of full-time practicum in a hospital or rehabilitation setting during the student's last semester of enrollment in the graduate program. Prerequisite: Director of Clinical Services consent two semesters in advance. Must be admitted to the Speech-Language Pathology Master of Science Program.

CD 5802 Externship in Communication Disorders (2) Scheduled by the Director of Clinical Services, the externship is a public school experience, 2 days a week for 16 weeks. Prerequisite: Consent of department Director of Clinical Services two semesters in advance. Special exceptions with department consent. Must be admitted to the Speech-Language Pathology Master of Science Program.

CD 5810 Graduate Clinical Practicum (1) Orientation to advanced specialized practice in management of communication and swallowing disorders. An additional fee is associated with this course. Prerequisites: Must be admitted to the Speech-Language Pathology Master of Science Program.

CD 5811 Advanced Graduate Clinical Practicum (1) Advanced specialized practice in management of communication and swallowing disorders. Must be repeated for a minimum of 6 semester hours. Prerequisites: CD 3503 or concurrently, CD 4802 or CD 5810 or concurrently, and a 3.0 graduate GPA in departmental courses. Must be admitted to the Speech-Language Pathology Master of Science Program.

CD 5900 Seminar in Communication Disorders (2) Detailed studies in a specialized area of communication disorders. May be repeated for a maximum of 12 semester hours. Prerequisite: Must be admitted to the Speech-Language Pathology Master of Science Program.

CD 5902 Research Design in Communication Disorders (3) An introduction to research design strategies in communication disorders. Prerequisite: PSY 4520 or equivalent. Must be admitted to the Speech-Language Pathology Master of Science Program.

CD 5910 Praxis Exam Preparation for Speech-Language Pathology (1) Designed to facilitate self-study in preparation for taking the Praxis Examination in Speech-Language Pathology. Prerequisites: Must enroll in CD 5910 prior to taking the Praxis Exam and completing CD 5801, or department consent.

CD 6901 Thesis (1-5) Special Investigation of an approved problem in communication disorders resulting in a formal thesis. Prerequisite: 15 hours of graduate credit. Must be admitted to the Speech-Language Pathology Master of Science Program.

CDM - Crisis and Disaster Management

CDM 4000 Special Topics in Crisis and Disaster (3) Exploration of emerging issues in the management of crises and in depth examination of special topics impacting on disasters. May be repeated.

CDM 4015 Catastrophic Readiness (3) Exploration of catastrophic events, as contrasted with disasters, requiring unique strategies, techniques, and tools to achieve effective response and recovery for the community and nation.

CDM 4215 Environmental Disasters (3) Examine man-made, industrial, and technological events that produce environmental disasters. Explore the sociopolitical issues that contribute to environmental disasters.

CDM 4715 Business Continuity (3) Planning methodologies utilized by business and industry. Risk identification, business impact analysis, and the adoption of alternative recovery methods for critical processes. Prerequisites: CDM 3000 or instructor consent.

CDM 4735 Critical Infrastructure (3) Critical Infrastructure as it relates to the professional practice of business continuity. Business continuity is the ability of an organization to continually operate before, during and after disaster or crises. Business continuity seeks to protect and preserve the essential assets of any organization in the event of a disaster or crisis.

CDM 4745 Crisis Management (3) Systematic study of crisis in business and industry; vulnerability analysis, disaster-resistant companies, crisis communications strategies, employee support services, and public relations. Prerequisites: CDM 3000 or instructor consent.

CFD - Child and Family Development

CFD 4220 Sexuality Across the Lifespan (3) Addresses human sexuality across the life span using a life course and cultural contextual perspective. Historical, biological, psychological, environmental, and familial influences will be examined.

CFD 4250 Selected Issues in Child and Family Development (3) In-depth study of selected issues in child and family development. Prerequisite: Junior status or instructor consent.

CFD 4260 Adulthood (3) This course is structured to introduce research approaches to the study of adult development through a cultural contextual exploration of the social, emotional, behavioral and educational processes.

CFD 4510 Early Childhood Approaches (3) This course addresses the multiple dimensions of development during early childhood, including the physical, intellectual, social, emotional, and motor development of children. The course is also designed such that students develop an informed philosophy of adult-child relationships.

CFD 4520 Multicultural Study and Approaches with Families (3) This course is structured to examine multi-cultural individuals and families within the context of their unique cultural heritage. Special attention is focused on the external conditions that affect the internal workings of families and methods that have been found to be sensitive in addressing the needs of diverse groups.

CFD 4530 Transition to Marriage (3) This course is structured to provide information in regards to partner selection, to help individuals and couples understand the contexts within which they are embedded so that they can develop systems of support for their relationship, and to present suggestions for nourishing the relationship.

CFD 4560 Divorce (3) This course is structured to introduce research literature on divorce. The changes that occur in family structures over time in the pre-divorce, divorce, and post-divorce process will be examined.

CFD 4570 Death, Loss, and Grief Across the Lifespan (3) This course is intended to explore theory and research related to death, dying, loss, and grief across the lifespan and the ways that support is proved or lack thereof to bereaved individuals within cultural context. We shall explore individual, familial, religious, cultural, societal, and other human developmental contribution to such understanding and experiences.

CFD 4580 Resilience in Children and Adolescents (3) This course intends to introduce selected theories and research on situations that place children and adolescents at risk for emotional, behavioral, and academic problems. In addition, research on stress/coping and resilience will be emphasized.

CFD 4590 Health Issues in Childhood and Adolescence (3) This course will present selected health issues and its implications for the children-adolescents, family and society from a stress and coping perspective. In addition, it is intended to serve as an introductory course to the profession of Child Life.

CFD 4710 Internship (3) Provides experience for students in cooperating business, agencies and organizations. May be repeated for a maximum of 12 semester hours. Prerequisites: CFD 2240 and departmental consent.

CFD 4850 Family Policy and Advocacy (3) This course provides an overview of trends and issues in family policy and advocacy, emphasizing the impact of laws, policies, programs on individuals and family.

CFD 5280 Professional Issues in Sexuality Education (3) Examination of issues related to sexuality education including program models, role of parents, research, and resource development with an emphasis on preparation for certification by the American Association of Sex Educators, Counselors and Therapists. Prerequisite: NUR 4030 or departmental consent.

CHEM - Chemistry

CHEM 4010 Special Topics in Chemistry (1-3) Topics of contemporary significance not given in-depth coverage in regularly offered courses. May be repeated as the topic is changed. Prerequisite: CHEM 3500 or CHEM 4531 or instructor consent.

CHEM 4011 Methods of Teaching Physical Science (3) Provides the teacher education candidate with skills and resources for the teaching of science. Students will learn a variety of strategies for both laboratory and classroom instruction. Prerequisite: Admission to the Teacher Education Program.

CHEM 4111 Advanced Inorganic Chemistry (3) An advanced study of inorganic compounds with a focus on the transition elements and current issues. Prerequisite: CHEM 3111.

CHEM 4221 Environmental Chemistry (3) Chemical phenomena occurring in soil, atmospheric and aquatic environments; consideration of natural resources and energy. Prerequisite: CHEM 3341.

CHEM 4231 Instrumental Analysis (4) A study, including applications, of instrumental methods of chemical analysis. Prerequisites: PHYS 2122, 2124, or 1102 and CHEM 3212.

CHEM 4313 Advanced Organic Chemistry (3) A lecture survey of general topics not covered in the CHEM 3341-2 sequence, and an extension to topics of current interest in organic chemistry. Prerequisite: CHEM 3342.

CHEM 4421 Advanced Biochemistry (3) Catabolic and anabolic metabolism of biomolecules, catalytic mechanisms and regulation of enzymes, nucleic acid structure and function, and computer resources. Prerequisites: C or better in CHEM 3342 and 3421 or instructor consent.

CHEM 4431 Biochemistry Laboratory (2) Introduction to biochemical literature, computer based resources, and experimental techniques used to purify and characterize biomolecules. Prerequisite: CHEM 4421 concurrently.

CHEM 4531 Physical Chemistry: Thermodynamics and Kinetics (4) Kinetic-molecular theory of gases, thermodynamics, chemical equilibria, and chemical kinetics. Laboratories are project-based and include calorimetry and spectroscopy. Prerequisites: CHEM 1132, MATH 1151, and eight additional hours of chemistry or physics.

CHEM 4532 Physical Chemistry: Quantum Mechanics and Spectroscopy (4) Quantum mechanics, atomic and molecular structure, spectroscopy, electrical and magnetic properties of molecules. Laboratories include atomic and molecular spectroscopy, molecular modeling, and mathematical modeling. Prerequisites: CHEM 1132, MATH 1151, and eight additional hours of chemistry or physics.

CHEM 4800 Forensic Chemistry and Toxicology (3) Introduction to the principles and applications of classical and instrumental methods of chemical analysis in forensic chemistry and forensic toxicology. Prerequisites: CHEM 1131, CHEM 1132, CHEM 3341, and CHEM 3342.

CHEM 4910 Research in Chemistry (1-5) Individual work on a chemical research project under supervision of a staff member. Project will terminate in a written and oral presentation. May be repeated for a maximum of 10 semester hours. Prerequisites: CHEM 3212, CHEM 3342, instructor and department consent.

CHEM 4911 Special Problems in Chemistry (1-3) Individual work under supervision of a staff member. May be repeated for a maximum of 3 semester hours. Prerequisite: Instructor consent.

CHEM 5010 Modern Chemical Theories and Practices (3-5) For secondary and primary teachers. Content varies but typically covers aspects of the main chemistry subdivisions, modern teaching methods in chemistry or current technological procedures. May be repeated for a maximum of 15 semester hours. Prerequisites: CHEM 1132 and instructor consent.

CHEM 5990 Thesis (3) Independent research and study connected with preparation of thesis. Prerequisites: An officially appointed thesis committee.

CIS - Computer Information Systems

CIS 4610 Special Projects (1-3) Special projects offerings in computer information systems. Part of the course requirements can be met by working on company project approved by the adviser. May be repeated for a maximum of 6 semester hours. Prerequisites: Instructor consent and must be admitted to HCBA or graduate status.

CIS 4625 Information Security Management (3) The course will identify and prioritize threats to information assets, define security strategy, present architecture plan to respond to intruders, describe legal implications, address privacy issues, and present a disaster recovery plan after an incident. Prerequisites: CIS 2665.

CIS 4635 Seminar in Business Computer Applications (2-3) Business applications and programming techniques will be studied and prepared for presentation and discussion. Prerequisite: CIS 4630 or at least one programming course.

CIS 4640 Contemporary Computer Programming and Business Systems (3) Comparison and application of two or three popular programming languages; systems analysis and procedure writing, flowcharting, designing, and maintaining business applications. Not open to computer information systems majors or minors.

CIS 4645 Network and System Security (3) Course provides an in-depth knowledge of securing enterprise networks. Topics include network traffic, intrusion signatures, security policy, VPN, ID, A&D firewalls and risk analysis. For graduate credit students will be required to conduct research and submit findings. Prerequisites: CIS 2665.

CIS 4655 Software Engineering (3) An advanced course in the systematic approach to the specification, development, operation, maintenance, and retirement of software. Topics include formal specification tools, developmental strategies, software metrics, verification and validation techniques. Prerequisites: CIS 3660 and must be admitted to HCBA or graduate status.

CIS 4660 Applications Development Using JAVA (3) Develop object-oriented web-based Graphical User Interface (GUI) applications for business using JAVA as the programming language. Prerequisites: CIS 2615 (minimum 'C' grade), CIS 3605, CIS 3650 and must be admitted to HCBA or graduate status.

CIS 4665 Data Communication and Distributed Data Processing (3) A comprehensive introduction to the field of digital data communications. It provides an understanding of terminology, topology, protocol, and available systems network architecture. Prerequisites: CIS 2665 and must be admitted to HCBA or graduate status.

CIS 4680 Data Resource Management (3) Designing and administering data resources with consideration of transaction management, distributed systems, security, object-oriented databases, data mining, data

warehousing and alternative data structures (XML) Prerequisites: CIS 2665, CIS 3650 and must be admitted to HCBA or graduate status or admission to the MSIT or Information Systems concentration in the MBA.

CIS 4685 Network Planning, Design and Security (3) Essential theoretical concepts behind network planning, design, and security. Use of network planning tools to design networks, configure firewalls and other security measures. Prerequisites: CIS 3660, CIS 3665, CIS 4665, and must be admitted to HCBA or graduate status.

CIS 5605 Information Management Systems (3) Information gathering, storage, analysis, and communication as it relates to decision making in today's business environment. Prerequisites: Undergraduate MBA background and admission to MBA program; must be taken concurrently with ECON 5005.

CIS 5606 Advanced Applications Development Using Visual C# (3) Developing complex, distributed and scalable applications to solve real world business problems. Applications will be developed in Visual C# using technologies such as .Net Remoting, ADO.Net Entity Framework, XML and WPF. Prerequisite: CIS 2605 or equivalent.

CIS 5607 Data Communications and LAN (3) Fundamental concepts needed to develop and work with data communication systems, including hardware, software, LANS, and network topology.

CIS 5610 Internet for the Enterprise (3) Seminar on internet from both a technical and organizational/managerial viewpoint. Prerequisite: CIS 1605.

CIS 5611 Client-side Internet Resources (3) Developing client based, multi-platform, dynamic Web content in support of strong Web design. A variety of tools and standards such as XML, DHTML, Flash, and AJAX will be considered along with emphasis on robust Web design philosophy. Prerequisite: CIS 5610.

CIS 5612 Server-side Internet Resources (3) Develop server-based dynamic Web content and manage Web server resources. Emphasis will be placed on technical aspects such as Web server performance, security and effective use of Web services. Prerequisite: CIS 5611 or concurrently.

CIS 5630 Management Information Systems (3) Use of information technology for decision making and formulation of long- and short-term information systems plans. Working knowledge of systems analysis, design and development, understanding of conceptual and technical foundations and recent research issues. Prerequisites: Admission to MBA program and graduate adviser consent.

CIS 5650 Managing Information Security in Organizations (3) The principles and practice of managing corporate information systems, including acquisition, budgeting, development, and personnel issues.

CIS 5655 Advanced Client Server Concepts (3) Advanced Data Base Management Systems and network topics in client server systems. Prerequisite: CIS 4680 or equivalent.

CIS 5656 Mobile Computing with iOS and Android (3) Major emphasis will be in development of robust business and social media applications to be deployed on smart phones, tablets and other mobile devices. The applications will be developed in a distributed environment that includes iOS (iPhone/iPad) and Android platforms. Java, Objective C and other appropriate programming languages will be used for developing these business applications. Topics include mobile operating systems and development environments, design issues dealing with user interfaces and data issues for mobile devices, location-aware and other context-aware services, and virtualization. Prerequisites: CIS 4660 or CIS 5606 and CIS 2665 and CIS 5661 or instructor consent.

CIS 5660 Legal Environment of Information Systems (3) An examination of jurisprudence influence and processes on contracts, acquisitions, and security in information systems area. Prerequisite: Admission to MS degree in Information Technology or Information Systems concentration in MBA program.

CIS 5661 Advanced Analysis and Design of Computer Information Systems (3) Advanced coverage of systems analysis and design topics, including object oriented analysis and design. Uses UML. Prerequisite: CIS 3660 or equivalent.

CIS 5669 Communications Network Management (3) In-depth treatment of planning, designing and managing communications networks; includes feasibility analysis, forecasting, optimizing using network management software. Prerequisites: CIS 3605 and admission to MS degree in Information Technology or Information Systems concentration in MBA program.

CIS 5670 Internship in CIS (3) Graduate-level internship giving practical higher-level work experience in the CIS career area. Research component required. Prerequisites: Approval of Program Adviser, Internship Director, and HCBA Coordinator of Graduate Programs.

CIS 5675 Project Management (3) An advanced course in the planning and management of all phases of the computer information systems project, including the creation, execution, and monitoring of system project plans. Prerequisites: CIS 3660 and admission to B.S. in Business Administration, MS degree in Information Technology, or Information Systems concentration in MBA program.

CIS 5690 Advanced Systems Project (2-3) Independent study, analysis and development of a specific business computer application. Research component required. Part of the course requirements can be met by working on company projects approved by the adviser. May be repeated for a maximum of 6 semester hours. Prerequisite: Approval by the graduate adviser.

CIS 6610 Readings in Computer Information Systems (1-3) Selected readings in computer information systems to extend student's understanding of the use of the computer in various business areas and his/her knowledge of current hardware and software in the field. Part of the course requirements can be met by working on company projects approved by the adviser. May be repeated for a maximum of 6 semester hours. Prerequisite: Approval by the graduate adviser.

CJ - Criminal Justice

CJ 4000 Special Projects in Criminal Justice Administration (1-3) Individual or group study of problems in special areas of interest.

CJ 4006 Probation, Parole and Community Corrections (3) An examination of the roles of probation, parole and other community correctional methods as they relate to other elements of the criminal justice system. Prerequisite: CJ 3006.

CJ 4010 Criminal Justice International Study (3) Credit granted for study in a department-approved program or study tour in a foreign country. Enrollment by consent.

CJ 4060 Victimology (3) An examination of the many facets of crime victimization including the victim, the offender, society-at-large, and the dynamics of the victim-offender relationship. Prerequisites: CJ 1000, graduate student status, or consent.

CJ 4070 Drug Policy (3) An examination of policies on the criminalization of drugs, ranging from their possession to their distribution, including issues of legalization and the societal and political impact of the war on drugs. Prerequisites: CJ 1000, graduate student status, or consent.

CJ 4080 Criminal Justice and the Media (3) An examination of media presentations of criminal justice issues and their impact on criminal justice policy and public opinion. Prerequisites: CJ 1000, graduate student status, or consent.

CJ 4090 Miscarriages of Justice (3) An examination of the nature of wrongful convictions and miscarriage of justice in the criminal justice system. Prerequisites: CJ 1000, graduate student status, or consent.

CJ 4025 Comparative Corrections (3) This course provides a comparative overview of correctional practices in various countries.

CJ 4101 Criminal Justice Planning (3) Planning concepts and development of comprehensive criminal justice plans; their integration into meaningful crime reduction and resistance programs; and their influence on the operations of police, judicial and correctional agencies.

CJ 4300 Critique of Criminal Law and Criminal Process (3) Criminal procedure from arrest through trial. Preparation for and participation in mock trial. Recommended that students complete CJ 3303 Criminal Procedure before this course. Prerequisite: CJ 2300 or instructor consent.

CJ 4302 Evidence and Courtroom Procedure (3) The rules of evidence and courtroom procedure as they apply to the prosecution and defense of criminal cases.

CJ 4321 Civil Remedies in Criminal Justice (3) State and federal legal liabilities and remedies in criminal justice and policy implications. Prerequisite: CJ 3303 or instructor consent.

CJ 4330 Criminal Justice and the Mental Health Systems (3) The relation of the criminal justice system and the mental health process; legal concepts regarding the mentally disabled. Prerequisite: CJ 1000 or instructor consent.

CJ 4352 International Criminal Law (3) Survey of international criminal law examine responsibilities of nation-state and individual, international cooperative efforts and tribunals, and various international crime and defenses, including international terrorism.

CJ 4390 The Death Penalty (3) An examination of the jurisprudence, history and current issues about the death penalty.

CJ 4403 Sexual Assault and the Criminal Justice System (3) In-depth study of sexual assault and sex offenders. Investigation into the motivation of sex offenders, the victim's responses to assault, and investigative procedures.

CJ 4420 Organized Crime (3) An analysis of both the historical development of organized crime and its current impact on society. The enforcement, prosecutorial, judicial, and legislative actions utilized to combat organized crime will be examined.

CJ 4433 Crime Mapping (3) An examination of the theoretical and practical aspects of crime mapping and the temporal and spatial analysis of crime.

CJ 4444 Terrorism (3) Study of violent political and religious movements around the world and the difficulties they pose to the institutions of justice in a democratic society.

CJ 4488 Homeland Security (3) Introduction to homeland security with focus on risks and hazards confronting the US, along with varied programs and agencies responsible for responding to these threats. Prerequisites: CJ 1000, graduate student status, or consent.

CJ 4602 Internship in Criminal Justice (1-6) Practical experience in the operation of various components of the criminal justice system. May be repeated for a maximum of 12 semester hours. Prerequisite: Instructor consent.

CJ 4607 Issues in International Justice (3) Seminar on current and developing issues in international justice. Prerequisite: Instructor consent.

CJ 4701 Juvenile Law and Policy (3) An analysis of conventions, guidelines, Supreme Court Cases and recent legislation that has shaped both the policies and day to day practices of the American juvenile justice system.

CJ 4702 Juvenile Corrections (3) An analysis of the theories, concepts, practices and special problems of juvenile corrections, including a review of contemporary juvenile correctional systems and discussion of recent research concerning the juvenile institution and the various field services.

CJ 4703 International Juvenile Justice (3) An overview of international juvenile justice, through an examination of how the international society reacts to juvenile misbehavior and various juvenile justice models.

CJ 4920 Women and Crime (3) An exploration of the relationship between women and crime through three main components: (1) women and offending, (2) women and victimization, (3) responses to both. Prerequisites: CJ 1000, graduate student status, or consent.

CJ 4930 Race, Class, and Crime (3) An exploration of the intersection of races and class as it impacts crime and the response by the criminal justice system. Prerequisites: CJ 1000, graduate student status, or consent.

CJ 5000 Criminal Justice Philosophy and Policy (3) An examination of various areas of criminal justice philosophy, theory, and policy, including an analysis of the role, creation and function of public policy. Prerequisite: Admission to the MS in Criminal Justice program.

CJ 5003 Causes of Crime (3) An analysis of theoretical perspectives addressing causes and correlates of crime, with attention given to typologies, victim and offender issues, as well as policy implications of various perspectives on crime. Prerequisite: Admission to the MS in Criminal Justice program.

CJ 5006 Comparative and International Criminal Justice Systems (3) A comprehensive overview of the variety of ways that criminal justice systems are organized and implemented around the world. Prerequisite: Admission to the MS in Criminal Justice program.

CJ 5102 Administration in Criminal Justice (3) An intensive, in-depth analysis of criminal justice agencies (law enforcement, corrections, and court administration), organizational structures, and management techniques. Prerequisite: Admission to the MS in Criminal Justice program.

CJ 5105 Custody, Care and Treatment in the Institutional Setting (3) An examination of operations in the institutional setting relating to classification, custody, care, and treatment of the confined offender.

CJ 5301 Legal Aspects of the Criminal Justice System (3) An investigative overview of the jurisprudential process and legal issues affecting the various areas of criminal justice. Prerequisite: Admission to the MS in Criminal Justice program.

CJ 5600 Individual Research (3) Individual study and research of pertinent criminal justice administration issues. Completion of this course fulfills the non-thesis option in the program. Prerequisites: Instructor consent. Prerequisites: Must have completed core classes (CJ 5000, CJ 5003, CJ 5006, CJ 5102, CJ 5301, CJ 5610, CJ 5620, and CJ 5625) prior to enrollment in class, or be concurrently enrolled in last core classes(es) and CJ 5600 in final semester of completing program.

CJ 5602 Readings in Criminal Justice Administration (1-6) Selected readings that allow the student to pursue areas of particular interest in Criminal Justice. May be repeated for a maximum of 6 semester hours. Prerequisite: Instructor consent.

CJ 5610 Statistics for Criminal Justice (3) Graduate introduction to statistical techniques in criminal justice. The course provides an understanding of the relationship between statistical analysis and research methodology. It is a basic graduate course in statistics and presumes minimal mathematical or statistical background. Stress is placed on the assumptions, restrictions and uses of various statistical techniques rather than on mathematical derivation of formulas or detailed examination of theoretical systems. Prerequisite: Admission to the MS in Criminal Justice program.

CJ 5620 Methods of Criminal Justice Research (3) A comprehensive examination of the basic concepts of research, causal order of variables, sampling techniques, research designs, techniques of data collection and analysis that will enable the student to critically evaluate crime and delinquency research as well as design and implement his/her own research. Prerequisite: Admission to the MS in Criminal Justice program.

CJ 5625 Crime Analysis (3) The patterns of crime, the analysis of such patterns and applications of crime analysis. Focus is on temporal and spatial distributions of crime, crime analysis charting and visual investigative analysis. Prerequisite: Admission to the MS in Criminal Justice program.

CJ 5700 The Juvenile Justice System (3) The historical development and assessment of current policies and practices of agencies involved in the juvenile justice system.

CJ 6600 Thesis (1-6) Special investigation into a specific area of criminal justice administration. It is recommended that the student should have completed the major courses in his/her program before enrolling in this course. Prerequisite: CJ 5620.

CMGT - Construction Management

CMGT 4310 Construction Safety (3) Construction safety and health conditions on the job as they relate to workers, supervisors, inspectors, and the public. Prerequisite: CMGT 2310 or junior status or instructor consent.

CMGT 4325 Advanced Estimating and Cost Analysis (3: 2 lecture, 1 lab) An advanced course in construction cost estimating utilizing the computer and associated professional software to assist the estimator. Prerequisites: CMGT 2310 and CMGT 2325.

CMGT 4330 Mechanical Systems for Buildings (3) Mechanical systems integrated with buildings and other equipment. Prerequisite: CMGT 2310 or junior status.

CMGT 4340 Solar Energy for Building Construction (3) An analysis of solar energy systems and components as they apply to types of structure, sites, and climate regions.

CMGT 4355 Computer-Based Project Control (3: 2 lecture, 1 lab) An advanced course in construction project scheduling utilizing the computer and associated professional software to assist the project scheduler. Prerequisite: CMGT 3355.

CMGT 4380 Heavy Construction: Methods and Materials (3) This course explores heavy construction methods and materials. Included are the concepts of site investigation, heavy construction means and methods, heavy construction material characteristics and costs, heavy equipment types and uses, and equipment costs, production rates and unit cost of production. Prerequisites: CMGT 2310 and MATH 1111.

COMM - Communication

COMM 4200 Special Topics in Mass Media (1-9) Departmentally selected topics of contemporary interest in mass media or specialized areas of the media; variable content. May be repeated for a maximum of 9 semester hours (only 6 hours will apply to the major).

COMM 4210 Mass Media Practicum II (1) Provides hands-on experience at the Muleskinner. Prerequisite: COMM 3200.

COMM 4235 Media Promotions (3) The theory and practical application of promotions in support of traditional and new media.

COMM 4240 Media Management (3) Elements involved in the organization and successful operation of mass media enterprises; special emphasis upon interpersonal problems.

COMM 4245 Media Economics and Sales (3) Business aspects of mass media in a competitive economy, including techniques for selling advertising space and time.

COMM 4250 The Law and Digital Media (3) Application of principles of law to the mass communication media, media practice, advertising, and freedom of information, including libel, right of privacy, copyright. Prerequisite: Junior, Senior, or graduate status.

COMM 4260 Global Media Systems (3) An examination of the role of the media in global societies.

COMM 4270 Family Communication (3) This course integrates theories, models, and research on how humans exchange information in families; explores the changing nature of the family; and examines how families influence subsequent interpersonal behaviors. Open to Communication and Non-Communication majors.

COMM 4280 Mass Media and Society (3) Critical examination of the interaction between audiences and media.

COMM 4285 Women and Minorities in Media (3) The study of women and minorities, their contributions and images, in a variety of media. Prerequisite: COMM 1000 or COMM 3000 or instructor consent.

COMM 4290 Special Projects in Mass Communication (1-3) Individual study/research in mass communication. May be repeated for a maximum of 3 semester hours. Prerequisite: Written consent.

COMM 4295 Internship (1-6) A practical training experience for the application of mass media and/or public relations principles. May be repeated for a maximum of 6 hours. Prerequisites: Completion of the preadmission requirements for internship placement and department consent.

COMM 4300 Special Projects in Speech Communication (1-3) May be repeated for a maximum of 6 semester hours. Prerequisite: Written approval of department chair.

COMM 4320 Social Influence (3) Focuses on the use of theories of persuasion to understand emotional and cognitive responses to messages used to impact interpersonal relationships, small groups, and/or society.

COMM 4330 Theories of Interpersonal Communication (3) An in-depth study of selected theories and supporting research findings of the communication process as it occurs in informal face-to-face situations. Prerequisite: COMM 3010.

COMM 4335 Gender Communication (3) Gender as it influences communication processes in intrapersonal, interpersonal, group, public and mediated contexts. Prerequisite: COMM 3000 or instructor consent.

COMM 4340 Classical Rhetorical Theory (3) Foundations and development of rhetorical theory during the Classical Period with special emphasis given to Plato, Aristotle, Cicero, and Quintilian.

COMM 4345 Modern Rhetorical Theory (3) An examination of significant movements in the development of twentieth century rhetorical theory including the contributions of Kenneth Burke, Richard Weaver, and Marshall McLuhan.

COMM 4390 Contemporary Communication (3) Public address as it functions in contemporary society in a variety of traditional and mass media settings.

COMM 4410 Studio Production Techniques (3) Preparation and production of multi-camera programming in a studio environment. Prerequisite: COMM 2412.

COMM 4415 Screenplay Writing (3) Principles, techniques and formats of narrative screenwriting.

COMM 4430 Media Programming (3) Analysis of programming principles and practices, schedule development and audience behavior for radio and television stations. Prerequisites: COMM 1200 and COMM 2400.

COMM 4435 Broadcast News Production (3) The theories, techniques, and skills of producing a full-length newscast including producing, writing, reporting, performance, ENG, and editing.

COMM 4470 Corporate and Organizational Media Production (3) Production of instructional, training and informational videos for use within corporations and other organizations. Prerequisite: COMM 2412 or instructor consent.

COMM 4475 New Media Technologies (3) Technological developments and their uses (existing and potential) as information distribution systems.

COMM 4490 Senior Capstone Seminar (2) Preparation of a portfolio representing the student's best work; in addition, students will participate in assisting and tutoring students in lower-level courses in the major. Prerequisite: Instructor consent.

COMM 4500 History of the American Press (3) Development of the American press from colonial days to modern times; factors affecting the shape and contents of the press in contemporary society.

COMM 4510 Magazine Design and Production (3) The magazine process from the collection of raw material through layout and design to the circulation of the finished product. Prerequisites: COMM 2625 and COMM 3625.

COMM 4520 Opinion Writing (3) Principles and techniques of opinion writing. Prerequisites: COMM 1520.

COMM 4522 Desktop Design for Teachers (3) Instructs students in the use of Quark Xpress for newspaper design and makeup. Prerequisite: COMM 2220 or newspaper/supervisory experience.

COMM 4535 Advanced Reporting (3) Problems and techniques of researching and gathering material for in-depth news reporting concerning the political, economic, and social aspects of a community. Prerequisite: COMM 1520, 2520, 3500.

COMM 4555 Advanced Editing (3) Provides advanced editing skills for news media. Emphasis on news judgment, language use, copy improvement, headline and cutline writing, wire services, photo editing, page layout and design. Prerequisite: COMM 2520.

COMM 4571 Methods of Teaching Journalism (3) Practical methods in the teaching of journalism. Prerequisite: Admission to the journalism minor, B.S.E.

COMM 4670 Strategic Crisis Communication (3) Students will be introduced to the process and experiences of thinking strategically when under crisis pressure. They will study past and current crises and CCPs. Prerequisites: COMM 2620 or instructor consent.

COMM 4675 Media Training (3) Includes introduction to on-camera experience as spokesperson following a crisis, managing an interview and interaction with the media, developing key messages and anticipating reporters' questions. Prerequisites: COMM 2620 or instructor consent.

COMM 4680 Advanced PR Writing (3) Overview of the publicity process including written, spoken, and/or videotaped messages using the mass media as a public relations tool. Prerequisites: COMM 2620 and COMM 3620 with a letter grade of C or above.

COMM 4685 Strategic Planning through Public Relations (3) Public relations problems of individual business and civic organizations; analysis of actual and proposed solutions. The class includes expanded discussions of public relations theories and their application. Prerequisites: COMM 3620; ENGL 1020 and ENGL 1030 or ENGL 1080 with a grade of C or better; and formal admission to the PR program.

COMM 4690 Campaigns (3) Capstone course and overview of the public relations campaign process with actual 'hands on' application. Students will plan, organize and conduct an actual organizational campaign. Prerequisites: COMM 4380 and COMM 4685.

COMM 4780 Advanced Theories of Organizational Communication (3) A consideration of theories and principles of communication structures and systems within organizations.

COMM 4781 Strategic Communication Audits (3) The assessment and measurement of human interaction within professional settings.

COMM 4783 Communication Training (3) Communication as the coupling that holds organizations together and the agent of change which ensures health and growth. Students will assess needs and determine communication links; design, develop, and implement learning modules for human resource development; and design and interpret evaluation means to determine the effectiveness of the communicated training. Prerequisite: Instructor consent.

COMM 4785 Internship in Speech Communication (1-6) The application of speech communication principles and theories in business, industry, and government settings. May be repeated for a maximum of 6 semester hours. Prerequisites: COMM 2330, COMM 2380, COMM 3327, and COMM 4780 with a grade of C or better. COMM 4780 may be taken concurrently with COMM 4785 with department chair consent.

COMM 5000 Introduction to Graduate Studies (1) Introduction to graduate school, including bibliographical resources and professional writing in the field communication.

COMM 5230 Seminar in Mass Media (3) Studies in a specialized area of mass media with emphasis on individual research. May be repeated for a maximum of 6 semester hours.

COMM 5250 Advanced Issues in Communication Law (3) Examination of the principles of law to the mass media, media and advertising practices, and freedom of information.

COMM 5720 International Communication (3) The role of mass media as instruments of national policy, stressing physical and psychological factors limiting exchange of information between nations.

COMM 5270 Media Ethics (3) Examine the state of media ethics, media responsibilities and the methods available to building an understanding and appreciation of ethics.

COMM 5280 The Effects of Mass Communication (3) Influence of radio, television, and film upon social environment.

COMM 5300 Seminar in Speech Communication (2-3) A presentation of topics not included in the regular offering of the department. May be repeated for a maximum of 6 semester hours.

COMM 5330 Group Communication (3) Principles of communication within small and large groups emphasizing educational, business, social, and therapeutic group functions with readings, discussions, and research.

COMM 5525 Online Reporting and Editing (3) Techniques of reporting and editing community news for an on-line publication. News will include local government, schools, sports, features and business news, against daily deadlines.

COMM 5600 Seminar in Public Relations (2) Guided research in specialized areas of public relations emphasizing historical, descriptive, or experimental studies. May be repeated for a maximum of 6 semester hours.

COMM 5800 Quantitative Research Methods for Communication (3) Covers the creation, implementation, and analysis of quantitative research methods. These methods are statistically driven and used to create generalizations about a given population.

COMM 5810 Theories of Communication (3) Overview of the major theories used to provide a basis for studying the communication process.

COMM 5820 Qualitative Research Methods (3) Covers the theoretical grounding and aims of qualitative research. Practical instruction on how to design, carry out, and write qualitative research.

COMM 5890 Thesis (1-6) Special investigation of an approved problem in communication resulting in a formal thesis or screenplay. May be repeated for a maximum of 6 semester hours.

COMM 6771 Graduate Internship in Communication (1-6) The application of communication principles in business, industrial governmental, and media settings through a supervised experience. May be repeated for a maximum of 6 semester hours. Prerequisites: COMM 4780 and/or the department chair consent.

COMM 6775 Professional Project Seminar (1) Students will plan and organize the professional project. A formal proposal for the project is produced.

COMM 6800 Readings (1-3) Guided study in the literature of special and related fields of communication. May be repeated for a maximum of 6 semester hours. Prerequisite: 15 semester hours of graduate credit.

COMM 6890 Research Problems (1-6) Supervised research in contemporary problems in communication. May be repeated for a maximum of 6 semester hours.

COUN - Counseling

In the Counselor Education course numbers, the second digit stands for the following:

- 1-Professional Identity,
- 2-Social and Cultural Foundations,
- 3-Human Growth and Development,
- 4-Career Development,
- 5-Helping Relationships,
- 6-Group Work,
- 7-Assessment,
- 8-Research and Program Evaluation,
- 9-Clinical Instruction (practicum and internships),
- 0-Special Projects and Individual Study.

COUN 5000 Special Projects in Professional Counseling (1-5) Individual or group study in special areas of interest. An approved written proposal required prior to enrollment. May be repeated for a maximum of 5 semester hours. Prerequisite: Program coordinator consent.

COUN 5100 Foundations of Professional Counseling (3) An overview of school guidance programs and counseling services in community settings. History, philosophy, leadership/management skills, program planning, implementation, and collaboration are studied.

COUN 5110 Orientation to Professional Counseling and Ethics (3) Includes professional ethics, legal issues, organizations, and areas of specialization. Introduction to the work of counselors, impact of experiences on counseling and professional development. Prerequisite: COUN 5100 or simultaneous enrollment.

COUN 5130 Management of Comprehensive School Counseling Programs (3) An in-depth study of program management skills in school and community settings including job descriptions, programs, facilities, funding, evaluation and program revision in settings of professional counselors. Prerequisites: COUN 5510, COUN 5610, COUN 5810 and advanced status.

COUN 5131 Management of Community Counseling (3) An in-depth study of program management skills in community settings including program models, grant funding, social justice, evaluation and program revision. Prerequisites: COUN 5510, COUN 5610, COUN 5810, and advanced status.

COUN 5230 Counseling Diverse Populations (3) Explores race, ethnicity, gender, sexual orientation, socio economic class and ability as characteristics of diversity. Counseling skills will be refined to reflect understanding of impact of diversity. Prerequisites: COUN 5510, COUN 5710, and COUN 5810.

COUN 5310 Development Across the Life Span (3) Human development across the lifespan with emphasis on demonstrating an applied understanding of the tasks related to social, emotional, cognitive, physical and self-concept development. Prerequisites: Admission to the Counselor Education Program and approved program of study or program coordinator consent.

COUN 5320 Mental Health Issues in Counseling (3) Use modern technology and other resources to explore mental health issues relevant to professional counselors who work with individuals in an educational or therapeutic environment. Prerequisites: COUN 5510, COUN 5710, and COUN 5810.

COUN 5410 Career Development and Counseling (3) Career development and counseling models and the delivery of educational and career information in school and community settings. Prerequisites: COUN 5510.

COUN 5500 Pre-Practicum in Professional Counseling (3) An intensive laboratory practice to develop listening, influencing, and other counseling skills while applying theoretical knowledge. Skills are covered using lecture/discussion methods, videos, observations, and participation in practicing skills. Prerequisites: COUN 5100 and COUN 5110 or simultaneous enrollment.

COUN 5510 Counseling Theories (3) An overview of counseling theories that provides a consistent model(s) to conceptualize client presentation. Essential interviewing skills and selection of appropriate counseling interventions are included. Prerequisites: COUN 5110 and COUN 5100 or simultaneous enrollment.

COUN 5520 Introduction to Play Therapy (3) Provides an overview of play therapy, exploring play behavior as a language used by children. Major theories and associated techniques will be presented. Prerequisites: COUN 5510, COUN 5610, advanced status and instructor consent.

COUN 5610 Introduction to Group Work (3) Provides students with an understanding of the dynamics of group interaction and the role of the counselor in helping individuals achieve self-direction. Prerequisites: COUN 5500, interview with instructor prior to enrollment and instructor consent. Must be admitted to Counselor Education Program.

COUN 5710 Introduction to Assessment (3) Commonly used standardized tests, including use, administration, scoring, recording, interpretation, and technology. A charge is made for use of testing materials. Prerequisites: COUN 5110 or simultaneous enrollment; Must be admitted to the Counselor Education program.

COUN 5720 Analysis and Diagnosis of the Individual (3) Application of basic principles and methods of case conceptualization, assessment, and diagnosis and related ethical and legal considerations. Testing materials fee applies. Prerequisites: COUN 5320 and COUN 5710; Advanced status is also required.

COUN 5810 Program Evaluation and Research in Counseling (3) Evaluating counseling interventions and comprehensive program evaluation through quantitative and qualitative research knowledge and skills. Includes communicating outcomes and integrating findings for continuous program improvement. Prerequisites: COUN 5100, COUN 5110.

COUN 5900 Practicum in Counseling (3) Supervised practice of counseling in an approved setting appropriate to the student's program of study. Both individual and group supervision are provided. Prerequisites: COUN 5510, COUN 5610, 5230, 5720, COUN 5810 and advanced status.

COUN 6000 Special Projects in Counseling (1-3) Individual or group study of complex problems or issues in special areas of interest. An approved written proposal is required prior to enrollment. May be repeated as appropriate for an approved program of study. Prerequisite: Program coordinator consent.

COUN 6540 Parent and Family Counseling (3) An introduction to parent education and family counseling theories as applied in school and community settings. Prerequisites: COUN 5510, COUN 5610, COUN 5810 and advanced status.

COUN 6550 Advanced Counseling Theories (1-3) An in-depth study of selected counseling models and practices and integration with the individual student's counseling model. Approved written proposal required before enrollment. Prerequisite: COUN 5510 or instructor consent.

COUN 6620 Advanced Group Work (3) Under close supervision of instructor, co-facilitates a laboratory group including pre- and post-group planning. Prerequisites: COUN 5900 and screening interview with and instructor consent.

COUN 6800 Readings in Professional Counseling (1-5) Individual study and research regarding areas of particular interest in professional counseling. Approved written proposal required prior to enrollment. May be repeated for a maximum of 5 semester hours. Prerequisite: Program coordinator consent.

COUN 6890 Thesis (3-6) Special investigation of an approved problem in professional counseling resulting in a formal thesis. A prospectus is required.

COUN 6910 Internship in Professional Counseling (3-6) Supervised practice at an approved, specialty-related site. Students are expected to fulfill professional roles and functions under supervision of a certificated or licensed counselor. Prerequisites: COUN 5130, COUN 5510, COUN 5610, COUN 5810 and advanced status. Grade of A or B in COUN 5900; and program coordinator consent.

COUN 6920 Advanced Practicum in Professional Counseling (3) Individual or group supervised practice in a specified area of counselor education in an approved setting appropriate to the student's program of study. Prerequisite: Program coordinator consent.

CS - Computer Science

CS 4000 Special Problems in Computer Science (1-3) Individual reading and research on some topics not included in the regular offerings of the department. May be repeated for a maximum of 6 semester hours. Prerequisite: CS 2300.

CS 4100 SAS Programming (3) An introduction to SAS programming. Topics include importing and exporting raw data files, creating and modifying SAS data sets, the DATA step, SAS MACRO, SAS SQL and SAS REPORT. Prerequisites: CS 1100 or equivalent or instructor consent.

CS 4110 Mobile Applications Programming with Android (3) A course on design and programming of applications for Android mobile devices such as smart phones, pads, and tablets. Topics include: application lifecycle, MVC design, Android layouts, application design, memory usage and threads, audio and video, database management, location and maps. Prerequisites: CS 2300 or consent of the instructor.

CS 4120 Advanced Applications Programming in Java (3) Advanced applications development using Java. Topics include generics, multithreading, networking, JavaBeans and event delegation model, Java database programming, servlets, JavaServer Pages, web services, remote method invocation, advanced GUI components such as JTable and JTree, and other advanced topics in Java. Prerequisite: CS 2300.

CS 4300 Algorithm Design and Analysis (3) Techniques needed to analyze algorithms. The application of these techniques to topics such as sorting, graph algorithms, fast Fourier transforms, dynamic programming, and NP-completeness. Prerequisites: CS 2300 and MATH 1131 or MATH 1151.

CS 4420 System Simulation and Modeling (3) Model construction and simulation applied to problems taken from finance, statistics, sciences, communication networks and computer systems. Prerequisites: CS 1100 and (MATH 1300 or MATH 3311).

CS 4500 Operating Systems (3) An introduction to operating systems. Topics include processes, threads, CPU scheduling, process synchronization, deadlock, memory management, file systems, mass-storage structure, I/O systems, and case studies. Prerequisites: CS 2300 and CS 2500.

CS 4600 Database Theory and Applications (3) Topics include: E-R model, relational database design, normalization theory, SQL, application design and development, and database administration. Query optimization, security, integrity, and concurrent operation issues will be presented. Significant application-oriented projects will be required. Prerequisites: CS 1400 or MATH 2410, and CS 2300.

CS 4610 Introduction to Cloud Computing (3) An introduction and broad view of cloud computing and its applications. Topics include Datacenter architectures, the MapReduce programming model, Hadoop, cloud algorithms, commercial cloud computing platforms such as Amazon EC2 and Google App Engine, and higher-level programming such as Hive and Pig. Prerequisite: CS 2300 or consent of instructor.

CS 4700 Artificial Intelligence (3) Topics include an introduction to artificial intelligence (AI) and AI languages, such as LISP and PROLOG, research tools for AI problem solving, representation and search, knowledge representation, reasoning in changing and ambiguous situations and expert systems, machine learning. Prerequisites: CS 1400 or MATH 2410, and CS 2300.

CS 4800 Computer Networking (3) General principles and concepts of computer networks with emphasis on system-level network technology, packet-switching and routing technologies, the client-server model, TCP/IP and socket programming.

CS 4810 Computer Graphics (3) An introduction to computer graphics. topics include: basic geometric primitives, transformations, clippings, viewing, color models, animation, and rendering. Programming: using OpenGL and appropriate languages. Prerequisites: CS 2300 and MATH 1131 or MATH 1151.

CS 4820 Computer Security (3) Theory and algorithms of computer security. Topics include security policies, cryptography, access control, secure programming, identity and authentication, information flow and information assurance techniques. Prerequisites: CS 2300 or instructor consent.

CS 4830 Game Development (3) An introduction to higher level technical aspects of computer game development framework, game programming, 2D animation, 3D cameras and effects, modeling and basic artificial intelligence concepts. Prerequisites: CS 2300.

CS 4910 Software Engineering (3) Techniques for software design, team management, and product development. Students will gain experience in managing all phases of large-scale software projects and ethical issues. Prerequisite: CS 3100.

CS 5000 Special Topics in Computer Science (1-3) Individual reading and research on some topic not included in the regular offerings of the department. May be repeated for a maximum of 6 semester hours. Prerequisite: Instructor consent.

CS 5010 Seminar in Computer Science (1-3) For presentation of those topics in computer science not included in the regular offerings of the department. May be repeated for a maximum of 3 semester hours. Prerequisite: Instructor consent.

CS 5020 Internship in Computer Science (3) Graduate level internship providing practical high level work experience in the computer science career area. May be repeated for a maximum of 6 semester hours. Prerequisite: Computer science committee and graduate adviser consent.

CS 5030 Readings in Computer Science (1-5) Selected reading in computer science designed to deepen and expand the student's understanding of an area of interest. May be repeated for a maximum of 6 semester hours. Prerequisite: Instructor consent.

CS 5040 Master's Project (3) Project in an area of computer science which fulfills a requirement in the graduate degree program. Part of the course requirements might be met by working on company projects approved by the adviser. Prerequisite: Consent of adviser and Computer Science Committee.

CS 5110 Advanced Applications Programming in C# and .NET (3) Advanced application development using the Microsoft .NET framework. Topics include hands-on experience in both server-side programming using a variety of Microsoft .NET technologies such as LINQ, WPF, WCF, ADO.NET and ASP.NET. Prerequisite: CS 3110.

CS 5300 Advanced Algorithms and Data Structures (3) Techniques needed to analyze algorithms, greedy algorithms, dynamic programming, advanced data structures, vector and matrix manipulation, sorting networks, number-theoretic algorithms and NP-completeness. Prerequisites: CS 4300 or instructor consent.

CS 5310 Theory of Computation (3) Includes finite-state automata, pushdown automata, and Turing machines. The topics of regular expressions, context-free languages, the halting problem, Post's correspondence problem, P, NP, Incompleteness, and some NP-complete problems will be discussed. Prerequisite: MATH 2410 or CS 1400.

CS 5430 Numerical Analysis (3) Finite difference interpolation, numerical differentiation and integration, numerical solution of nonlinear equations, numerical solution of ordinary differential equations. Computational techniques stressed and extensive quantity of problems to be solved on a digital computer. Prerequisites: CS 1110 and MATH 1152.

CS 5500 Advanced Operating Systems (3) An in-depth study of advanced topics in the field of operating systems such as protection and security, distributed system structures, distributed file systems, multiprocessor operating systems, interprocess communication, parallel and concurrent programming. Prerequisites: CS 4500 or instructor consent.

CS 5600 Advanced Database Systems (3) An in-depth study of modern database management systems (DBMS) and their underlying concepts, emerging technologies and advanced applications. The focus is on understanding the theories and algorithms underlying DBMS and on the practical use of those theories and algorithms. Prerequisites: CS 4600 or instructor consent.

CS 5800 Advanced Computer Networking and Security (3) An in-depth study of advanced topics in the field of computer networking security such as multimedia networking, security programming, mobile computing and network applications programming. Application oriented projects will be required. Prerequisites: CS 4800 and MATH 3311 or equivalent or instructor consent.

CS 5900 Compiler Design and Construction (3) Compiler concepts including finite-state machines, top-down and bottom-up parsing, and syntax directed translation. The topics of regular grammars, context-free grammars, lexical analysis, LL(k) grammars, LR(k) grammars, Lex and Yacc will be discussed. Prerequisites: CS 3100 or instructor consent.

CS 5910 Advanced Software Engineering (3) An in-depth study of advanced topics in the field of software engineering. Topics include software requirements workflow, object-oriented analysis and design workflow, implementation workflow, testing workflow, postdelivery maintenance, UML, software project management, emerging technology and applications. Prerequisites: CS 4910 or instructor consent.

CS 6010 Thesis (3) Research in an area of computer science, directed by a graduate faculty member, which leads to the completion of a thesis. Must repeat for 6 credit hours. Prerequisite: Instructor consent.

CSPA - College Student Personnel Administration

CSPA 5000 Special Topics in Student Affairs (1-3) Individual or group study of selected problems/issues within the student affairs administration field. May be repeated for a maximum of 6 semester hours.

CSPA 5110 Introduction to Student Affairs Administration (3) Organization and administration of student personnel services in higher education.

CSPA 5120 Helping Skills for Student Affairs Administrators (3) The application of helping skills models to student affairs settings. Emphasis will be on live practice and application of content to interactions with college students. Prerequisite: Admission to the CSPA program.

CSPA 5130 Leadership and Organizational Theory in Higher Education (3) Critical examination of leadership, organizational, and team development theories and their application to higher education contexts through the lens of organizational dynamics and interpersonal relations.

CSPA 5210 Student Development Theory I (3) In-depth exploration of major theoretical models and their application. This is the first of two courses in developmental theory for the College Student Personnel Administration Program. Prerequisite: CSPA 5110 or program coordinator consent.

CSPA 5220 History of Higher Education (3) History of higher education and student affairs administration in America. Focus on development of policies, practices, and culture of colleges and universities.

CSPA 5230 The College Student (3) The college student in contemporary society; characteristics, attitudes, values, needs, pressures, and concerns.

CSPA 5310 Student Development Theory II (3) In-depth exploration of major theoretical models and their application. This is the second of two courses in developmental theory for the College Student Personnel Administration Program. Prerequisite: CSPA 5110 or consent of program coordinator.

CSPA 5320 The Law in Higher Education (3) Sensitizes students to a variety of legal issues in higher education and creates an awareness of areas within the student personnel field where potential litigation could result.

CSPA 5330 Governance and Finance in Higher Education (3) Introduction to the entities involved in campus governance on a college campus. Focus on the budget process and dilemmas that colleges and universities face. Prerequisite: CSPA 5110 or consent of Program Coordinator.

CSPA 5410 Assessment and Program Evaluation in Student Affairs (3) Assessment and program evaluation models/techniques designed to address college environments, students' needs, developmental levels, and learning outcomes, as well as organization and program effectiveness. Prerequisite: CSPA 5110 or consent of Program Coordinator.

CSPA 5500 Seminar in Higher Education (3) An overview and critical analysis of issues and concerns common to higher education institutions. Prerequisite: CSPA 5110 or consent of Program Coordinator.

CSPA 5610 The Community College (3) History, development, and current concerns of the junior/community college.

CSPA 5620 Enrollment Management Theory and Practice (3) Principles and practices of enrollment management focusing on the core functions of marketing, recruitment, retention, service and enrollment manager role in the college setting. Prerequisite: Admission to CSPA program or instructor consent.

CSPA 5700 Practicum in Student Affairs Administration (1, 2, 3) A supervised work experience in college student personnel. May be repeated with no more than 2 semester hours in a single student personnel functional area for a maximum of 8 semester hours. Prerequisite: Instructor consent.

CSPA 5980 Internship in Student Affairs (1-3) Direct work experience in a student affairs functional area. May be repeated for credit. Three credits are required for graduation from the program. Prerequisite: Instructor consent.

CTE - Career and Technology Education

CTE 4022 Occupational Administration/Teaching Internship (1-3) Provides a mentored administration/teaching experience at the secondary/postsecondary level. Evaluation by on-site mentor and Department Internship Coordinator. May be repeated for a maximum of 6 semester hours. Prerequisites: CTE 4145, T&OE 4160, and consent of the Department Chair.

CTE 4110 Foundations of Career and Technical Education (3)

Synthesizes Career and Technical Education's history, past and current issues, legislation, and philosophical foundations.

CTE 4140 New Teacher Institute (3) Develop teaching/instructional management skills needed to perform effectively in classrooms/laboratories. Includes structured activities designed to assist beginning vocational-technical teachers during their first teaching years.

CTE 4145 Curriculum Construction in Career and Technical Education (3)

Assist new in-service and pre-service educators in selecting and organizing course content, including federal and state guidelines, for career and technology education courses and programs. Prerequisite: For BSE programs, admission to the Teacher Education Program or instructor consent.

CTE 4150 Vocational Guidance (3) Facilitate awareness and ability in vocational guidance. Includes problems, methods, and procedures for assisting individuals in choosing, preparing for, entering, and progressing in their vocation.

CTE 4160 Methods of Teaching Career and Technical Education (3)

Principles and techniques of presenting information, giving demonstrations, and facilitating student learning including managing the learning environment. Prerequisites: CTE 4145, admission to Teacher Education Program (B.S.E.), or department chair consent.

CTE 4165 Performance Assessment in Career and Technical Education (3)

Designed to assist CTE educators and administrators in critiquing, planning, developing, implementing, evaluating, and improving student performance assessments in the cognitive, affective, and psychomotor domains. Prerequisite: Instructor consent.

CTE 4180 Adult Programs in Career Education (3) Principles, objectives, philosophies, organization, administration, and supervision of adult health, agricultural, industrial, and homemaking occupations.

CTE 4242 Philosophy of Career and Technical Education (2) Past and current philosophy of career and technical education.

CTE 4280 Implementing CTE Programs and Lab Management (3)

This course addresses information needed to design, implement, and maintain vocational career and technology education programs, and lab management and resources. Prerequisites: Acceptance to the Teacher Education program or approved alternative pathway to certification.

CTE 4501 Managing Classroom Technologies (2) Students will work with current digital media management tools that enhance classroom instruction. Emphasizes resources to manage a multimedia-rich educational environment.

CTE 5000 Special Projects in Career and Technical Education (1-3)

Investigation of contemporary problems and issues in career and technology education by selected individuals or groups. May repeat for a maximum of 6 semester hours. Prerequisites: written contract/proposal with objectives and written department consent.

CTE 5120 Curriculum Development Theory in Career and Technical Education (3)

Assists the classroom teacher, administrator, or industry trainer in developing curriculum from a global perspective. Includes curriculum planning and creating, and evaluating curriculum models.

CTE 5150 Introduction to Career Administration (3) Role, responsibilities, and activities associated with the administration of secondary and post-secondary vocational programs.

CTE 5160 Legal Issues in Career Education (2) Current and existing legislation which form the statutory basis of school law affecting vocational education through a study of case law and the Carl Perkins Reauthorization Act.

CTE 5200 Improvement of Instruction (2) Designed for teachers and prospective teachers of business and distributive education. Present methods of teaching leading to better organization and presentation of these courses in the secondary school. Will be offered on alternate years with subtitles—skills, basic business, and distributive education. Prerequisite: Departmental consent.

CTE 5231 Special Problems Business/Distributive Education (1-3)

Designed to develop some aspect of business education or distributive education.

CTE 5232 Adult Programs Business/Distributive Education (3) Overview of adult education; the curriculum; selecting, training and supervising adult teachers; counseling; preparing to teach adult classes; public relations and advisory committees.

CTE 5235 Business, Distributive and Industrial Occupational Analysis (3) The techniques of job analysis and community occupational surveys to aid in developing supervisory and training techniques.

CTE 5240 Seminar in Business Education (1-3)

CTE 5900 Introduction to Research Methods (3) Research methodology with emphasis on research design, data interpretation and techniques of developing research proposals, and report writing.

CTE 6120 Current Issues and Topics in Industrial Arts and Technology and Occupational Education (3) A seminar type course dealing with philosophy, new issues and recent literature, and research in the field. May be repeated for a maximum of 6 semester hours.

CTE 6130 Special Investigations in Technology and Occupational Education (2-3)

Advanced and specialized problems in technology and occupational education selected with consent of department advisers and graduate committees. May be repeated for a maximum of 8 semester hours. Prerequisites: Written contract/proposal with objectives and written department consent.

CTE 6990 Thesis (2-3) Special investigation of an approved problem resulting in a formal thesis. May be repeated for a maximum of 6 semester hours. Prerequisite: CTE 5900, EDFL 5900, LIS 5910 or instructor consent.

D&N - Dietetics and Nutrition

D&N 4340 Advanced Nutrition (3) An in-depth study of human nutrition and the evaluation of nutritional status. Prerequisites: BIOL 3402, D&N 3340 and CHEM 2652 or CHEM 4421.

D&N 4341 Child Nutrition (2) Nutritive requirements of mothers during pregnancy and lactation and of children during early childhood. Bases of determining reliability of nutrition information. Prerequisite: D&N 3340.

D&N 4342 Medical Nutrition I (3) Role of nutrition in the prevention and dietary treatment of disease. Prerequisites: BIOL 3402, D&N 3340 and CHEM 2652 or CHEM 4421.

D&N 4343 Medical Nutrition II (3) A case study oriented approach to nutritional medicine with an in-depth emphasis on pathophysiology and the nutritional care plan in the prevention and treatment of disease. Only offered Spring semester. Prerequisite: D&N 4342.

D&N 4350 Special Problems in Foods and Nutrition (2-3) An in-depth study of human nutrition; some foods emphasis. Group and/or individual problems including reports, discussion, bibliographies, research, and experiments. May be repeated for a maximum of 6 semester hours. Prerequisite: Senior status.

D&N 4351 Geriatric Nutrition (2) Dietary needs and feeding of the elderly. Prerequisite: D&N 3340 or instructor consent.

D&N 5360 Seminar in Foods and Nutrition (2-3) Intensive investigation and discussion of specific problems in foods and nutrition. Minor professional research problems may lead to a thesis. May be repeated for a maximum of 6 semester hours. Prerequisite: D&N 3340.

EASC - Earth Science

EASC 4010 Special Problems in Geology (1-3) Individual work under supervision of a staff member. Problems may be undertaken in any area of geology. May be repeated for a maximum of 9 semester hours. Prerequisite: Adequate preparation in that field and instructor consent.

EASC 4300 Earth Resources (4) This course investigates the origin, geologic occurrence, identification and use of earth materials including gold, diamonds, water, petroleum, building materials, and soils. Environmental problems associated with the extraction and utilization of earth resources are examined.

EASC 4320 Geochemistry (3) Application of chemical principles to the study of earth and environmental systems. Topics include origin and distribution of elements, stable and radiogenic isotopes, thermodynamics, aqueous and environmental geochemistry, and geochemical cycles. Prerequisites: EASC 1004 and CHEM 113 or instructor consent.

EASC 4325 Petrology (4: 3 lecture, 1 lab) Igneous and metamorphic rocks. Includes consideration of processes of formation and identification of rock types. Prerequisite: EASC 3320.

EASC 4420 Sedimentary Petrology and Stratigraphy (5: 3 lecture, 2 lab) Description and classification of sedimentary rocks sedimentology, and the principles of stratigraphy. Exercises include hand sample and petrographic analyses, subsurface stratigraphy, and measuring stratigraphic sections. Field work included. Additional fee required. Prerequisite: EASC 2200 or instructor consent.

EASC 5950 Graduate Teaching Internship (2) Under direct supervision, students will prepare, supervise, and assess laboratory/lecture activities in the Department of Biology and Earth Science. May be repeated for a maximum of 4 semester hours of credit. Prerequisites: Acceptance into a graduate program in the Biology and Earth Science department.

ECEL - Elementary and Early Childhood

ECEL 4000 Special Projects in Education (1-6) Individual or group study of problems in special areas of interest. May be repeated for a maximum of 6 semester hours.

ECEL 4314 Integration of Technology in Instruction (3) Establishes and advances the use of computer technology for both teacher productivity and instructional integration into P-12 classrooms. Prerequisite: 2.5 cumulative GPA.

 **ECEL 4350 Elementary Science Teaching Strategies (3)** Science concepts commonly developed in the elementary grades, with special emphasis on objective materials, field trips, experiments, laboratory and other activities. Enrollment is limited to students preparing to become elementary teachers. Prerequisites: Admission to Teacher Education Program; completion of a physical science and biological science, each with labs, (ECEL 1310 and BIOL 1004) or (ECEL 1320 and EASC 1004 or CHEM 1104 or PHYS 1104).

 **ECEL 4830 Early Childhood Curriculum (3)** Provides students with the theories and principles of curriculum development, knowledge, and skills of implementing integrated (developmentally and culturally appropriate) curriculum in early childhood (birth-8). Prerequisites: Admission to Teacher Education Program and ECEL 2830 and 3850 for undergraduate students seeking certification in early childhood education.

ECEL 5000 Special Projects (1-6) Opportunities for individual or groups of students to pursue an emerging or special professional topic or issue. May be repeated for a maximum of 6 semester hours. Prerequisite: Instructor consent.

ECEL 5170 Advanced Foundations of Childhood Education (3) Focuses on legal issues, school funding, educational delivery systems, societal influences, philosophy, and history of education in early and middle childhood.

ECEL 5240 Leadership and Analysis of Teaching Children (3) Current leadership theory and analysis of teaching practices. Development and implementation of curriculum and instruction as well as pedagogical analysis and case study.

ECEL 5350 Supervision of Student Teaching (2) Designed to meet the practical needs of elementary and secondary teachers who are responsible for the supervision of student teachers.

ECEL 5360 Trends and Issues in Childhood Education (3) Critical examination of current issues, historical and contemporary views, and social and economic policies that influence childhood education. May be repeated for a maximum of 6 semester hours.

ECEL 5720 Childhood Curriculum and Assessment (3) Constructivist/Social Constructivist theory into practice; prerequisite knowledge of child development and developmentally appropriate practices essential. Program design for promotion of growth and development of children.

ECEL 5730 Exemplary Instructional Practices (3) This course examines the most current research on instructional research and practices that enhance learning for the early and middle child.

ECEL 5850 The Child's Physical and Social World (3) Experiences with materials, techniques, and resources for broadening the child's awareness and understanding of his/her physical and social environment. Prerequisites: Admission to Teacher Education Program; EDFL 2240 or equivalent.

ECEL 5920 Childhood Research and Development (3) Qualitative, quantitative, action-based, and educational research methodologies; inferential and differential statistics. Research course designed to facilitate action-research and advanced research methods for graduate level students.

ECEL 6800 MSE Internship for Childhood Educators (3) Designed to provide relevant and practical application of the teaching/learning process within the early and middle childhood classroom. Prerequisite: ECEL 5920; taken during the last 12 hours of the program of study, but prior to the Capstone (ECEL 6810).

ECEL 6810 MSE Capstone for Childhood Educators (2) Designed to synthesize information from MSE coursework and classroom experiences. Culminates with a summative portfolio assignment reflecting NBPT Standards for either Early or Middle Childhood/Generalist. Prerequisites: ECEL 6800; taken during the last 12 hours of the program of study, immediately following ECEL 6800.

ECON - Economics

ECON 4010 International Economics (3) Principles underlying international trade and finance and analysis of current problems and related policies. Prerequisite: ECON 1010 and ECON 1011.

ECON 4015 Mathematical Economics I (3) A survey of mathematics including theory of sets, calculus, differential and difference equations, linear programming, matrices, and their application in economics. Prerequisites: ECON 1011 and FIN 2801 or MATH 1131 or MATH 1151.

ECON 4016 Mathematical Economics II (2) A continuation and more advanced study in the application of mathematical tools in economics. Prerequisite: ECON 4015.

ECON 4020 Natural Resource Economics (3) Nature of natural resources; economic efficiency as basis for natural resource use; externalities in natural resource use; factors influencing environmental quality; alternate public policy tools for influencing natural resource use. Prerequisites: ECON 1010 and ECON 1011.

ECON 4030 Directed Studies in Economics (1-3) Intensive study of significant economic topics. May be repeated for a maximum of 9 semester hours.

ECON 4040 History of Economic Thought (3) Classical economists and the development of economic thought from the mercantilist period through the development of present thought. The course aims at establishing a synthesis of evolving doctrines which have become the basis of currently accepted economic theory. Prerequisite: ECON 1011.

ECON 4050 Comparative Economic Systems (3) Analysis of alternate patterns of economic control, planning, and market structures. The experience of British socialism, American capitalism, and Soviet-type central planning is emphasized.

ECON 4052 Regional and Urban Economics (3) Geographic regions and urban areas as economic systems with emphasis on location theory and economic policy in the regional/urban environments. Prerequisite: ECON 1011 or ECON 2000.

ECON 4054 Sports Economics (3) This course is designed to investigate questions relating to the contribution of professional and recreational sports to social welfare. This includes exploring the decision to participate use public funding for sport facilities, and labor market issues. The general objective of this course is to help the student learn to apply economic concepts and ideas to the sports industry. Because of the applied nature of this course, problem solving and modeling are key skills for success. Prerequisites: ECON 1011 or instructors consent.

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ECON 4060 Game Theory Applications (3) Provides game theoretical tools used widely in economics to study situations in which various decision-makers interact. Applications include political science and biology. Prerequisites: ECON 1011 and Math 1111.

ECON 4070 Industrial Organization (3) An analysis of selected economic problems of current interest dealing primarily with the structure of American industry, with emphasis on the conduct and performance of large firms. Prerequisite: ECON 1011.

ECON 4075 Time Series Analysis (3) The course will introduce, develop and apply forecasting models to decision making problems. The interpretation and accuracy of forecasting models will also be explored. Prerequisites: ECON 1010, ECON 3030, and FIN 3801.

ECON 4080 Econometrics I (3) Mathematical techniques and problems used in the quantitative approach to economic theory. Prerequisites: ECON 3030, ECON 3010 and FIN 3801.

ECON 5005 Technology Based Research and Quantitative Tools (3) Information-gathering, storage, analysis, and communication as it relates to decision-making in today's business environment. Prerequisites: Undergraduate MBA background and admission to the MBA program; must be taken concurrently with CIS 5605.

EDAD - Education Administration

EDAD 5000 Special Projects (1-5) Individual or group study of selected problems/issues in special areas of interest. May be repeated for a maximum of 5 semester hours.

EDAD 5110 Foundations of Education Administration (3) An introductory course in school administration.

EDAD 5120 School Law (3) An introductory class in school law for teachers and administrators with a special emphasis upon Missouri school law.

EDAD 5130 School Supervision (3) An intensive study of the problems, processes and techniques in the evaluation, supervision, and improvement of the institutional programs at the elementary and secondary levels of the school.

EDAD 5150 Ethics in Leadership (3) This course provides advanced study in ethical systems of decision-making in educational leadership through philosophic/social theories and case studies.

EDAD 5420 Elementary School Administration (3) The organization, administration and problems relating to elementary school administration.

EDAD 5520 Secondary School Administration (3) The organization, administration and problems relating to secondary school administration.

EDAD 5710 Public School Finance (3) A basic course in theory and practice of public school finance.

EDAD 5720 Administration of the Middle Grades (3) This course addresses organizational and educational issues relevant to the administration of the middle (5-9) grades.

EDAD 5730 School Personnel Administration (3) The organization and administration of school personnel activities and related problems.

EDAD 5760 School and Community Relations (3) Communication and related problems in education.

EDAD 5770 Instructional Leadership and School Improvement (3) This course will focus on the leader's role in creating a positive learning climate that maximizes teacher and student performance.

EDAD 6120 Advanced School Law (3) School law for teachers and administrators plus a study of function and structure of courts and legal problems involving school finance, school property, and school board policy. Prerequisite: EDAD 5120.

EDAD 6700 School District Administration (3) The administrative and related functions of the school superintendency. Prerequisite: EDAD 5420 or EDAD 5520.

EDAD 6710 Advanced School Finance (3) An advanced course in school finance and business management. Prerequisite: EDAD 5710.

EDAD 6720 School Facilities (3) School facilities: planning, construction, operation and maintenance.

EDAD 6730 Administration of K-12 Curriculum (3) Provides advanced study in district level curriculum construction and design for

school administrators through curriculum theories, curriculum alignment, and curriculum coherence applications.

EDAD 6960 Research Problems (3) A research investigation of an approved problem in school administration resulting in a research paper. A prospectus is required.

EDAD 6969 Fall Internship in School Administration (2) Fall course of a year-long practicum for initial principal degree candidates to be completed as a capstone of the program. May be repeated for additional certification. Prerequisite: Adviser consent.

EDAD 6971 Spring Internship in School Administration (2) Spring course of a year-long practicum for initial principal degree candidates to be completed as a capstone of the program. May be repeated for additional certification. Prerequisite: Adviser consent.

EDAD 6972 Internship: Central Office Administration (2) Field experience course providing practicum in school administration at the district level. May be repeated up to 4 sh. Superintendency degree concentration requires two semesters of Internship. Prerequisite: Adviser consent.

EDFL - Educational Foundations and Literacy

EDFL 4210 The Teaching of Reading in the Secondary School (2) Designed to prepare both the regular secondary teacher to handle reading problems common to his/her special subject matter area and the reading teacher to carry out a general reading program in the high school. Prerequisites: Admission to Teacher Education Program; EDFL 2100 and PSY 2240, or equivalent.

EDFL 5000 Special Projects (1-6) Opportunities for individual or groups of students to pursue an emerging or special professional topic or issue. May be repeated for a maximum of 6 semester hours. Prerequisite: Instructor consent.

EDFL 5100 MAT Internship I (3) Designed to provide relevant and practical application of the teaching/learning process within the actual classroom. A portfolio is required, students must be admitted to the MAT program and provide a current, clear State Highway Patrol and FBI criminal background check and the student must be participating in a student teaching or be a contracted teacher in their certification area. Prerequisites: Students must participate in student teaching or be a contracted teacher, and must complete a minimum of 24 hours of MAT program of study prior to enrolling in EDFL 5100.

EDFL 5120 Advanced Foundations of Education (3) Focuses on legal issues, school funding, educational delivery systems, societal influences, philosophy, and history of education.

EDFL 5130 Middle School Foundations (3) A graduate course which provides an introduction to the philosophy, organization, curriculum, instruction and classroom management strategies appropriate to the middle level learner. Field experience in a middle school and background check are required.

EDFL 5200 Advanced Educational Psychology (3) Provides the graduate student in education with Psychological principles, processes, theories, and research from learning, development, motivation, and measurements as they relate to the educative process.

EDFL 5205 Methods and Materials for Literacy Enhancement (3) Examination, comparison and evaluation of recent and traditional methods and materials for literacy development, with an emphasis on language and literature.

EDFL 5208 Content Area Literacy (3) Prepare teachers to address reading/literacy needs common to middle and high school, focusing on promoting basic and higher-order literacy within the content areas.

EDFL 5210 Assessment of Literacy Development (3) Prepares the graduate learner with theories, materials, and procedures of formal and informal assessment of student development in literacy for curricular decisions.

EDFL 5220 Practicum in Literacy Assessment (3) Provides the graduate student with a clinical experience in formal and informal literacy assessments for K through 12th grade students. Prerequisites: EDFL 5210; must be taken concurrently with EDFL 5230; UCM graduate students who have an approved program of study or department chair consent.

EDFL 5230 Practicum in Instructional Techniques for Literacy Enhancement (3) Provides the graduate student with a clinical experience in curricular planning for literacy instruction for K through 12th grade students. Prerequisites: EDFL 5210; must be taken concurrently with EDFL 5220; UCM graduate students who have an approved program of study or department chair consent.

EDFL 5240 Advanced Language Arts: Culture and Communication (3) This course will examine current and seminal theories, research, trends, and perspectives including development approaches; Social Constructivism; transactional and cultural theories and Critical Constructivism.

EDFL 5250 Language Development in the Literacy Program (3) This course supports graduates studies in reading education by focusing on the subjects of language acquisition and curriculum development to enhance literacy for all students.

EDFL 5260 Evaluation of Abilities and Achievement in the Literacy Program (3) This course examines the capacity and achievement assessment processes implemented in schools and their effects on curricular decisions in literacy education.

EDFL 5300 Advanced Assessment and Evaluation (3) Provides instruction in the use and interpretation of standardized testing, the construction of formal and informal classroom assessment tools, and the interpretation of assessment results.

EDFL 5320 Curriculum Development and Assessment (3) Examines curriculum, its development, and how to assess curriculum and learning.

EDFL 5330 Classroom Discipline and Motivation (3) Designed to help teachers advance their knowledge and skills in general classroom management and in helping the apathetic and/or behaviorally troubled student.

EDFL 5340 Contemporary Instruction: Theory and Practice (3) Foundations of the most recent research on instructional theory and practices.

EDFL 5350 Supervision of Student Teaching (2) Designed to meet the practical needs of elementary and secondary teachers who are responsible for the supervision of student teachers.

EDFL 5400 Differentiation in K-12 Learning Environments (3) Provides an analysis of differentiated instruction and diverse learners in the K-12 learning environments.

EDFL 5410 Advanced Curriculum Development and Assessment (3) This course will allow teacher leaders to examine curriculum development and assessment issues from the broader context of the school, district, state, and federal perspective. This course will demonstrate to teacher leaders the importance of a systemic approach to school improvement through curricular alignment and balanced assessment to increase student learning outcomes. Prerequisites: Admission to Graduate Program.

EDFL 5440 Middle School Curriculum and Instruction (3) A course that provides graduate students with integrative and interdisciplinary middle school curriculum development. Prerequisite: EDFL 5130 and a background check on file.

EDFL 5900 Introduction to Research (3) Overview and planning for graduate studies with an introduction and study of the major principles, tools, and techniques employed in educational research, including the development of a research prospectus.

EDFL 6110 Capstone (3) Designed to synthesize information from MSE course work and classroom experiences. Culminates with a summative portfolio assignment reflecting NBPT Standards. Prerequisite: Students must complete a minimum of 24 hours of MSE program of study prior to enrolling in EDFL 6110.

EDFL 6220 The Literacy Coach (3) Designed to provide the knowledge, skills, and dispositions for literacy coaching.

EDFL 6240 Supervision of the Literacy Program (3) Examination of the supervisory problems concerned with literacy programs including program planning, program assessment, and effective instruction.

EDFL 6900 Readings in Education (1-5) For advanced students in education. Individual study and research regarding problems or areas of particular interest in education. A written report or reports will be required. May be repeated for a maximum of 5 semester hours.

EDFL 6960 Research Problems (2) Special investigation of an approved problem in the major field. A prospectus is required. May be repeated for a maximum of 6 semester hours. Prerequisite: EDFL 5900.

EDFL 6990 Thesis (3) Special investigation of an approved problem in classroom teaching resulting in a formal thesis. A prospectus is required. May be repeated for a maximum of 6 semester hours.

EDSP - Special Education

EDSP 4000 Special Projects in Special Education (1-5) Individual or group study of problems in special areas of interest. May be repeated for maximum of 5 semester hours.

EDSP 4140 Collaborating with Families of Exceptional Children (3) A study of the impact of exceptionality on family systems and how empowerment and community resources can strengthen the school-family partnership. Prerequisite: EDSP 2100 or EDSP 5200.

EDSP 4150 Career Development for Students with Disabilities (2) Supportive services to students with disabilities within a career development context. Prerequisite: EDSP 2100 or EDSP 5200.

EDSP 4310 Introduction to Students with Severe Developmental Disabilities (2) Basic information pertaining to the characteristics and care of students with severe developmental disabilities. Prerequisite: EDSP 2100 or EDSP 5200.

EDSP 4320 Introduction to Early Childhood Special Education (3) Basic information pertaining to the characteristics, care, treatment, and education of young children with special needs. Prerequisite: EDSP 2100 or EDSP 5200.

EDSP 4330 Curriculum and Methods for Teaching Students with Severe Developmental Disabilities I (3) Teaching methodologies and curricula used in learning programs for students with severe developmental disabilities. Prerequisite: EDSP 2100 or EDSP 5200.

EDSP 4350 Augmentative and Alternative Communication (3) Study and application of communication options, including manual sign language and communication devices. Prerequisite: EDSP 2100 or EDSP 5200.

EDSP 4360 Behavioral Management Techniques (2) Practical approaches to behavior management for the classroom teacher, special educator, or clinician. Prerequisite: EDSP 2100 or EDSP 5200.

EDSP 4361 Practicum in Behavioral Management Techniques (1) Practical experience in designing behavioral management programs and environments under supervision. Prerequisite: EDSP 2100 or EDSP 5200.

EDSP 4370 Screening, Diagnosing and Prescribing Instruction (3) Case finding, screening, diagnostic and assessment procedures to be utilized in prescriptive educational planning for infants and preschool-aged children. Prerequisite: EDSP 2100 or EDSP 5200.

EDSP 4385 Introduction to Cross-Categorical Special Education (3) Information about the characteristics and education of children with mild/moderate disabilities. Prerequisite: EDSP 2100 or EDSP 5200.

EDSP 4390 Introduction to Teaching the Gifted/Talented/Creative Student (3) Definitions, identification procedures, the nature and needs, concepts and issues concerning the gifted, talented, creative child. Prerequisite: EDSP 2100 or EDSP 5200.

EDSP 4420 Methods of Cross-Categorical Special Education (3) Teaching methods, materials and curricula for educating students with mild/moderate disabilities. Prerequisite: EDSP 4385.

EDSP 4421 Methods of Cross-Categorical Special Education I: Intellectual Disabilities/Other Health Impairments (3) Strategies for addressing general problems in teaching students with Intellectual Disabilities and Other Health Impairments in Cross-Categorical and other settings, including planning, materials and methods used. Prerequisites: Admission to Teacher Education Program and EDSP 4385.

EDSP 4422 Methods of Cross Categorical Disabilities II: Learning Disabilities (3) Characteristics, etiologies, definitions, legislation and issues related to the identification of and educational planning for individuals with learning disabilities. Prerequisites: Admission to Teacher Education Program and EDSP 4385.

EDSP 4423 Methods of Cross-Categorical Special Education III: Emotional/Behavioral Disorders (3) Strategies for addressing general problems in teaching students with emotional and/or behavioral disorders in cross categorical and other settings including planning, materials and methods used. Prerequisites: Admission to Teacher Education Program and EDSP 4385.

EDSP 4440 Curriculum and Methods for Teaching Early Childhood Special Education (3) The teaching methods and curricula used for educating young children with special needs. Prerequisites: Admission to Teacher Education Program, EDSP 4320, and EDSP 4370.

EDSP 4450 Curriculum and Methods of Teaching Students with Severe Developmental Disabilities II (3) Advanced study of teaching methodologies and curricula for use with students with severe developmental disabilities. Prerequisites: EDSP 4330 and Admission to Teacher Education Program.

EDSP 4470 Perceptual Motor Training for Students with Disabilities (2) Theories, assessment, instructional procedures, materials, and equipment adaptations for early childhood special education and students with severe developmental disabilities. Prerequisite: EDSP 2100 or EDSP 5200.

EDSP 4480 Curriculum and Methods for the Teaching of Gifted/Talented/Creative Students (3) Teaching methods and curricula used for educating students who are gifted/talented/creative. Prerequisite: EDSP 4390 or instructor consent.

EDSP 4620 Evaluation of Abilities and Achievement (3) Instruction in interpretation of individualized intelligence tests, formal and informal diagnostic procedures, and in prescriptive instruction. A directed clinical experience in the diagnostic assessment process for Individual Education Programs is required. An additional fee is associated with this course. Prerequisite: EDSP 2100 or EDSP 5200.

EDSP 4700 IEP and the Law (3) Administrative procedures and policies needed in establishing a program of special education. Special emphasis is given to compliance with state and federal law. A directed clinical experience in the theory, process, and practice of IEP writing is included. Prerequisites: EDSP 4620 and admission to the Teacher Education Program, or graduate status, or speech pathology major.

EDSP 5000 Topics in Special Education (1-3) Assists graduate students in researching current issues and trends in special education. May be repeated with a different focus for a maximum of 6 semester hours. Prerequisite: Undergraduate major in special education or instructor consent.

EDSP 5100 Introduction to Graduate Study in Special Education (3) Current and future issues in special education, tools of inquiry, role of the National Board of Professional Teaching Standards, scholarly writing, professional ethics and development. Prerequisite: Bachelor of Science in Special Education or equivalent.

EDSP 5200 Advanced Education of the Exceptional Child (3) Legal issues, identification and teaching of children with diverse learning needs. Differentiated instruction and evidence-based best practices will be stressed. Prerequisite: Graduate status.

EDSP 5350 Evaluation of Students with Disabilities (3) Experience utilizing individual intelligence tests, informal and formal assessments and prescriptive teaching with emphasis on developing IEPs. An additional fee is associated with this course. Prerequisite: EDSP 4620 or instructor consent.

EDSP 5351 Practicum in Evaluation of Students with Disabilities (3) Field experience designed to provide 150 hours of supervised practice in developing evaluation plans, assessing students, writing diagnostic summaries and participating on IEP teams. Prerequisite: EDSP 5350 or COUN 5710.

EDSP 5700 Advanced Organization and Administration of Special Education (3) For administrators and special educators to experience problem solving simulations regarding special education administration. Prerequisite: EDSP 4700.

EDSP 6900 Readings in Special Education (1-5) Individual study and research regarding areas of particular interest in special education. May be repeated for a maximum of 5 semester hours. Prerequisite: Consent of adviser.

EDSP 6980 Internship in Special Education (3) Experience in a school or program where students with disabilities are served. May be repeated for a maximum of 6 semester hours. Prerequisite: Consent of adviser.

ENGL - English

ENGL 4110 Linguistics (3) Introduction to the study of language as a system of human communication.

ENGL 4120 Language and Culture (3) Exploration of the nature of culture and its impact on perceptions, communication, behavior, and ways of learning with emphasis on its influence on school achievement.

ENGL 4310 Chaucer (3) Life and times of Chaucer with extensive reading in his major works.

ENGL 4330 Renaissance English Writers (3) Literary figures of the Elizabethan and Jacobean periods, excluding Shakespeare.

ENGL 4340 Old and Middle English Literature (3) Literary genres and contributions from Beowulf to 1500 (excluding Chaucer).

ENGL 4360 Shakespeare (3) Study seven or more Shakespearean plays, including comedies, histories, tragedies and romances, with attention to Renaissance backgrounds, literary analysis, and theatrical traditions.

ENGL 4450 The Age of Milton (3) English poetry, prose, and drama of the Puritan and Restoration times.

ENGL 4460 Wits and Satirists: 1660-1800 (3) Fiction, poetry, essays and drama during the times of Pope and Johnson.

ENGL 4500 Nineteenth-Century English Novel (3) Representative novels from Austen through Gaskell.

ENGL 4510 Romantic Poets and Essayists (3) Major poets and essayists of the English Romantic period.

ENGL 4540 The Victorian Poets and Essayists (3) Major poets and essayists of the English Victorian period.

ENGL 4560 British Women Writers (3) Study of major works by British women writers, with an introduction to feminist criticism.

ENGL 4610 American Renaissance (3) The works of Emerson, Hawthorne, Thoreau, and Melville.

ENGL 4620 Early American Literature (3) Major figures of colonial, federal, and early 19th-century literature.

ENGL 4640 American Realists and Naturalists (3) Works of Twain, Howells, James, Dreiser, Chopin, and Crane.

ENGL 4660 Women Writers of the United States (3) Study of major works by women writers of the United States, with an introduction to feminist criticism.

ENGL 4670 Ethnic American Literature (3) A survey of America's old and new ethnic writing, with particular emphasis on Native, Asian, Hispanic, and African American writers and a general emphasis on other groups.

ENGL 4680 African American Literature (3) A survey of African American writers from the Colonial period to the present with emphasis on twentieth-century writers.

ENGL 4700 British Fiction 1890 to Present (3) Representative fiction by major British authors from 1890 to the present.

ENGL 4710 Modern American Fiction (3) Representative fiction by major American writers from 1900 to the present.

ENGL 4720 Modern British Poetry (3) British poetry of the twentieth century.

ENGL 4730 Modern American Poetry (3) American poetry of the twentieth century.

ENGL 4740 Modern Drama (3) Readings in the significant drama of the twentieth and twenty-first centuries.

ENGL 4810 Seminar in Teaching English (2-3) May be repeated with different offerings, such as Individualizing Instruction, Teaching Traditional Grammar, How to Teach the Novel, Techniques of Theme Grading, Teaching Creative Writing, or Teaching Prosody. May be repeated for a maximum of 6 semester hours of undergraduate credit and 6 semester hours of graduate credit.

ENGL 4840 Composition and Evaluation (3) Techniques of writing and evaluating composition for those planning to teach.

ENGL 4990 Special Projects in English (1-3) May be repeated for a maximum of 6 semester hours.

ENGL 5000 Introduction to Graduate Study in Language and Literature (3) Research techniques, writing the critical essay, bibliography, research paper format. Required for MA-English.

ENGL 5010 Introduction to Graduate Study-TESL (3) An introduction to understanding research in the fields of linguistics, applied linguistics, and teaching English to speakers of other languages. Focuses on identifying major research trends, finding articles, and writing essays on research in these fields.

ENGL 5110 Grammar for Teaching English as a Second Language (3) Examination of the morphological and syntactic structures of English and exploration of how to teach them to speakers of other languages. Prerequisite: ENGL 4110 or concurrently or instructor consent.

ENGL 5120 Second-Language Acquisition (3) Survey of second-language acquisition research and theories and their implications for pedagogy.

ENGL 5150 Topics in Linguistics (3) Modern approaches to linguistics, including syntactic and semantic models of analysis. May be repeated as areas change for maximum of 9 semester hours.

ENGL 5210 Studies in English Literature (3) Advanced study and class discussions in a selected area of English literature. Special area of emphasis to be announced each semester. May be repeated as topic areas change for a maximum of 15 semester hours.

ENGL 5220 Studies in American Literature (3) Advanced study and class discussions in a selected area of American literature. Special area of emphasis to be announced each semester. May be repeated as topic areas change for a maximum of 15 semester hours.

ENGL 5230 Studies in Theory and Criticism (3) Advanced study in selected areas of theory and criticism. Special area to be announced each semester. May be repeated as topic areas change for a maximum of 9 semester hours.

ENGL 5800 TESL Methods (3) Exploration of past and current practices in planning, implementing, and managing instruction of second language learners.

ENGL 5810 Computers and Second Language Learning (3) Explores a variety of topics related to using computers to teach second languages. Program design, the evaluation of currently available Computer Assisted Language Learning (CALL) software, strategies for using the software in teaching second languages, and computerized language lab design are explored.

ENGL 5820 Assessment and Professionalism in TESL (3) Exploration of guidelines for ESL services, support, and advocacy; standards for achievement; and interpretation of formal and informal assessments of students, courses, and programs.

ENGL 5860 Teaching English as a Second Language I: The Spoken Language (3) Examination of the structures of oral English and the processes involved in its production and comprehension in relationship to the teaching and learning of ESL. Prerequisites: ENGL 5120 and 4110 or both concurrently or instructor consent.

ENGL 5870 Teaching English as a Second Language II: The Written Language (3) Examination of the structures of written English and the processes involved in its production and comprehension in relationship to the teaching and learning of ESL. Prerequisite: ENGL 4110 or concurrently or instructor consent.

ENGL 5880 The TESL Capstone (3) Examination of the history of the field of ESL teaching and the development of a portfolio that will demonstrate the level of mastery of the field of TESL required by the TESOL/NCATE standards.

ENGL 5890 Practicum in English as a Second Language (3) Supervised experience in planning and implementing standards-based ESL and content instruction under the direction of a TESL faculty member. Prerequisites: ENGL 4110, ENGL 5120, and either ENGL 5860 or ENGL 5870.

ENGL 5920 Research Problems (3) Special investigation of an approved topic in language or literature culminating in a paper of at least 30 pages.

ENGL 6930 Readings (1-3) Extensive special reading programs. May be repeated for a maximum of 3 semester hours.

ENGL 6940 Thesis (3) Special investigation of an approved topic in language and literature resulting in a formal thesis. May be repeated for a maximum of 6 semester hours.

ENGT - Engineering Technology

ENGT 4060 Aerospace and Manufacturing Safety (3) Safety, health and environmental issues in aerospace manufacturing with an emphasis on the management of safety programs in manufacturing industries.

ENGT 4221 Manufacturing Problem Solving (3) A micro-level look at issues that directly affect processes, procedures, and management within the manufacturing industry.

ENGT 4520 Robotics and Automation (3) Automated manufacturing equipment, computer integrated manufacturing systems, and the use of industrial robots. Computer programming background recommended.

ENGT 4550 Simulation in Engineering Technology (3) Collection of methods and applications to simulate the behavior of manufacturing and service systems. Emphasis on hands-on time with Software utilizing case studies, and lab exercises. Prerequisite: Graduate status.

ENGT 4580 Quality Systems Engineering (3) The principles and practices of Total Quality Managements and the decision making tools and techniques utilized by professionals in today's successful industries.

ENGT 4590 Computer Integrated Manufacturing (CIM) (3) Emphasis on product planning and engineering, production planning, control, and execution. Includes integration of computer numerical control (CNC) machines, robotics, material handling, and quality control. Prerequisite: ENGT 4520 or instructor consent.

ET - Electronics Technology

ET 4000 Special Projects in Electronics Technology (1-3) Investigation of contemporary problems and issues in electronics technology by selected individuals or groups. May be repeated for a maximum of 6 semester hours.

ET 4014 Advanced Technical Problems in Electronics (1-4) Individual/group work on recent developments and advanced technical concepts. Experimentation and technical exploration of content not available through formal course offerings. May be repeated for a maximum of 8 semester hours.

ET 5010 Special Problems in Electronics Technology (1-3) Meets individual student needs for additional research and/or laboratory experiences in the development of technical knowledge and skills in electronics technology. May be repeated for a maximum of 6 semester hours.

ENT - Entrepreneurial

ENT 4315 Entrepreneurial Business Planning (3) The Entrepreneurial Business Planning course will prepare participants to design and launch new business ventures, continue family ventures, or engage in small business. This course develops the ability to identify new product opportunities and/or ideas for a new business, determine the feasibility of that new business, and write a 3-5 year business plan in support of that new business. This course is writing intensive. Students should be prepared with one or more ideas for a business that he/she would like to own or start. This course consists largely of researching and writing a 50-60 page business plan. Students in the BSBA in Entrepreneurship and Social Enterprise (ESE) major or the ESE minor may choose to take HM 4845 Senior Seminar if they would prefer to write a business plan for a business in the hospitality industry.

ENT 4850 Entrepreneurial or Social Venture Start-up (3) As a result of participating in the Entrepreneurship and Social Enterprise Internship/Start-up course, students will be able to apply theory and classroom learning to actual start-up business environment; examine and test their ability to launch a product or service venture; develop communication and human relations skills.

ENT 5350 Entrepreneurship and Social Enterprise Special Problems (1-3) Individual work under supervision of a Faculty or Staff member. Problems may be undertaken in any phase of business or social enterprise and may include entrepreneurial research. Prerequisite: Adequate preparation in the area to be studied.

FCSE - Family and Consumer Sciences

FCSE 4000 Special Projects in Family and Consumer Sciences (1-3) Investigation of contemporary problems and issues in family and consumer sciences. May be repeated for a maximum of 6 semester hours.

FCSE 4150 Special Problems in Family Economics and Management (2-3) Recent trends. Group and individual problems which will include reports, discussions, bibliographies, research, and experiments. Prerequisite: FCSE 3120.

FCSE 4750 Curriculum in Family and Consumer Sciences Education (2) Design of programs and courses for consumer homemaking or occupational family consumer sciences education including theory, principles, development and implementation, federal and state guidelines, trends and issues. Prerequisite: FCSE 4740 or equivalent.

FCSE 5160 Seminar in Family Economics and Management (2-3) Intensive investigation and discussion of specific problems in family economics or management. Research problems may lead to a thesis. Prerequisite: Instructor consent.

FCSE 5510 Family Housing (2) Social, psychological, economic, and design aspects of American family housing. Needs, conditions, types of dwellings. Role of local, state, and federal governments in housing.

FCSE 5740 Current Topics in Family and Consumer Sciences Education (2) Changes evolving in our society which affect the teaching of family and consumer sciences. May be repeated for a maximum of 6 semester hours. Prerequisite: B.S. in Ed. degree in home economics.

FCSE 5760 Seminar in Family and Consumer Sciences (2-3) Studies in specialized area problems in family and consumer sciences with emphasis on individual investigation. May be repeated for a maximum of 6 semester hours.

FCSE 6080 Research in Family and Consumer Sciences (2-3) Independent investigation of a specific problem. May be repeated for a maximum of 6 semester hours. Prerequisite: CTE 5130 or EDFL 5900 or equivalent.

FCSE 6090 Thesis (6) Special investigation of an approved problem based on a prospectus in the area of family consumer sciences resulting in a formal thesis. Prerequisites: Instructor consent and CTE 5130 or EDFL 5900.

FAME - Fashion and Apparel Merchandising

FAME 4410 Materials for Interior Furnishings (3) A concentrated study of materials used for residential and commercial environments that include window and wall coverings, upholstered furniture, floor coverings, linens and accessories. Textile fabrics appropriate for various architectural period styles will be covered as well as trends for sustainable products.

FAME 4414 Advanced Technical Problems in Fashion (1-3) Individual or group work on advanced technical problems in Fashion/Apparel Merchandising. Provide exploration of content not available through normal course offerings. May be repeated for a maximum of 6 semester hours. Prerequisites: minimum 2.5 Cumulative GPA, written contract/proposal with objectives/learning competency and written department consent.

FAME 4424 Pattern Design (3) The design and construction of garments from a basic pattern, using the principles of art as applied to dress design. Prerequisites: FAME 2430 and 3 semester hours of clothing construction.

FAME 4425 Fashion Entrepreneurship (3) Students will create a business plan based on fashion industry trends and consumer needs. Current computer software will be used to create retail sales plans and analyze profit/loss statements. Fashion retail personnel needs and store operations and management strategies will also be addressed. Prerequisites: FAME 3435.

FAME 4430 Merchandising Applications (3) Builds upon the necessary understanding, knowledge, and working applications of the basics for profitable fashion merchandising. Prerequisites: ACCT 2101 and must be taken concurrently with FAME 4444.

FAME 4433 International Apparel Technology (3) An analysis of economic, political, and cultural systems affecting international textile and apparel trade. An emphasis on how technology has influenced importing and exporting in the global fashion marketplace.

FAME 4442 Advanced Textiles (3) Comparative study of factors influencing the properties of fibers and fabrics as well as the performance of textile and apparel products. Lab period is used to test textile performance with standardized test procedures. Prerequisites: CHEM 1104 or equivalent and FAME 2442.

FAME 4444 Fashion Merchandising (3) Principles and practices of fashion manufacturing and merchandising. Prerequisites: FAME 3444, MKT 3410 and must be taken concurrently with FAME 4430.

FAME 4445 Senior Seminar in Fashion and Apparel Merchandising (3) This course provides hands-on learning experiences using technology that could be used by industry professionals. Students will use higher-order thinking to analyze location, competition, customers, and financial documents. This class not only teaches students how to compute retail math, but how to analyze and apply the figures to improve profits for existing and new businesses. Critical thinking, teamwork, and communication skills will all be emphasized, which will help graduates to succeed in an ever-changing work environment. Prerequisite: FAME 3435.

FAME 4450 Special Problems in Textiles and Clothing (2-3) Recent trends. Group and individual problems which will include reports, discussions, bibliographies, research, and experiments. May be repeated for a maximum of 6 semester hours. Prerequisite: FAME 2442.

FAME 4490 Internship in Fashion and Apparel Merchandising (1-3) Students will participate in a management training program to broaden intellectual awareness while gaining practical fashion industry experience. Performance-based goals and learning experiences will be evaluated by a company supervisor in coordination with the faculty instructor. Can be repeated for a maximum of 6 hours. Prerequisite: FAME 2442.

FAME 5460 Seminar in Textiles and Clothing (2-3) Investigation and discussion of particular problems in fashion and apparel merchandising. Students may conduct minor research studies of a professional nature which may lead to a thesis.

FIN - Finance

FIN 4803 Principles of Insurance (3) Study of importance of risk in personal matters and various methods of treating risk. Includes property/liability insurance, life/health insurance, and insurance regulation. Prerequisites: FIN 3850 and admission to the B.S.B.A program or graduate status, or a declared major in Actuarial Science and Mathematics with completion of MATH 4510.

FIN 4804 Employee Benefits and Retirement Planning (3) A planning perspective is developed for major employee benefit arrangements, retirement plan provisions, pension design, tax implications and suitability for different businesses.

FIN 4805 Advanced Personal Financial Planning (3) Develops ability to synthesize financial planning knowledge in order to analyze complex client case scenarios. Emphasis on characteristics of the financial planning profession. Prerequisites: ACCT 3130, FIN 3891, FIN 4803, and FIN 4804; or FIN 4803, FIN 4804, FIN 5840, and admission to the MA in Accountancy program.

FIN 4815 Investment Portfolio Administration (3) Application of security analysis and investment decision concepts to case problems and computer simulated investment situations. Additional readings in selected portfolio management theories. Prerequisites: FIN 3891 and admission to the B.S.B.A program or graduate status.

FIN 4817 Managing Financial Derivatives (3) Applied analysis of pricing and hedging techniques for managing investments in derivative contracts (forward, futures, options, and swap contracts) involving the application of concepts and strategies to case problems and computer simulations. Prerequisites: FIN 3850 and admission to the B.S.B.A program or graduate status, or a declared major in Actuarial Science and Mathematics with completion of MATH 4510.

FIN 4820 International Finance (3) An intensified study of international banking and finance as it relates to international trade and the multinational corporation and the financing of imports and exports. Prerequisites: FIN 3850 and admission to the B.S.B.A program or graduate status.

FIN 4830 Directed Readings in Finance (3) Intensive study of significant financial topics.

FIN 4880 Bank Management (3) Study and analysis of the problems of management of commercial banks with an emphasis on investment and loan portfolios. Prerequisites: FIN 3881 or FIN 5830; and admission to the B.S.B.A program or graduate status.

FIN 5800 Managerial Finance (3) Topics covered will include capital expenditures, capital structure, cost of capital, dividends, mergers, concept of income maintenance, and, working capital. Cases in managerial finance and individual readings will supplement textbook learning. Prerequisites: FIN 2801.

FIN 5805 Controllorship and the Treasury Function (3) Advanced managerial accounting and finance topics necessary to compete in a global market place. Prerequisites: Undergraduate MBA background and admission to MBA program; must be taken concurrently with ACCT 5105.

FIN 5820 Seminar in Finance (3) The financial problems of profit seeking corporations are examined. Consideration of such matters as operations, obtaining capital, and reorganization. Prerequisite: 6 semester hours credit in finance.

FIN 5830 Advanced Financial Institutions and Markets (3) In-depth study of managing risk and return in contemporary financial institutions with special emphasis on methods and markets through which these risks are managed. Prerequisites: FIN 3801 and either FIN 3850 or FIN 5800.

FIN 5840 Investment Analysis and Practice (3) Theoretical and applied analysis of securities and derivatives, and valuation, construction and risk hedging of portfolios. Involves use of computer software, supplemental readings, and cases. Prerequisites: FIN 3801 and either FIN 3850 or FIN 5800.

FIN 6860 Readings in Finance (1-3) Selected readings in finance; e.g., financial management, commercial banking, investment banking, or investment. May be repeated for a maximum of 6 semester hours. Prerequisite: Six semester hours credit in finance.

FOOD - Food

FOOD 4326 Experimental Foods (3) An experimental approach to the study of factors which influence the behavior of foods. Group and individual experiments. Prerequisite: Food 2322 or equivalent.

GEOG - Geography

GEOG 4201 Cartography (3) Techniques and tools of map construction including gathering, manipulation, and representation of geographic data. Emphasis on thematic mapping and maps as communication. Traditional and electronic technologies stressed. Prerequisite: GEOG 2212 or EASC 1004 or instructor consent.

GEOG 4205 Advanced Cartography (3) Implementation of mapping software, map design, problems and opportunities associated with computer mapping. Content includes obtaining data in a computer context (e.g., Cyberspace). Prerequisite: GEOG 4201 or equivalent or instructor consent.

GEOG 4210 Remote Sensing and Image Interpretation (3) Use of electromagnetic spectrum to obtain information on our environment. Emphasis includes visible spectrum (air photography), thermography, radar, and satellite imagery. Prerequisite: GEOG 2212 or EASC 1004 or instructor consent.

GEOG 4220 Geographic Information Systems I (3) Automated procedures for storage, analysis, and display of spatial information. Data bases, procurement of spatial information, data manipulation and display techniques, software systems and management issues.

GEOG 4221 Geographic Information Systems II (GIS II) (3) Advanced aspects of spatial analysis and modeling techniques utilizing polygon overlay, network analysis, grid and surface modeling, and programming. Emphasis on research and planning applications. Prerequisite: GEOG 4220 or instructor consent.

GEOG 4230 Geography of Asia (3) A systematic and regional approach to the several Asian landscapes. Emphasis is on physical geography and cultural regions.

GEOG 4235 Geography of the Former Soviet Union (3) A regional geography of the F.S.U. The relationship of rigorous physical environment to national problems.

GEOG 4240 Geography of Missouri (3) A description and analysis of the systematic and regional geography of Missouri.

GEOG 4251 Special Projects in Geography (1-6) Study, interpretation, and discussion of special topics and problems in geography. May be repeated for a maximum of 6 semester hours.

GEOG 4252 Internship (1-6) Practical professional experience in an employing agency coupled with related assignments intended to integrate theory and practice and build college-level knowledge and skills. Prerequisite: Instructor consent.

GEOG 4260 Historical Geography of the United States (3) Relationship of changing geography to physical environment and developing technology in the United States.

GEOG 4265 Urban Geography (3) Location of cities as related to other geographic phenomena. Urban units are analyzed with respect to general location theory.

GEOG 4270 World Political Geography (3) The historical development of the political organization of area. Theoretical aspects of political geography are emphasized.

GEOG 4275 Special Topics in Geography (1-3) Directed individual or group research of predetermined problems in geography for more intensive study. May be repeated for a maximum of 3 semester hours.

GEOG 4280 Natural Disasters (3) This course is designed to examine the geography, natural causes, and human consequences of a variety of natural disasters including a focus on how human behavior exacerbates those consequences.

GEOG 4291 Conservation of Natural Resources (3) Problems of availability, production, exploitation, appraisal, distribution, and renewability of natural resources.

GEOG 5001 GeoVisualizing Spatial Data (3) Students will use ESRI made ArcGIS use to geovisualize spatial data in relations to ground. It covers basic principles of lettering, spatial data display, color manipulation techniques, data exploration and map animation.

GEOG 5010 Digital Image Processing (3) Introduces the principles of remote sensing, aerial photographic techniques, photogrammetry, multispectral, hyperspectral and thermal imaging and RADAR and LIDAR image analysis. More emphasis on the geographical applications of remote sensing. This course will help students integrating raster with vector data.

GEOG 5020 Principles of Geographic Information Systems (3) Fundamentals of geographic techniques such as georelational and object-based data models, spatial features. This course will help students link between aspatial and spatial information for statistical analysis. Emphasis will be on vector and data integration and their analysis.

GEOG 5021 Advanced Geographic Techniques (3) Advanced aspects of geographical techniques such as transportation network and business network analysis, modeling in geomarketing, spatial modeling, 3D modeling, data integration and analysis using geospatial statistical techniques. This course will help students develop leadership skills. Emphasis on planning, research, and proposal developments.

GEOG 5200 Readings in Geography (1-3) Selected readings in geography under the guidance of the instructor. Class sessions may be required as part of the program. May be repeated for a maximum of 3 semester hours. Prerequisite: Instructor consent.

GEOG 5210 Problems in Geography (1-3) An in-depth study of the major problems in regional and systematic geography. May be repeated for a maximum of 3 semester hours. Prerequisite: Instructor consent.

GEOG 5221 Applications of Geographic Information Systems (GIS) (3) Advanced aspects of GIS including polygon overlay, network analysis, classification of digital data by methods such as Principal Components Analysis, Parallel Piped and Minimum Distance to Means Classifiers, Global Positioning Systems (GPS). Introduction to programming in Avenue. Prerequisite: GEOG 4220 or equivalent or instructor consent.

GRAD - Graduate Studies

GRAD 5001 Special Projects in Graduate Studies (1-3) Individual or group study of problems in special areas of interest. May be repeated for a maximum of 6 semester hours.

GRAP - Graphic Technologies/ Graphics

GRAP 4014 Advanced Technical Problems in Graphic Arts (1-3) Individual/group work on recent developments and advanced technical concepts. Experimentation and technical exploration of content not available through formal course offerings in the department. By arrangement for qualified students. May be repeated for a maximum of 6 semester hours. Prerequisites: Written contract/proposal with objectives and written department consent.

GRAP 4038 Color Science (3) Technical aspects of process color reproduction; includes color theory, ink evaluation, densitometry, tone reproduction, printing characteristics, color correction, gray balance, color separation, and proofing. Laboratory experiences support lecture/theory content. Prerequisites: GRAP 2031 and GRAP 3045.

GRAP 4040 Applied Color Management (1) Application of color theory to the measurement and process control of color printing with a concentration on densitometry and colorimeter in order to meet industry production standards. Prerequisite: GRAP 4038.

GRAP 4051 Print Production (3) Applied experiences in management and technological applications in the production of printed material including prepress, press, and post press operations. Prerequisites: GRAP 2032, GRAP 2035, and GRAP 3051.

GRAP 4053 Production Analysis (3) A variety of printing requests are analyzed to determine printing specifications, production sequence, cost factors, material ordering, and technical problems that may arise during the actual printing. Course emphasis utilizes this analysis into a planning sequence of communications, scheduling, routing, dispatching, and work and material flow required for printing production. Prerequisites: GRAP 3034 and GRAP 3043.

GRAP 4055 Estimating and Cost for Print (3) Identification of costs relative to materials, operations, and labor utilized in the production of printed matter. Budgeting, forecasting, cost accounting, and budgeted hourly rates. Prerequisites: GRAP 4053.

GRAP 4095 Senior Seminar in Graphic Tech (1) Professional preparation integrating team building skills, problem solving, and analysis of current trends specific to graphic arts. Prerequisite: GRAP 3051.

GRAP 4500 Special Projects in Graphics (1-3) Investigation of contemporary problems and issues in graphics by selected individuals or groups. May be repeated for a maximum of 6 semester hours. Prerequisites: written contract/proposal with objectives and written department consent.

GRAP 5500 Special Problems in Graphics (2-6) Meets individual student needs for additional research and/or laboratory experiences in the development of technical knowledge and skills in the areas of graphics. May be repeated for a maximum of 6 semester hours. Prerequisites: Written contract/proposal with objectives and written department consent.

HED - Health Education

HED 4000 Special Projects in Health Education (1-5) Individual or group study of problems in special areas of interest. May be repeated for a maximum of 6 semester hours.

HED 4300 Nutrition and Human Performance (2) Nutrition as it applies to athletics, physical exercise, and health. Prerequisites: PE 2800 and PE 2850 or equivalent.

HED 4310 Drugs and Youth (3) Use and abuse of alcohol and drugs; current problems relative to drug use, abuse, and control; programs in education, law enforcement, and community agencies.

HED 4320 Teaching Sexuality Education in the School (3) Prepares the teacher for course development, instruction, and integration of sexuality education into the school curriculum.

HED 4350 Advanced First Aid and Emergency Care (3) Emphasizes the essential knowledge and skills needed to develop the functional first aid capabilities required by policemen, firemen, emergency squad and rescue squad members, ambulance attendants, and other special interest groups. Students taking this course may complete requirements for the American Red Cross Advanced First Aid and Emergency Care Certificate.

HED 4360 CPR Instructors Training (1) Procedures, theories, and techniques involved in the teaching of the American Red Cross CPR Modular System course. Students may complete requirements for the Red Cross CPR Modular System Instructor Certificate. Prerequisite: Current Red Cross CPR Modular System Certificate.

HED 4370 Human Diseases (3) An overview of the agents of disease, the processes of contagion, and the effects on humans. Prerequisite: PE 2850 or BIOL 3401 or equivalent.

HED 4390 Community Health Education (2) Various types of health programs conducted by private, volunteer, and official agencies.

HED 4760 Organization and Administration of the School Health Program (2) The organization and administration of the school health program emphasizing the areas of healthful school living, health services, and health instruction. Prerequisite: HED 3310 or HED 3360.

HIST - History

HIST 4300 Missouri History (3) Missouri history from earliest times to the present.

HIST 4307 American Colonial History 1607-1763 (3) American political, economic, and cultural institutions in the colonial period.

HIST 4309 The African-American in American History (3) Economic, political, and social development of the African-American in the United States.

HIST 4310 Women in America (3) Women in America from colonial times to the present with emphasis upon the nineteenth century feminist movement and the recent twentieth century women's rights movement.

HIST 4311 Revolution and Republic (3) American political, economic, and cultural institutions from 1763 to the War of 1812.

HIST 4314 Jacksonian America (3) Cultural, social, political and economic development of the United States from the War of 1812 to 1848.

HIST 4315 The Civil War and Reconstruction (3) The causes of the war, the social, political, economic and military impact of the war; and the post-war reconstruction process.

HIST 4316 The American Military Experience (3) A military history of the American people from colonial times to the present, specifically designed to satisfy the Professional Military Education component of the Military Qualifications Standards required of all candidates for commissioning in the United States Army.

HIST 4317 The Jazz Age and the Great Depression (3) The social, cultural and political trends of the Jazz Age, the social and economic impact of the Great Depression, and the advent of the New Deal.

HIST 4318 The Gilded Age and Progressive Era (3) The course examines the political and social changes in the United States from 1877 to 1920 that contributed to the emergence of modern America.

HIST 4320 History of the Westward Movement (3) Economic, social, cultural, and political contributions to American development by the Westward Movement.

HIST 4322 Grand Expectations 1945-1980 (3) Examines the domestic and foreign developments of the United States from the end of World War II through the aftermath of Vietnam and Watergate.

HIST 4323 Our Times: America From 1980 to 2008 (3) Examines the domestic and foreign developments of the United States from the ascendancy of Reagan to the advent of global terror.

HIST 4324 Truman and Civil Rights (3) This course analyzes the civil rights record of President Harry S. Truman.

HIST 4325 History of American Diplomacy (3) Foreign relations of the United States with emphasis on the period since 1900.

HIST 4326 Native American History of the United States (3) A survey of relations between Native Americans and Euro-Americans from colonial times to the present.

HIST 4327 African-American Women, Gender, and Girlhood (3) This course focuses on the history and development of black women and girls from their African origins to present.

HIST 4330 The United States and World War II (3) The rise of totalitarianism in the 1930's, America's reaction to totalitarianism, the war in Europe 1939-41 and America's reaction, America in World War II, the impact of World War II upon American society, and the post-war settlement and the Cold War.

HIST 4331 The Vietnam Era (3) Vietnam in the pre-French (1880's) era, France in Vietnam until 1954, the gradual U.S. involvement in Vietnam 1954-64, the Vietnam War 1964-73, Vietnam of the post-American involvement era to the present and finally an analysis of the impact of the Vietnam War on American society.

HIST 4340 Public History (3) The course defines public history and its constituents, and it surveys the job experiences of practitioners in the fields of archives, museums, and historic sites.

HIST 4351 Special Projects in American History (1-6) Study, interpretation, and discussion of special topics and problems in American history. May be repeated for a maximum of 6 semester hours.

HIST 4402 Ancient Greece (3) A survey of Greek history from the pre-classical Minoan and Mycenaean civilizations, through the classical period, to the Roman conquest.

HIST 4403 Ancient Rome (3) A survey of Roman history from its origins to the decline of the imperial system. Particular emphasis will be placed upon the political, social, and economic developments in the Republic and the factors that led to the fall of the empire.

HIST 4404 Barbarian Europe (3) European history from the fall of the Roman Empire to the formation of new successor states, with emphasis on interdisciplinary research methods.

HIST 4411 The Renaissance and Age of Exploration (3) An analysis of the relationships between the Italian Renaissance, Iberian exploration, and the forging of the first global economy up to the mid-sixteenth century.

HIST 4412 Era of Renaissance and Reformation (3) The intellectual and cultural institutions of Europe during the Age of the Renaissance and the Protestant Revolt and Catholic Reformation.

HIST 4413 The Age of Absolutism and Enlightenment (3) The development and legacy of the European bureaucratic and centralized monarchical state in the context of the Scientific Revolution.

HIST 4414 The Age of the French Revolution and Napoleon (3) The origins, development, and consequences of the French Revolution and the Napoleonic Empire in France and in the larger European world, with special reference to the broad transformation of the entire continent during the eighteenth century.

HIST 4415 Revolutionary Europe (3) A survey of the political, social, economic, and cultural transformation of Europe in a century of revolution, from the ancient regime to World War I.

HIST 4416 Europe in Crisis: 1900-1945 (3) Examines the political, diplomatic, and strategic trends of the major European crises up to 1945: the Great War, the Great Depression, and World War II.

HIST 4418 War and Modern Society (3) This course will explore the relationship between warfare and society from the advent of gunpowder weaponry to the 21st century.

HIST 4419 Women in Modern Europe (3) Survey of the history of European women's oppression and agency from the Renaissance to the present.

HIST 4422 England to 1689 (3) The history and institutions of England from Anglo-Saxon times to the Glorious Revolution.

HIST 4423 Modern Britain and the Empire (3) Political, economic, and social development of modern England and the empire.

HIST 4431 Modern Germany and the Nazi Experience (3) A political, social, economic and cultural history of Germany from World War I through the post-World War II era with emphasis on the Third Reich.

HIST 4432 The Holocaust (3) Examines the Holocaust within the context of historical anti-Semitism and the chronology of Nazism's rise, World War II, the Final Solution, and the legacy.

HIST 4441 The Rise of Imperial Russia (3) This course will explore the history of imperial Russia from Kievan Rus' through the end of the reign of Tsar Alexander II.

HIST 4442 Modern Russia and the Soviet Union (3) Russia and its place in world affairs since the eighteenth century.

HIST 4451 Imperial Spain 1469-1714 (3) The rise of the Spanish Empire in the Old World and the New from the fifteenth through the seventeenth centuries.

HIST 4452 Modern Latin America (3) Latin American history from the independence movement of the eighteenth century to the present.

HIST 4453 History of Mexico (3) A survey of the political, social, economic and cultural history of Mexico from pre-Columbian civilizations to the present.

HIST 4461 The Rise of Chinese Civilization (3) The origins, development, and transformation of Chinese civilization from ancient to modern times, including China's impact on peripheral nations and the modifications of traditional culture by Western influences until 1949.

HIST 4462 The Rise of Japanese Civilization (3) The origins, development, and transformation of Japanese civilization from ancient to modern times, emphasizing the unique qualities of Japanese history and culture and the role of Japanese leadership in modern East Asia.

HIST 4463 Modern China (3) Communist China since World War II, including the expulsion of the Nationalist government from the mainland, the consolidation of communist power and authority, internal upheavals such as the "Hundred Flowers," the Great Leap Forward, and the Cultural Revolution and Communist China's foreign policies and role in international affairs.

HIST 4464 Modern Korea (3) Korean history from 1800 to the present, examining politics, society, economy, and culture. Focus on Korea's interaction with East Asia and the world.

HIST 4471 The African Diaspora (3) Examines the global dispersal of Africans with particular emphasis on the rise and abolition of the Trans-Saharan and Atlantic slave trades.

HIST 4472 African History (3) Examines the African continent, its development and its place in world affairs since prehistory, from complex societies to independence in the twentieth century.

HIST 4473 History of South Africa (3) This course is a survey of South African History from the pre 1800s to the present.

HIST 4481 Traditional Middle East (3) The History of West Asia and the Eastern Mediterranean from Muhammad to Napoleon, with Special Emphasis on the Rise and Expansion of Islam, Including its Principles, the Arab and Persian Empires, and the Impact of the Mongols, the Turks, and the Crusades.

HIST 4482 The Modern Middle East (3) The course will focus on western Asia, north Africa, and the eastern Mediterranean region since the Napoleonic invasion of Egypt, with special emphasis on the decline of the Ottoman Empire, the impact of the great powers, and the effects of nationalism, oil, and the religious dynamic.

HIST 4491 Special Projects in World History (1-6) Study, interpretation, and discussion of special topics and problems in World History.

HIST 5310 Readings in History (1-6) Independent readings in selected fields of history. Offered only on a limited basis. May be repeated for a maximum of 6 semester hours. Prerequisite: Nine semester hours of history and graduate adviser's consent.

HIST 5350 Colloquium (3) Advanced study and class discussions in selected area of history. Special area of emphasis to be announced each semester by assigned instructor. May be repeated as areas change for a maximum of 12 semester hours. Prerequisite: Nine semester hours of history.

HIST 5351 Special Projects in Public History (3) Study, interpretation, and discussion of special topics and problems in public history.

HIST 5400 Historical Methods and Historiography (3) A survey of the skills essential to the research and writing of history, including the systems, interpretations, and contributions of historians to the discipline. Open only to history and social science majors.

HIST 5500 Public History Internship (3) Course allows student to obtain practical experience in a specialization field of public history. Prerequisite: HIST 4340.

HIST 5550 Public History Project (3) The course serves as the capstone for the Applied Track of the MA in history program and allows students the opportunities to obtain practical experience in creating and managing a public history project. Prerequisite: HIST 4340 and HIST 5500.

HIST 6305 Studies in History (3) Directed specialized study leading to the completion of a research paper. Periodic arranged class sessions devoted to discussion of historical writing techniques and analysis of individual research projects. May be repeated as areas change for a maximum of 12 semester hours. Prerequisite: Nine semester hours of history.

HIST 6350 Thesis (4-6) Special investigation of problems in historical research and interpretation culminating in the completion of a thesis.

HM - Hospitality Management

HM 4000 Special Projects in Hospitality Management (1-3) Investigation of current problems and issues in hospitality management. May be repeated for a maximum of 9 semester hours.

HM 4710 Internship (3-6) Provides experience for students in cooperating businesses and agencies/organizations. May be repeated for a maximum of 12 semester hours with no more than 6 semester hours graduate credit. Prerequisites: 20 semester hours of major course offerings; undergraduate grade point average of C or above; department consent.

HM 4800 Hotel and Restaurant Management (3) Specialized managerial functions involved in operation of hotels, restaurants, and other facilities in the hospitality industry.

HM 4820 Hospitality Technology (2) Personal definitions and ability to impact an operation and society are developed while understanding the tiers of sustainability: economic, social, and environment. Proficiency in waste and efficiency management are developed focusing on equipment, design, menu, labor, and marketing. Students work with industry on client projects and present a completed research assignment. Prerequisite: ACCT 2101.

HM 4840 Legal Aspects of Hotel and Restaurant Management (3) Examination of federal and state laws, including judicial interpretations relevant to hotel and restaurant operations, as well as tort, negligence and criminal liability. Methods for prevention of legal action will be investigated.

HRM - Human Resource Management

HRM 4930 Compensation and Benefits (3) Concepts, models, theories, and application of processes and systems of employee compensation and benefits within organizations. Prerequisite: HRM 3920.

HRM 4960 Employment and Development (3) Concepts, models, theories, and application of human resource planning, employment, and training and development. Prerequisite: HRM 3920.

HRM 4990 Problems in Human Resource Management (3) An integrated approach to the administration of the human resource function in various types of organization settings through the use of the case and incident methods. Prerequisite: HRM 3920.

INDM - Industrial Management

INDM 4010 Current Issues in Industry (3) Identify, discuss, and research current issues, trends, and technological changes affecting industry as related to corporate planning, decision making, and managing for the future. Prerequisite: Junior or senior status for undergraduate credit.

INDM 4210 Industrial Management (3) A survey of operations management in industry today. Industrial management principles and applications, management science, operations analysis and design, manufacturing processes, process life cycle, production inventory, and quality control are emphasized.

INDM 4220 Human Factors Engineering (3) Integration of concepts involved in providing safe and comfortable work places (Ergonomics) with concepts directed toward increased productivity and profitability (Work Design).

INDM 4230 Lean Quality Management (3) Relationship between quality and competitiveness, design strategy for performance excellence, and discussion of cases in lean systems and Six Sigma.

INDM 4240 Facilities Engineering (3) Provides students and practitioners with the practical resources that describe the techniques and procedures for developing an efficient facility layout and an introduction to computer simulations.

INDM 4250 Project Management (3) This course is designed to provide students with applied knowledge in project management organizational contexts, project selection, portfolio management, project leadership, scope management, team building, conflict management, risk management, scheduling, networking, resource management, project evaluation, project control, and project termination.

INDM 4260 Organizational Dynamics (3) Various types and styles of supervisory leadership in the industrial setting. Emphasis is placed on human relations aspects of leadership in the line and staff organizational structure.

INDM 4280 Industrial Statistics (3) Statistical methods designed for industrial and applied research. Some of the quantitative methods used for solving industrial problems, including measurement system analysis, statistical process control, probability distribution, testing hypotheses, multiple regression analysis, design of experiment, and nonparametric statistics commonly used in industry. Prerequisite: MATH 1111 or instructor consent.

INDM 5015 Legal Aspects of Industry (3) Identify, discuss, and research legal issues affecting industry as related to corporate planning, decision making, and management. The role of corporate and social responsibility will also be developed.

INDM 5020 International Technology Management (3) Develop an understanding of international technology management for graduate students in the international environment.

INDM 5212 Production and Operations Management (3) Production/operations concepts with emphasis upon systems, systems design and analysis, strategies, productivity, planning, forecasting, deterministic and stochastic inventory control, MRP scheduling, and project planning.

INDM 5220 Applied Operations Research (3) Systems and modeling in industrial management situations. General models, and models such as linear programming, transportation assignment, dynamic programming, and queuing theory are discussed.

INDM 5222 Principles and Practices of Lean Systems (3) A survey of theory, goals, and applications of Lean principles and strategies in industrial organizations. Applying Lean concepts to business strategy, product design, tools for finding and eliminating wastes and for process continuous improvement. Prerequisite: Background in quality management or ENGT 4580 or instructor consent.

INDM 5230 Seminar in Industrial Management (1-3) To provide individual research and experimentation opportunities for industrial management majors. May be repeated for a maximum of 3 semester hours. Prerequisite: Ten semester hours of graduate study in industrial management.

INDM 5232 Seminar in Lean-Six Sigma Implementation (3) An investigation of problems and specific issues in Lean-Six Sigma implementation in the manufacturing and service environment is presented. The emphasis is on case study analysis and individual research projects on industrial core operations and support functions, with the business results of Lean and Six Sigma processes. Prerequisite: Background in quality management or ENGT 4580 or instructor consent.

INDM 5240 Engineering Economy (3) Principles and techniques needed for making decisions about the acquisition and retirement of capital goods by industry. Emphasis on techniques which produce long-run economy in industrial operations.

INDM 5260 Systems Analysis and Management Information Systems (3) Development of material requirements planning within the context of management information systems.

INDM 6580 Advanced Strategic Quality and Standards (3) A course of study in total quality techniques, quality standards and criteria, and quality certification training utilized by quality professionals in dynamic organizations. Prerequisite: ENGT 4580 or instructor consent.

INST - Instructional Technology

INST 4005 Special Projects in Instructional Technology (1-5) Individual or group study of problems in special areas of interest. May be repeated for a maximum of 5 semester hours.

INST 4100 Integrating Technology into Teaching (3) Advanced preparation in how to integrate technology into teaching including the latest trends and pedagogical strategies.

INST 4250 Project Management (3) This course is designed to provide students with applied knowledge in project management organizational contexts, project selection, portfolio management, project leadership,

scope management, team building, conflict management, risk management, scheduling, networking, resource management, project evaluation, project control, and project termination.

INST 4300 Principles of Online Instruction (3) Introduces students to the resources, techniques, and practices of teaching and learning in the PK-12 online environment.

INST 4310 Fund Development for Educational Technology (1) Practical understanding and skills related to the creating fundable ideas, locating funding sources, writing competitive proposals, and manage funded educational technology projects.

INST 4318 Telecommunications in Education (3) Provides students in education with the concepts and skills needed in using telecommunications networks for instructional purposes, research, and information access and delivery. Prerequisite: EDEL 2310 or equivalent experience.

INST 4330 Technology Troubleshooting for Educators (2) Provides pre-service and in-service educators with the knowledge and skill to operate, maintain and troubleshoot (service) the various hardware devices and software found in schools.

INST 4350 Administration of the K-12 Computer Lab (3) Addresses organization and management of computer labs in a K-12 setting. Introduces students to resources and skills to evaluate, select and purchase equipment and software.

INST 4400 Design and Production of Media for Instruction (3) Design and production of print-based, computer-based, and video-based instructional materials that are related to subject areas or grade levels. Includes application of hypermedia and multimedia technology to the design and production of educational materials. A charge is made for expendable materials.

INST 4920 Practicum in Instructional Technology (1) Participation in field experiences that provide practice with teaching methodology applicable specifically to the problems and procedures encountered when working with instructional technology. May be repeated for a maximum of 4 semester hours. Prerequisite: INST 4400.

INST 5000 Special Projects in Educational Technology (1-3) Directed individual or group study of contemporary issues in educational technology. May repeat for a maximum of 6 semester hours.

INST 5100 Foundations of Educational Technology (3) Provides historical, sociological, philosophical, and research foundations for applying computer-related technologies in educational settings.

INST 5220 Communication in Online Learning Communities (3) Students examine theoretical and practical aspects of communication and collaboration focusing on online communication and its effects on online learning communities.

INST 5320 Assessing and Evaluating Online Instruction (3) This course presents a variety of tools and methods for assessing student achievement in online learning environments. Emphasis is on continual assessment and evaluation.

INST 5330 Educational Product Development and Management (3) Students create, find, evaluate, use, and store digital educational products; assess their impact on learning; plan standards-based lessons, and design storage and retrieval systems.

INST 5340 Teaching with Tele-Learning Technologies (3) Provides technology specialists and teachers with methods and strategies for teaching lessons using tele-learning technologies.

INST 5360 Educational Computing Systems (3) Provides knowledge and experience in setting up educational computing systems, implementing software usage, and managing related activities.

INST 5390 Educational Technology Leadership (3) Provides educational technology coordinators with knowledge for managing the change process in schools; leadership in staff development, facilities and resource management.

INST 5400 Advanced Production of Educational Multimedia (3) Provides advanced techniques for the development of educational multimedia products and the methods and strategies for teaching the use of technology tools.

INST 5500 Online Course Development (3) Designed to synthesize information from educational technology coursework and experiences. Culminates with the creation of coursework in an online setting. Prerequisites: INST 5100

INST 6500 Online Course Production (3) Production of an online course in the field of educational technology. May be repeated for a maximum of 6 semester hours. Prerequisite: INST 5500 or instructor consent.

INST 6920 Advanced Practicum in Instructional Technology (2) Practical experience in appropriate areas of instructional technology. May be repeated for a maximum of 6 semester hours. Prerequisite: INST 4920.

INST 6930 Internship in Educational Technology (3) Practical experience in the use, management, evaluation, and application of technology resources to support instruction in classroom settings. Prerequisite: Instructor consent.

INST 6950 Seminar in Educational Technology (3) A seminar designed to address various current topics in educational technology. May be repeated for a maximum of 6 semester hours.

INST 6960 Research Problems in Instructional Technology (3) Special investigation of an approved problem in the major field resulting in a research paper. May be repeated for a maximum of 6 semester hours. Prerequisite: CTE 5130, EDFL 5900 or LIS 5910.

ISP - International Studies

ISP 4000 Study Abroad (1-18) This course allows students to enroll at the University of Central Missouri while attending classes in a sponsored study abroad program. The variable credits are based on the number of credit hours the student plans to complete at the foreign institution. The actual credit recorded represents those credits completed by the student and transferred back to UCM. May be repeated for a total of 18 hours of graduate credit, but the academic department graduate adviser will determine how many hours may directly apply toward the graduate degree. Prerequisite: Approval of the Director of the International center.

LIS - Library Science and Information Services

LIS 4000 Special Projects in Library Science (1-5) Individual or group study of problems in special areas of interest. May be repeated for a maximum of 5 semester hours.

LIS 4300 Introduction to the Internet Via Internet (3) An examination and evaluation of the structure and function of the Internet and its use as a tool for communication, collaboration, and commerce.

LIS 4320 Creating Web-Based Internet Sources (3) An in-depth examination and evaluation of theoretical and practical principles, along with the development of skills necessary to create and provide resources on the Internet.

LIS 5000 Special Projects in Learning Resources (1-5) Directed individual study to address current issues in and/or special interests of the student. May be repeated for a maximum of 5 semester hours.

LIS 5100 Foundations of Librarianship (2) Introduces the student to the development of the library as an institution and to the role of the library and the librarian in today's society.

LIS 5230 History of Books and Libraries (3) The development of books and libraries from the ancient world to the present and the effects of printed information on communication and cultural development in societies.

LIS 5240 Library Media Administration (3) Principles of organization and administration of the library and media center and its relationship to its many publics.

LIS 5250 Developing and Managing Collections (3) Critical analysis of selection tools in developing a comprehensive media collection with emphasis on selection for small- to medium-sized libraries and media centers.

LIS 5260 Library Systems and Information Technology (3) Investigation, manipulation, and evaluation of current technologies that affect the production, storage, dissemination, retrieval, and use of information.

LIS 5270 Organizing Information (3) Principles and practices of organizing information and creating bibliographic records including MARC formats.

LIS 5322 Reference Sources and Services (3) The selection, evaluation and use of traditional and electronic reference sources for school library media centers.

LIS 5340 Children's, Adolescent, & Young Adult Literature (3) An examination and evaluation of books and non-book materials with emphasis on informational materials.

LIS 5660 Government Publications (2) Explores government information resources and how to locate retrieve and use them.

LIS 5750 Using Online Resources (3) This course provides practical experience with information databases and other Internet resources available in K-12 settings, focusing on how, when and why to use them.

 **LIS 5770 Curriculum and the Media Center (3)** The integration of information literacy skills and current technologies into K-12 instructional strategies.

LIS 5820 Practicum I (1-4) Involves practical experience in processes of library media centers. May be repeated for a maximum of 4 semester hours. Prerequisite: Adviser consent.

LIS 5910 Action Research in School Libraries (2) Research methodology applicable to librarianship and instructional media technology.

LIS 6730 Seminar (2) A seminar designed to address various current topics in libraries and information services. Topics will be announced annually. May be repeated for a maximum of 6 semester hours.

 **LIS 6830 Internship in School Libraries (3-8)** The internship is a post-practicum clinical experience designed to place the student in a school library with the support of university faculty. Prerequisite: LIS 5820 and adviser consent.

LIS 6960 Research Problem (2) Special investigation of an approved problem in the field resulting in a research paper. A prospectus is required. May be repeated for a maximum of 4 semester hours. Prerequisite: LIS 5910.

LIS 6990 Thesis (2) Investigation of an approved topic in library or information service resulting in a formal thesis. A prospectus is required. Prerequisite: LIS 6960.

MATH - Mathematics

MATH 4150 Advanced Calculus I (3) A rigorous approach to the fundamental concepts of differential and integral calculus of functions of a single variable. Prerequisites: MATH 2153 and MATH 3710 or MATH 4710.

MATH 4171 Functions of a Complex Variable (3) General properties of analytic functions of a complex variable with applications. Prerequisite: MATH 4150 or department chair consent.

MATH 4211 Topology I (3) Introduces the concept of point set topology. Includes the study of metric spaces, topological spaces, continuity, compactness, product spaces, and separation properties. Prerequisite: MATH 4710.

MATH 4312 Probability Models (3) An in-depth study of probability theory and stochastic processes with their applications in fields such as computer science, management science, social science, and operations research. Prerequisites: MATH 2153 and MATH 3311.

MATH 4322 Applied Statistics II (3) Applied statistical models and methods with an emphasis on time series and forecasting. Prerequisite: MATH 3321.

MATH 4323 Statistical Aspects of Experimental Design (3) Calculus based statistical aspects of experimental designs that include randomization, replication, blocking, and factorial experiments. Prerequisites: MATH 3311 or instructor consent.

MATH 4400 Combinatorics (3) Principles of enumeration, integer sequences, advanced binomial coefficients, inclusion-exclusion principle, recurrence relations and generating functions, and special counting sequences. Prerequisite: MATH 2410 or CS 2400.

MATH 4450 Introduction to Graph Theory (3) Basic graph theory concepts: connectivity, trees, matching, graph coloring, Eulerian and Hamiltonian graphs, distance, planarity, and network flows. Prerequisite: CS 1400 or MATH 2410.

MATH 4501 Actuarial Exam Review-Problem Set I (1) Problem solving strategies from probability that are uniquely applied to actuarial science. Prerequisite: MATH 4312 concurrently.

MATH 4510 Mathematics of Finance (3) The basic measures of interest, annuities, discounted cash flow analysis, and their applications. Prerequisite: MATH 1152.

MATH 4511 Actuarial Exam Review-Problem Set II (1) Problems from financial mathematics including modern financial analysis. Prerequisite: MATH 4510.

MATH 4520 Life Contingencies I (3) Theory and applications of contingency mathematics in the areas of life and health insurance, annuities and pensions. Prerequisites: MATH 4312 and MATH 4510.

MATH 4530 Statistical Modeling (3) A model-based study of statistical data that is used in decision making. Models include aggregate loss models, construction of empirical models, parametric models, credibility models, and simulation. Prerequisite: MATH 3321 and MATH 4312.

MATH 4710 Algebraic Structures (3) A study of groups, rings and fields with an emphasis in the study of roots of polynomials. Prerequisite: MATH 2410 and MATH 3720.

MATH 4711 Introduction to Modern Algebra (3) A rigorous introduction to the algebraic structures of groups, rings and fields. Prerequisites: MATH 4710.

MATH 4741 Introduction to the Theory of Numbers (3) Congruences, quadratic residues, the reciprocity theorem, and Diophantine equations. Prerequisite: MATH 4710.

MATH 4851 Probability and Statistics for Middle/High School Mathematics (3) A course focusing on the concepts and methods of teaching probability and statistics in the middle and high school mathematics program. Not available for graduate credit for MS Mathematics. Prerequisites: MATH 4821 and MATH 4822 or MATH 1151.

MATH 4871 Algebraic Concepts for Teachers (3) The properties and language of sets, functions, groups, rings, integral domains, and fields. Recommended for middle school/junior high school teachers. Will not satisfy requirements on undergraduate programs where MATH 4710 is a requisite. Prerequisite: MATH 4821 or equivalent course in college algebra.

 **MATH 4890 Mathematics for Special Education (2)** Individual and small group investigation of concepts and procedures appropriate for instruction of mathematics to all special needs children. Prerequisites: EDSP 2100, and MATH 3801 or MATH 3802 or MATH 3890.

MATH 4910 Special Problems in Mathematics (1-3) Individual reading and research on some topic not included in the regular offerings of the department. May be repeated for a maximum of 6 semester hours. Prerequisite: Mathematics major.

MATH 4912 Internship in Mathematical Sciences (3-8) Opportunity for students to gain knowledge in areas of mathematical science, both theoretical and applied, that would not normally be included as a part of the department's curriculum. Internship contract must be completed prior to beginning work/learning experience. May be repeated for a maximum of 16 semester hours. A maximum of 8 semester hours may be applied to any one degree. Prerequisites: Department Internship Committee consent and if taken for graduate credit, approval of graduate adviser.

MATH 5150 Advanced Calculus II (3) A rigorous approach to the fundamental concepts of differential and integral calculus on \mathbb{R}^n , infinite series, and sequences and series of functions. Prerequisites: MATH 4150.

MATH 5180 Real Analysis (3) Properties of functions of one real variable, Lebesgue measure, measurable functions and integration, Fubini's theorem. Prerequisite: MATH 4150.

MATH 5911 Special Topics in Mathematics (1-3) Individual reading and presentation of topics not included in the regular offerings of the department. May be repeated up to 3 times for a maximum of 9 semester hours. Prerequisites: Two of the following courses: Math 4710, Math 4150, Math 4211.

MATH 5920 Internship in Actuarial Science/Statistics (1-3) For presentation of topics in mathematics not included in the regular offerings of the department. May be repeated for a maximum of 3 semester hours. Prerequisite: Consent of actuarial Science/statistics committee and graduate adviser.

MATH 6912 Master's Project (6) Non-thesis project in an area of actuarial science/statistics, directed by an actuarial science/statistics graduate faculty member, and on a comprehensive study that involves the development of an independent investigation, design of the procedure, and the conclusion of the study. Prerequisite: Consent of adviser and actuarial science/statistic committee.

MATH 6950 Thesis (6) Research in an area of mathematical sciences, directed by a graduate faculty member in the Department of Mathematics and Computer Science, which leads to the completion of a thesis.

MGT - Management

MGT 4310 Quality and Innovation (3) Students learn about quality and innovation improvement processes from a customer perspective. The course uses integrated, team-based activities and real industry projects to teach system thinking, continuous improvement and innovation. Prerequisites: Admission to the BSBA program, or admission to the graduate school or declared management minor or permission of department chair.

MGT 4325 Management Communication (3) The vision for this course is for you to further develop and advance your individual and team communication skills so that you will have the opportunity to be highly competitive in your job search and in your pursuit of achieving success in your career throughout your lifetime. Your goal is to achieve professionalism in writing and speaking and thus, be able to develop a strategic communication strategy for business situations. You will work to achieve this goal through experiential learning by working through a series of business cases and addressing a range of real organizational communication challenges. The advanced communication theories, methods, and strategies are designed to help you develop professional oral and written communication skills. Prerequisites: MGT and Admission to the BSBA program.

MGT 4350 Special Projects in Management (1-3) Advanced course in management theory, practice, methods, and strategies taught on an individual or group basis to advanced management students and graduate students. May be repeated for a maximum of 6 semester hours. Prerequisites: All preadmission courses or MBA background requirements, MGT 3315, and Department Chair's approval with adequate preparation in area to be studied.

MGT 4370 Supply Chain Management (3) Examines supply chain, materials and logistics management and their role in competitive advantage. Investigates techniques for acquiring, storing, processing and moving materials inventory. In addition to regular course content, graduate students will conduct a special supply chain project for the UCM purchasing department or another organization's purchasing department. Prerequisites: Admission to the BSBA program, or admission to the graduate school or declared management minor or permission of department chair.

MGT 5305 Strategic Management and Marketing (3) Value based integrated working knowledge of strategic management and marketing processes with emphasis on development of thinking, communicating and interacting skills in a global market place. Prerequisite: MKT 5405.

MGT 5310 Seminar in Management (3) Advanced problems in managerial functions, organizational theory, and group dynamics.

MGT 5320 Crafting Corporate Culture (3) In-dept analysis of corporate culture. Exploration of how corporate culture is established, strengthened, and maintained and how it influences ethical choices and organizational change. Practical application is emphasized using business cases and the conduct of a culture audit within a client organization.

MATH 5211 Topology II (3) A continuation of the study of point-set topology including the study of quotient and uncountable product spaces, convergence structures, and the Stone-Cech compactification. Prerequisite: MATH 4211.

MATH 5331 Multivariate Statistical Analysis (3) Review of regression and analysis of variance. The multivariate normal distribution, Hotelling's T-square distribution, Wishart distribution, discriminant analysis, multivariate analysis of variance, factor analysis. Prerequisites: MATH 3710 or MATH 3321.

MATH 5341 Applied Stochastic Process (3) Introduction to stochastic processes used in stochastic modeling, including discrete and continuous time Markov processes, renewal processes, and Brownian motion. Prerequisites: MATH 4312 or MATH 4322.

MATH 5522 Life Contingencies II (3) A study of multiple decrement insurance models, joint life insurance models, pension mathematics, and interest rate risk. Prerequisite: MATH 4520.

MATH 5711 Advanced Group and Field Theory (3) An in-depth investigation of advanced topics in group and field theories. Prerequisite: MATH 4711.

MATH 5722 Advanced Ring and Module Theory (3) An in-depth study of modules and commutative rings. Prerequisites: A basic knowledge of vectors and vector operations is assumed and MATH 4711.

MATH 5800 Number and Operations for Elementary Mathematics Specialists (3) The course is designed to develop an understanding of the learning and teaching of pre-number concepts, counting and cardinality, and numbers and operations in base ten. Emphasis will be given to how children think about and learn these concepts and how they fit into the elementary school curriculum. To be taken concurrently with ECEL 5800 Internship in Number and Operations.

MATH 5810 Rational Numbers and Proportional Relationships for Elementary Mathematics Specialists (3) The course is designed to develop an understanding of the learning and teaching of rational numbers and ratio and proportional relationships. Emphasis will be given to how children think about and learn these concepts and how they fit into the elementary school curriculum. To be taken concurrently with ECEL 5810, Internship in Rational Numbers and Proportional Relationships.

MATH 5812 Problems in Teaching Elementary Mathematics (3) An investigation of problem areas, general and student initiated, concerning teaching elementary school mathematics.

MATH 5820 Algebraic Reasoning for Elementary Mathematics Specialists (3) This course will focus on the content and complexities of teaching and assessing algebraic reasoning in grade 1-6 settings. Course content will include an examination of the representation and analysis of mathematical situations and structures. Attention will be given to patterns, functions, and the transition from arithmetic to algebra. To be taken concurrently with ECEL 5820 Internship in Algebraic Reasoning.

MATH 5830 Geometry and Measurement for Elementary Mathematics Specialists (3) This course is designed to develop an understanding of the teaching and learning of geometry and measurement. Emphasis will be given to how children think about and learn these concepts and how they fit into an elementary mathematics curriculum. To be taken concurrently with ECEL 5830 Internship in Geometry and Measurement.

MATH 5840 Data and Probability for Elementary Mathematics Specialists (3) The course is designed to develop understanding of probabilistic reasoning and the collection, exploration, and analysis of data. Emphasis will be given to how children think and learn about these concepts and how they fit into the elementary school curriculum.

MATH 5852 Problems of Teaching Secondary Mathematics (3) A survey of current issues in the teaching of secondary mathematics.

MATH 5900 Special Projects in Mathematics (1-3) May be repeated for a maximum of 3 semester hours.

MATH 5910 Special Projects in Statistics (1-3) Individual reading and presentation of topics not included in the regular offerings of the department. May be repeated up to 3 times for a maximum of 9 semester hours. Prerequisites: 2 of the following courses: MATH 4312, MATH 4322, MATH 4323, and MATH 4530.

MATH 5920 Seminar in Mathematics (1-3) For presentation of those topics in mathematics not included in the regular offerings of the department. May be repeated for a maximum of 3 semester hours. Prerequisite: Consent of actuarial science/statistics committee and graduate adviser.

MATH 6912 Readings in Mathematics (1-5) Selected readings in mathematics designed to deepen and expand the student's understanding of an area of interest. May be repeated for a maximum of 5 semester hours. Prerequisite: Consent of adviser and actuarial science/statistics committee.

MGT 5325 Managerial Communication (3) Communication in managerial situations, including ethics, oral presentations, written messages and reports, communication audits, group dynamics and organizational communication. Prerequisite: Admission to MBA program.

MGT 5340 Building Leadership Credibility (3) Learners apply the skills they have developed in the program to a variety of business situations in order to foster their leadership and fellowship skills. Learners identify personal values and their impact on ethical choices and on every aspect of corporate culture and strategy. Learners demonstrate leadership competence through workshops, case analyses, company-based projects, and experiential assessments. Prerequisites: ACCT 5105, FIN 5805, and MGT 5370.

MGT 5350 Special Problems in Management (1-3) Individual work under supervision of a staff member. Problems may be undertaken in any phase of business. Prerequisite: Adequate preparation in the area to be studied.

MGT 5360 Innovation for Strategic Advantage (3) Investigation of innovation, how it is developed and sustained to create a strategic advantage. By looking at their own organizations, students will find innovative ways to serve their clients/customers and differentiate themselves from their competition. This course will focus on business model and process innovation, as well as new products, services and innovation transfer. Prerequisites: Three years professional work experience (thus approval by the Management and Business Communication Department Chair is necessary) and admission to the MBA program.

MGT 5370 Critical Inquiry for Strategic Advantage (6) In the information age, it is no longer sufficient to simply possess information. A leader who knows how to analyze and synthesize information and how to develop actionable intelligence from it will find the greatest success in business and beyond. Students will learn major sources of strategic business data and effective research techniques for mining these sources. They will also have hands-on experience with emerging data tools and develop a better understanding of customer needs and the ethics of using data. This knowledge will then be applied to strategic planning and corporate performance management. Emphasis on improving the enterprise through a variety of management consulting methods. Prerequisites: MGT 5360.

MGT 5390 Internship in Business (3, 6) Opportunity for students to gain theoretical knowledge and practical application in the student's field of specialization. Employment must be above entry level for graduate credit and must be approved by the HCBA Coordinator of Graduate Programs. May be repeated for a maximum of 6 semester hours. Prerequisite: Overall graduate GPA 3.0.

MGT 6300 MBA Applied Learning Experience (MBA ALE) (1-3) This course is designed to provide students with opportunities to apply what they have learned in the MBA program to "real world" problems. Students engage in "experiential learning" via an approved project conducted at their place of employment or work on a project of their own. Each student will have a faculty mentor to provide coaching/guidance throughout the project. If the project is conducted in the workplace, the student must obtain the approval/support of a company sponsor, who will be responsible for providing project oversight and will provide input on assessing the quality of the final product. Prerequisite: Admission to the ESTL MBA.

MGT 6330 Readings in Management (1-3) Selected readings in group dynamics, communications, decision-making theory, and managerialism and its economic justification. May be repeated for a maximum of 6 semester hours. Prerequisite: MGT 3315 or equivalent.

MKT - Marketing

MKT 4420 Sales Management (3) Management aspects of selling with emphasis on the role of the supervisor in the sales field. Prerequisites: MKT 3405, admission to B.S. in Business Administration for undergraduate students or graduate status.

MKT 4430 Marketing Distribution (3) Methods and strategies used in distributing products including the design of channels and the activity performed by channel members to facilitate efficient movement of goods. Prerequisites: MKT 3405, admission to B.S. in Business Administration for undergraduate students or graduate status.

MKT 4440 Seminar in Marketing (3) Analysis of current issues and problems in marketing with emphasis on new theoretical and methodological developments. Prerequisites: MKT 3405, admission to B.S. in Business Administration for undergraduate students or graduate status.

MKT 4450 Integrated Marketing Communication (3) The determination of the correct blend of advertising, personal selling, sales promotion, reseller support, and publicity. Prerequisites: MKT 3405, admission to B.S. in Business Administration for undergraduate students or graduate status.

MKT 4454 Sports Marketing (3) This course will discuss the marketing of sports at professional, collegiate and special event levels focusing on the role marketing plays in planning and decision making in attracting fans and sponsors.

MKT 4460 International Marketing (3) Marketing policies and practices in foreign trade. Prerequisites: MKT 3405, admission to B.S. in Business Administration for undergraduate students or graduate status.

MKT 4470 Marketing Research (3) Applications of research methods to the problems of marketing. Prerequisites: MKT 3405, admission to B.S. in Business Administration for undergraduate students or graduate status.

MKT 4480 Special Projects in Marketing (1-3) Individualized or group study under supervision of department faculty. Prerequisite: Department Chair consent.

MKT 5400 Marketing Strategy (3) Managerial techniques applied to the marketing functions of organizations; strategic implications of decision making with case study applications. Prerequisites: MKT 3405.

MKT 5405 Strategic Management and Marketing (3) Value-based integrated working knowledge of strategic management and marketing processes with emphasis on development of thinking, communicating and interacting skills in a global market place. Prerequisites: ACCT 5105 and FIN 5805.

MKT 5435 Internship in Marketing (1-6) Opportunity for students to gain theoretical knowledge and practical application in the students' field of specialization. Employment must be above entry level for graduate credit and approved by the HCBA Coordinator of Graduate Programs.

MKT 5480 Applications in Marketing (3) Specific marketing applications within the business-to-business environment, including areas of career applications and interests. Prerequisites: MKT 4420 and MKT 4440.

MKT 6410 Readings in Marketing (1-3) Selected readings in diverse areas of marketing designed to complement and extend the student's program in marketing. May be repeated for a maximum of 6 semester hours. Prerequisite: MKT 3405.

ML - Modern Language

ML 4010 Foreign Studies in Language (French) (German) (Spanish) (1-6) Credit granted for study in a UCM approved program in a foreign country. Freshmen and sophomores permitted to enroll with consent of the Chair of the Department of Modern Languages. Available for graduate credit upon approval of student's graduate program adviser. May be repeated for a maximum of 12 semester hours.

ML 4040 Special Projects in Foreign Language (1-3) Individualized and group instruction in foreign and modern languages. May be repeated for a maximum of 6 semester hours. Available for graduate credit upon approval of student's program adviser.

MMGT - Manufacturing Management

MMGT 5562 Computer Numerical Control Applications (3) Advanced applications in computer numerical control. Students will apply their knowledge of manufacturing processes and CNC programming in completing advanced projects. Prerequisite: MMGT 3562.

MUS - Music

MUS 4000 Special Projects in Music (0-3) May be repeated for a maximum of 6 semester hours.

MUS 4010 Symphonic Wind Ensemble (1) A select band which performs original literature and transcriptions of many famous works at frequent appearances. Membership selected by audition. May be repeated.

MUS 4025 University Symphony Orchestra (1: 1 lecture, 0 lab) Performs concerts of standard and contemporary literature. Members selected by audition. May be repeated.

MUS 4040 Music Business Practices (3) Covers copyright, performance rights, client management and interaction. Prerequisite: ECON 1010.

MUS 4049 Internship in Music Technology (1-6) Field application of music industry theories and practices in professional music production or recording arts fields. May be repeated for a maximum of 6 semester hours. Prerequisite: Music technology coordinator consent.

MUS 4050 University Concert Choir (1) A select choir which performs the best of choral literature in concert. Membership selected by audition. May be repeated.

MUS 4081 Jazz Ensemble 1 (1) A select ensemble which performs original jazz ensemble literature representing traditional as well as most current forms of jazz. Membership selected by audition. May be repeated.

MUS 4088 Guitar Ensemble (1) An ensemble that studies and performs a wide range of music written for multiple guitars. Membership selected by audition. May be repeated.

MUS 4101 Counterpoint I (3) Eighteenth-century style in two parts: melodic structure, resolution of melodic and harmonic contrapuntal dissonances, canon, and the writing of original two-part inventions. Prerequisites: MUS 2112 and MUS 2122.

MUS 4115 Instrumentation (3) Characteristics of instruments normally found in band and orchestra. Short writing projects for instrumental choirs, full band and orchestra. Score study. Prerequisites: MUS 2112 and MUS 2122.

MUS 4125 Form and Analysis (3) Small song forms, rondos, variations and sonata forms, with emphasis on aural analysis and score readings. Prerequisites: MUS 2112 and MUS 2122 or concurrently.

MUS 4130 Choral Arranging (2) Practical arrangements for various choral ensembles for school organizations and church choirs. Prerequisites: MUS 2112 and MUS 2122 or concurrently.

MUS 4181 Advanced Jazz Improvisation (2) Advanced study of jazz improvisation techniques in applied, private lessons. May be repeated. Prerequisite: MUS 2181 or instructor consent.

MUS 4185 Jazz-Commercial Arranging (3) Characteristics of instruments normally found in jazz ensemble and commercial performing groups. Emphasis on style and voicing problems in these idioms. Writing projects for combo and jazz ensemble. Score study. Prerequisites: MUS 2112 and MUS 2122.

MUS 4186 Advanced Jazz-Commercial Arranging (2) Private lessons in composition, arranging, score study, and analysis for various jazz or commercial ensembles based on individual student needs and interests. May be repeated. Prerequisite: MUS 4185.

MUS 4190 Electronic Music Composition (3) Composition of electronic music in popular and artistic styles. Technical principles, history of the genre, and aesthetic considerations of electronic music. Prerequisite: MUS 1112.

MUS 4195 Max and MSP (3) MIDI/Audio programming, application development, and music composition in the Max/MSP environment. Prerequisite: MUS 2045 or instructor consent.

MUS 4201 Piano Literature Through Beethoven (2) Survey and analysis of music written for clavichord, harpsichord, and piano through the music of Beethoven. Prerequisite: Four semesters of MUS 1510 or equivalent.

MUS 4202 Piano Literature From the Romantic Era to the Present (2) Survey and analysis of music written for piano from the Romantic era through the present. Prerequisite: Four semesters of MUS 1510 or equivalent.

MUS 4230 Choral Literature (2) Music literature for all choral groups with emphasis on the performance style and interpretative problems of the choral conductor. Prerequisite: MUS 2221.

MUS 4235 Vocal Literature (3) A survey of solo literature for all voice classifications with emphasis on the development of art song in the Italian, British, German, French, and American repertoires. Prerequisite: MUS 2222 or instructor consent.

MUS 4240 String Instrument Literature and Pedagogy (2) A survey of literature, instructional materials and pedagogy of the various string instruments. Prerequisite: 12 semester hours credit on major instrument.

MUS 4245 Woodwind Instrument Literature and Pedagogy (2) A survey of literature, instructional materials and pedagogy of woodwind instruments. Prerequisite: 12 semester hours credit on major instrument.

MUS 4250 Brass Instrument Literature and Pedagogy (2) A survey of literature, instructional materials and pedagogy of brass instruments. Prerequisite: 12 semester hours credit on major instrument.

MUS 4255 Percussion Literature and Pedagogy (2) A survey of literature, instructional materials and pedagogy of percussion instruments. Prerequisite: 12 semester hours credit on major instrument.

 **MUS 4320 Methods of Teaching Middle School Music (2)** Objectives, materials, subject matter and problems in the teaching of vocal and general music in the middle school. Prerequisite: MUS 3305 or MUS 3306 or instructor consent.

MUS 4370 Band Instrument Repair (2) A study and practice of band instrument maintenance and repair techniques. Prerequisite: One semester each of woodwind and brass study, or one year of teaching music in public schools.

MUS 4381 Jazz Pedagogy (2) Techniques, systems and materials for the teaching of jazz ensemble and jazz improvisation. Supervised conducting experience with a university jazz ensemble. Prerequisites: MUS 2400 and successful completion of the piano proficiency requirement.

MUS 4400 Audio for X (3) Tools, techniques, and creative approaches to creating audio and designing sound for various environments, including films, games, interactive media, and others. Prerequisite: MUS 2410.

MUS 4410 Music Technology III (3) Tools and techniques used in electronic music production, including MIDI, OpenSoundControl, synthesis, sampling, loops, and others. Prerequisites: MUS 2410.

MUS 4430 Seminar in Music Technology (2) advanced individual and/or group work in music technology and audio production. Prerequisites: MUS 4400 and MUS 4410.

MUS 4511 Piano Pedagogy I—The Beginner (3) Goals, methods, and materials for individual and class instruction of beginning piano students. Includes practice teaching and observation. Prerequisite: Two semesters of MUS 1510 or equivalent.

MUS 4512 Piano Pedagogy II—The Intermediate Student (3) Goals, methods, and materials for teaching intermediate piano students. Includes practice teaching and observation. Prerequisite: Two semesters of MUS 1510 or equivalent.

MUS 4513 Piano Pedagogy III—The Advanced Student (3) Goals, methods, and materials of advanced piano teaching. Includes practice teaching and observation. Prerequisite: Two semesters of MUS 1510 or equivalent.

MUS 4514 Piano Pedagogy IV—Seminar (3) Intensive individual study in piano pedagogy designed to improve the student's understanding of a selected area of interest. Prerequisite: MUS 4511 or MUS 4512 or MUS 4513 or equivalent.

MUS 4515 Practice Teaching in Piano (3) Supervised teaching of piano students. Course must be repeated. Prerequisites: MUS 4511 and MUS 4512 or equivalent.

MUS 4600 Vocal Pedagogy (2) For prospective singing teachers. Includes study of the physiology of the vocal instrument, the techniques of singing production, goals and materials, teaching techniques, and analysis of vocal problems. Observation of master teachers, and supervised teaching will be required. Prerequisite: Three years of vocal training.

MUS 5000 Introduction to Graduate Study (3) Books and periodicals about music and various collections and editions of printed music. Techniques of suitable style in presentation of formal documented papers.

MUS 5020 Advanced Special Projects in Music (1-3) Intensive directed study in music designed to improve the graduate student's understanding of specific areas of interest. May be repeated for a maximum of 6 semester hours.

MUS 5050 Research Problems (3) Special investigation in the major field leading to the writing of the research document or thesis. Prerequisite: 10 semester hours of graduate credit.

MUS 5051 Thesis (3) Special Investigation of an approved problem in music resulting in a formal thesis. Prerequisite: 15 semester hours of graduate credit.

MUS 5105 Analytical Studies (3) In-depth analysis of selected masterworks from the Renaissance to the twentieth century to develop musical understanding and its application to performance. Prerequisite: MUS 2112.

MUS 5120 Orchestration (2) Setting complete works for small instrumental ensembles and full orchestra. Orchestration problems of school orchestras. Score study. Prerequisite: MUS 4115.

MUS 5125 Band Arranging (2) Practical arranging and transcribing for various groups including school band and wind ensembles. Prerequisite: MUS 4115.

MUS 5140 Advanced Composition (2) Creative musical composition in applied, private lessons based on the individual student's interest, need, and capacity to develop an individual style. May be repeated. Prerequisites: MUS 4125, MUS 4101 and MUS 4115.

MUS 5205 Music of the Renaissance (3) Music of the era with specific reference to the Flemish school; the Italian motet, mass, and madrigal; the English madrigal and anthem; and the French chanson. Prerequisite: MUS 3211.

MUS 5210 Music of the Baroque (3) The Baroque styles and forms including opera, cantata, and oratorio; keyboard and instrumental music to 1750. Prerequisite: MUS 3211.

MUS 5215 Music of the Classicists and Romanticists (3) Musical forms and styles of Classicism and Romanticism. Prerequisites: MUS 3211 and MUS 3212.

MUS 5220 Music of the Twentieth Century (3) Origins and trends of twentieth-century music. Prerequisite: MUS 3212.

MUS 5225 Music in Latin America (3) A study of the traditional musics of Latin America and their fusion with western and non-western cultures as demonstrated through folk, popular and classical music genres. Summer online only.

MUS 5240 Chamber Music Literature (2) Formal and stylistic study of chamber music from 1600 to the present. Prerequisites: MUS 3211 and MUS 3212.

MUS 5250 American Music (3) American music from colonial days to the present time. Prerequisite: MUS 3212.

MUS 5300 Band and Orchestra Literature (2) A study of music written and arranged for elementary and secondary school bands and orchestras. Prerequisites: MUS 3306 and MUS 4310.

MUS 5308 Advanced Marching Band Techniques (2) Survey of history and function of the marching band with emphasis on special projects in advanced show design, music arranging and auxiliary units. Prerequisites: MUS 3415, MUS 4115 and marching band teaching experience, or instructor consent.

MUS 5309 School Music Curriculum and Assessment (3) Construction, development and implementation of school music curricula. Examination of available music assessment tools. Development of assessment tools appropriate for music classroom settings. Prerequisite: EDCL 4495 or MUS 4310.

MUS 5310 Research in Music Education (3) An examination of quantitative and qualitative research methods used to document music education practices. Prerequisite: EDCL 4495 or MUS 4310.

MUS 5330 Current Trends in Music Education (3) Examines how the psychology, sociology and philosophical foundations of music education in the United States impact current music educational trends. Prerequisite: MUS 4310.

MUS 5350 Kodaly Methods and Materials I (3) Introduction to the philosophical bases of Kodaly curriculum. Curriculum development, teaching techniques, analytical study and collection of music literature/materials for Kindergarten and Grade 1.

MUS 5351 Kodaly Solfege I (2) Learn the tools of Kodaly, concentrating on pentatonic scale and intervals, sight singing, score reading, dictation and analysis.

MUS 5352 Kodaly Choral Techniques I (1) Introduction to the development of choral conducting techniques used in children's choral literature. Performance in a large ensemble is part of this course.

MUS 5360 Kodaly Methods and Materials II (3) Teaching techniques, scope and sequence for spiral-based curricula, lesson planning, analytical study and the collection of music literature needed for students in grade 2-3. Prerequisite: MUS 5350.

MUS 5361 Kodaly Solfege II (2) Using moveable do solfege and rhythm syllables, concentrating on extended pentatonic scale, diatonic scale, modes and intervals through sight singing, score reading and analysis. Prerequisite: MUS 5351.

MUS 5362 Kodaly Choral Techniques II (1) Continuing development of choral conducting techniques used in children's choral literature. Performing in a large ensemble is part of this course. Prerequisite: MUS 5352.

MUS 5370 Kodaly Methods and Materials III (3) Teaching techniques, scope and sequence for spiral-based curricula, lesson planning, analytical study and collection of music literature needed for students in grades 4 and 5. Prerequisite: MUS 5360.

MUS 5371 Kodaly Solfege III (2) Review of Kodaly concept tools. In-depth study of the diatonic and modal scales, including sight singing, score reading, dictation and analysis. Prerequisite: MUS 5361.

MUS 5372 Kodaly Choral Techniques III (1) Continuation of the development of choral conducting techniques used in children's choral literature. Performing in a large ensemble is part of this course. Prerequisite: MUS 5362.

MUS 5380 Kodaly Methods and Materials IV (3) A review of teaching techniques, scope and sequence development for spiralbased curricula, lesson planning and songs for students in grades K-5 and middle school (6-8). Prerequisite: MUS 5370.

MUS 5381 Kodaly Solfege IV (2) Review of melodic, diatonic and modal scales used in the Kodaly concept. Sight reading, score analysis and dictation will emphasize composed music. Prerequisite: MUS 5371.

MUS 5382 Kodaly Choral Techniques IV (1) An examination of development of choral conducting techniques used in children's choral literature. Performing in a large ensemble is part of this course. Prerequisite: MUS 5372.

MUS 5400 Advanced Conducting (2) The development of adequate baton and rehearsal techniques based on practical work with groups of performers. Prerequisites: MUS 2400 and MUS 4115.

MUS 5507 Graduate Secondary Keyboard Lessons (1.5) Secondary private lesson study in any keyboard instrument listed in this catalog. May be repeated. Prerequisite: Initial enrollment by consent of applied area faculty.

MUS 5510 Piano III (1.5) Advanced study in applied music. Technical exercises and music literature adjusted to the needs of the individual. May be repeated. Prerequisite: Approval by audition.

MUS 5520 Organ III (1.5) Advanced study in applied music. Technical exercises and music literature adjusted to the needs of the individual. May be repeated. Prerequisite: Approval by audition.

MUS 5607 Graduate Secondary Voice Lessons (1.5) Secondary private lesson study in voice. May be repeated. Prerequisite: Initial enrollment by consent of applied area faculty.

MUS 5610 Voice III (1.5) Advanced study in applied music. Technical exercises and music literature adjusted to the needs of the individual. May be repeated. Prerequisite: Approval by audition.

MUS 5707 Graduate Secondary String Lessons (1.5) Secondary private lesson study in any string instrument listed in this catalog. May be repeated. Prerequisite: Initial enrollment by consent of applied area faculty.

MUS 5710 Violin III (1.5) Advanced study in applied music. Technical exercises and music literature adjusted to the needs of the individual. May be repeated. Prerequisite: Approval by audition.

MUS 5715 Viola III (1.5) Advanced study in applied music. Technical exercises and music literature adjusted to the needs of the individual. May be repeated. Prerequisite: Approval by audition.

MUS 5720 Cello III (1.5) Advanced study in applied music. Technical exercises and music literature adjusted to the needs of the individual. May be repeated. Prerequisite: Approval by audition.

MUS 5725 String Bass III (1.5) Advanced study in applied music. Technical exercises and music literature adjusted to the needs of the individual. May be repeated. Prerequisite: Approval by audition.

MUS 5807 Graduate Secondary Woodwind Lessons (1.5) Secondary private lesson study in any woodwind instrument listed in this catalog. May be repeated. Prerequisite: Initial enrollment by consent of applied area faculty.

MUS 5810 Flute III (1.5) Advanced study in applied music. Technical exercises and music literature adjusted to the needs of the individual. May be repeated. Prerequisite: Approval by audition.

MUS 5815 Clarinet III (1.5) Advanced study in applied music. Technical exercises and music literature adjusted to the needs of the individual. May be repeated. Prerequisite: approval by audition.

MUS 5820 Oboe III (1.5) Advanced study in applied music. Technical exercises and music literature adjusted to the needs of the individual. May be repeated. Prerequisite: Approval by audition.

MUS 5825 Saxophone III (1.5) Advanced study in applied music. Technical exercises and music literature adjusted to the needs of the individual. May be repeated. Prerequisite: Approval by audition.

MUS 5830 Bassoon III (1.5) Advanced study in applied music. Technical exercises and music literature adjusted to the needs of the individual. May be repeated. Prerequisite: Approval by audition.

MUS 5907 Graduate Secondary Brass and Percussion Lessons (1.5) Secondary private lesson study in any brass instrument listed in this catalog or in percussion. May be repeated. Prerequisite: Initial enrollment by consent of applied area faculty.

MUS 5910 Trumpet III (1.5) Advanced study in applied music. Technical exercises and music literature adjusted to the needs of the individual. May be repeated. Prerequisite: Approval by audition.

MUS 5915 French Horn III (1.5) Advanced study in applied music. Technical exercises and music literature adjusted to the needs of the individual. May be repeated. Prerequisite: Approval by audition.

MUS 5920 Trombone III (1.5) Advanced study in applied music. Technical exercises and music literature adjusted to the needs of the individual. May be repeated. Prerequisite: Approval by audition.

MUS 5925 Baritone Horn III (1.5) Advanced study in applied music. Technical exercises and music literature adjusted to the needs of the individual. May be repeated. Prerequisite: Approval by audition.

MUS 5930 Tuba III (1.5) Advanced study in applied music. Technical exercises and music literature adjusted to the needs of the individual. May be repeated. Prerequisite: Approval by audition.

MUS 5960 Percussion III (1.5) Advanced study in applied music. Technical exercises and music literature adjusted to the needs of the individual. May be repeated. Prerequisite: Approval by audition.

NET - Networking

NET 4000 Special Projects in Networking (1-3) Investigation of contemporary problems and issues in networking. Maybe repeated for a maximum of 6 hours.

NET 4014 Advanced Technical Problems in Networking (1-4) Individual/Group work on recent developments and advanced technical concepts in networking. Experimentation and technical exploration of content not available through formal course offerings. Written contract/proposal with objectives and written department consent. Maybe repeated for a maximum of 6 hours.

NET 4040 Fundamentals of Network Operating Systems (3) Installing, configuring, and administering Network Operating Systems. Prerequisite: NET 2058 or instructor consent.

NET 4042 Network Servers and Services (3) Implementing and Administering of Network Infrastructure and Directory Services Infrastructure. Prerequisite: NET 4040 or instructor consent.

NET 4043 Network Services and Infrastructure (3) Advanced implementing and administering of network infrastructure and directory services infrastructure. Prerequisite: NET 4042 or instructor consent.

NET 4063 Network Support (3) Topics in Local and Wide Area Network documenting, baselining, and troubleshooting methodologies and tools are used to troubleshoot OSI layers 1 to 7 utilizing Cisco Systems hardware. Prerequisite: NET 4062 or instructor consent.

NET 4064 Advanced Network Design (3) Cisco Systems design considerations for IPv6, popular routing protocols, the Security Ecosystem, and both Traditional and Integrated Voice architectures. Prerequisites: NET 3062 or NET 4100 or instructor consent.

NET 4100 Network Device Configuration (3) A comprehensive overview of Cisco Systems device configuration. Prerequisites: Required for non-NET specialist. Not open to NET specialist. See your Adviser.

NET 4500 Managerial Design for Secure Networks (3) Utilizing Cisco Systems Architecture for Voice, Video and Integrated Data networks to apply modular design practices to ensure the enterprise solution is highly available and optimized for the business and technical needs. Prerequisite: NET 4064 or NET 4100 or instructor consent.

NET 4501 Network Security Management I (3) Utilizing Cisco Systems routers for network and overall security processes focusing on designing and implementing solutions that will reduce the risk of revenue loss and vulnerability. Prerequisite: NET 4100 or instructor consent.

NET 4502 Network Security Management II (3) An emphasis on security policy design and management, security technologies, firewall and secure router design, installation, configuration and maintenance, AAA and VPN implementation using Cisco Systems' routers and firewalls. Prerequisite: NET 4501.

NET 5000 Special Problem in Networking (2-6) Meets individual student needs for additional research and/or laboratory experiences in the development of knowledge and skills in area of networking. Maybe repeated for a maximum of 6 hours.

NUR - Nursing

NUR 4000 Special Projects in Nursing (1-3) Investigation of contemporary problems and issues in nursing by selected individuals or groups. May be repeated for a maximum of 6 semester hours.

NUR 4020 Grief and Loss (2) A seminar designed to assist various pre-professionals to understand and deal with loss and death either in a professional capacity or on a personal basis. Open to nursing and non-nursing majors.

NUR 4030 Human Sexuality (2) Current theory regarding the biological, cultural, and behavioral parameters of human sexuality. Open to nursing and non-nursing majors.

NUR 4040 Nursing Informatics (2) Introduces the student to the synergistic use of nursing, information and computer sciences unique to nursing informatics. Explores impact on nursing practice roles and quality of patient care. Prerequisite: Meeting general education requirement for technology.

📖 NUR 4060 Physical and Health Needs of the Medically Fragile Child

(3) This course is designed to assist teachers and nurses in understanding and planning instruction/interventions for students with severe chronic medical and/or physical conditions. Prerequisite: EDSP 2100 or instructor consent.

NUR 4405 Aging of Self and Others (2) Seminar concerning an individual's aging in our society. Focus is on how one perceives and adapts to the aging of self and others. Open to nursing and non-nursing majors.

NUR 5000 Methods of Research in Nursing (3) Generating research questions, conducting and critiquing nursing research are explored.

NUR 5015 Theories of Nursing (3) Theory, theory development, application of theory in nursing practice settings and theory critique are explored. Prerequisite: Admission to the graduate nursing program or instructor consent.

NUR 5016 Family/Population Health (3) Theories and research findings are analyzed in determining the scientific and practice base of rural and family nursing. Prerequisite: Admission to the graduate nursing program.

NUR 5017 Organizational Leadership in Complex Health Systems (3) Through exploration of information systems and technologies, the graduate nurse will have skills and leadership to improve quality, enhance patient safety, and impact health in individuals, groups, and populations.

NUR 5018 Health Care Policy and Advocacy (3) Analysis of health care system policy and advocacy techniques, and their effect on healthcare delivery outcomes.

NUR 5020 Pharmacology for Advanced Practice Nursing (3) Clinical application of pharmacological treatments commonly encountered by the advanced practice nurse. Explores the advanced practice nurse role in prescribing, administering and monitoring drug therapy.

NUR 5035 Measurement in Nursing (2) An overview of the measurement process in nursing science with emphasis on national/state and teacher/researcher data collection instruments.

NUR 5038 Nurse Educator: Concepts of Physiology/Pathophysiology, Pharmacology and Advanced Assessment (3) Integrates concepts and principles of pathophysiology, pharmacology, and advanced health assessment.

NUR 5039 Nurse Educator: Direct Patient Care Clinical Practica (1) Clinical application of the engagement of the patient and their family as the source of control and full partner in health care.

NUR 5040 Teaching Theory in Nursing (3) Theories and principles of teaching and learning are analyzed for applicability to the teaching of nursing science.

NUR 5041 Teaching Clinical Practice in Nursing (3) An introduction to teaching and learning in nursing practice settings.

NUR 5050 Designing Nursing Curricula (3) An analysis of the processes for designing and implementing nursing curricula.

NUR 5200 Family Nurse Practitioner: Primary Care of the Childbearing Family (3) Application of theory and research of childbearing in the advanced practice nursing care of childbearing women and women's health with emphasis based in rural family health nursing. Prerequisites: NUR 5020, NUR 5300, and NUR 5310.

NUR 5201 Family Nurse Practitioner: Primary Care of the Childrearing Family (3) Application of theory and research of childrearing in the advanced practice nursing care of infants and children with emphasis based in rural family health nursing. Prerequisites: NUR 5020, NUR 5300, and NUR 5310.

NUR 5202 Family Nurse Practitioner: Primary Care of Adults and the Elderly I (3) Wellness promotion with design, implementation and evaluation of nursing management of selected acute health problems of adults and the elderly. Prerequisites: NUR 5020, NUR 5300, and NUR 5310.

NUR 5203 Family Nurse Practitioner: Primary Care of Adults and the Elderly II (3) Management of older individuals and families with emphasis on wellness and chronic problems and continuing exploration of the nurse practitioner role. Prerequisites: NUR 5020, NUR 5300, and NUR 5310.

NUR 5204 Family Nurse Practitioner: Primary Care Practicum (4) Primary care management of individuals and families. Prerequisites: NUR 5015, NUR 5016, NUR 5200, NUR 5201, NUR 5202, and NUR 5203.

NUR 5300 Advanced Pathophysiology (3) An examination of pathophysiological alterations associated with individuals seeking primary care.

NUR 5310 Advanced Health Appraisal (4) Advanced health assessment skills essential to primary health care. Expands upon previous health and wellness knowledge and physical assessment abilities. Includes an integrated clinical practicum.

PE - Physical Education

PE 4000 Special Projects in Coeducational Physical Education (1-5)

Individual or group study of problems in special areas of interest. May be repeated for a maximum of 5 semester hours.

PE 4320 Choreography (2) Basic choreography as to forms, formations, lines, qualities, relationships, choreographic styles, choreographers of renown and their works, constructive criticism, notation. Prerequisite: Instructor consent.

📖 PE 4340 Adapted Physical Education (3) A study whereby the full educational services of physical education may be made available to atypical students on all school levels.

PE 4341 Physical Activity and Special Populations (3) Principles of activity applicable to older adults, including recommended programs and evaluations. Prerequisite: 4850.

PE 4350 Physical Education for Special Education (2) Activities and program development as an integral tool in the physical education of the mentally retarded, learning disabled, and emotionally disturbed.

PE 4390 Evaluation Procedures in Physical Education (3) The theory of measurement in health and physical education, including the selection, administration, and evaluation of appropriate tests and the interpretation of the results.

PE 4520 Theory and Coaching of Basketball (2) Coaching aids, techniques, strategy, and systems of the activity. Prerequisite: PE 3310.

PE 4530 Theory and Coaching of Track and Field (2) Coaching aids, techniques, strategy, and systems of training.

PE 4541 Theory and Coaching of Football (2) Coaching aids, techniques, strategy, and systems of the activity.

PE 4550 Theory and Coaching of Volleyball (2) Coaching theory and techniques, aids, strategy, and systems of volleyball. Prerequisite: PE 3331.

PE 4551 Theory and Coaching of Wrestling (2) Squad and practice organization, techniques, budget, equipment, match management, and strategy.

PE 4560 Theory and Coaching of Softball and Baseball (2) Coaching aids, techniques, strategy, and systems of softball and baseball.

PE 4561 Theory and Coaching of Soccer (2) Coaching theory and techniques, aids, strategy, and systems of soccer. Prerequisite: PE 2300.

PE 4590 Administration of Interscholastic Athletics (2) Organization and management of a program of competitive athletics for schools and colleges.

PE 4740 Legal Liability in Fitness/Wellness, Physical Education, Recreation and Sport Settings (2) Acquaints the student with legal research and basic concepts of negligence in governing the school sport and fitness industries.

PE 4760 Physical Education Curriculum (2) Problems involved in organization and design of physical education curricula. Prerequisite: admission to Teacher Education Program.

PE 4830 Psychological Aspects of Physical Education (2) An application of psychological principles to physical education.

PE 4840 Social Aspects of Physical Activity (2) The application of sociological concepts and theories to the study of physical education and sport in American society.

PE 5000 Special Projects in Physical Education (1-3) Individual or group study of selected topics. May be repeated for a maximum of 8 semester hours. Prerequisite: department chair consent.

PE 5110 Philosophy of Sport (2) The nature, values and ethics of sport in society.

PE 5200 Effective Teaching in Physical Education (3) Present and analyze systems used in evaluating student behavior, teacher behavior, and student-teacher interaction. Study strategies for planning and implementing effective teaching and supervising in physical education.

PE 5210 Statistics in Kinesiology (3) Assist students in studying the complementary relationship between statistics and research design. This course covers descriptive statistics and hypothesis testing using both parametric and non-parametric statistical testing in exercise science.

PE 5370 Curriculum Theory in Physical Education (3) Advanced study of curriculum and techniques of supervision in physical education.

PE 5420 Growth and Physical Performance of the Preschool and Elementary School Child (K-6) (3) An in-depth study of the development and characteristic relations of children as they relate to movement and performance.

PE 5430 Theory and Practice for Elementary and Secondary Physical Education (3) Analysis of current theories and practices in elementary and secondary physical education.

PE 5450 Physical Activity Promotion (3) Investigate behavior change theories, public health research, and evidence-based physical activity interventions in the promotion of physical activity in children and adolescent.

PE 5500 Behavior Interventions in Physical Education (3) Examine and apply key psychological principles in physical education related to behavior modification, student motivation, achievement goal setting, group dynamics, pro-social behavior, and self perception.

PE 5600 Growth and Development and Athletic Injuries (2) Growth and development of children and youth with emphasis on their vulnerability to athletic injury. Prerequisite: PE 2800.

PE 5610 Advanced Athletic Training Techniques (3) Advanced methods of injury prevention, recognition, and treatment of athletic injuries. Prerequisites: PE 3610, PE 3800, and PE 5830. PE 5830 may be taken concurrently.

PE 5620 Modalities and Rehabilitation of Athletic Injuries (2) The use of therapeutic modalities and exercises in athletic injury rehabilitation. Prerequisite: PE 5610 or concurrently.

PE 5630 Internship in Athletic Training (2) Provides clinical clock hour experience under the supervision of a N.A.T.A. Certified Athletic Trainer. May be repeated for a maximum of 6 semester hours. Prerequisite: PE 5610 or concurrently.

PE 5650 Physical Education for Special Populations (3) Investigate best practices in physical education with special populations as required by law. Students will examine current pedagogical research focusing on strategies for providing safe, inclusive and equitable learning environments for special populations.

PE 5720 Sport Facility Management (3) Prepares the student to engage in planning, constructing, promoting, and managing a variety of sport facilities, including fitness centers, race tracks, major stadium, etc.

PE 5730 Risk Management for Kinesiology (3) Strategies of risk control for sport and fitness industries.

PE 5740 Legal Aspects for Kinesiology (3) Inspection of case law and legislative acts as they affect the conditions of sport and fitness activities. A major focus is on negligence theory.

PE 5750 Foundations in Sport Management (3) Administrative and management functions of the sports administrator. Prerequisite: PE 4590 or concurrently.

PE 5760 Sport Marketing (3) Preparation in the marketing of sport services and events of sport teams and programs as well as an in-depth knowledge and understanding of the current issues, theories, and research in sport marketing. Prerequisites: A management or marketing class from a business department is recommended.

PE 5770 Sport Finance (3) A review of financial aspects in sport organizations. The student will become familiar with financial statements and be able to evaluate a sport organization's financial performance. Prerequisites: A finance class from a business department is recommended.

PE 5780 Organizational Leadership in Athletics and Sport (3) An advanced study of organizational leadership theories, models, and concepts as they apply to athletic and sports organizations.

PE 5800 Sport Sponsorship and Sales (3) Introduce students to sport sponsorship management with a focus on theoretically understanding concepts of sponsorship and practically developing sport sponsorship plans. Prerequisites: A management or marketing class from a business department is recommended.

PE 5810 Sport Event Management (3) Provides a combination of the theoretical foundations and practical principles of event management. In particular, focus is on the operational planning component of event management and the role of the event manager as the planner and facilitator.

PE 5820 Sport Public Relations (3) Independent learning class on various aspects of sport public relations. This course is designed to develop an understanding of the concepts and principles of public relations in sport organizations as well as practical communication skills to foster positive relationships with key publics.

PE 5830 Advanced Exercise Physiology (3) The effects of muscular activity with particular reference to the respiratory, circulatory, and nervous systems. Prerequisites: BIOL 3402 or PE 2850.

PE 5840 Principles of Motor Learning (3) The physical and psychological factors affecting the acquisition of motor skills. Prerequisite: PE 5900.

PE 5850 Stress Testing and EKG Interpretation (3) Teach basic techniques in aerobic fitness and diagnostic stress testing including interpretation of EKG rhythms related to coronary disease. Prerequisite: PE 5830.

PE 5860 Sport and Media (3) Examines sport's societal influence, especially focusing on media issues. It approaches sport from a socio-cultural/psychological perspectives as well as from a contemporary position. It focuses on the converging worlds of print journalism, electronic media, advertising, and emerging technologies as expressed in the new commercial reality of sport.

PE 5870 Mechanical Analysis of Sport Skills (3) Anatomical and mechanical principles applied toward analyzing and evaluating the efficiency of human motion. Prerequisite: PE 2800.

PE 5880 Sport Consumer Behavior (3) A theoretical introduction to the field of sport consumer behavior. The student will be able to understand social psychological theory underlying consumer decisions. Prerequisites: A management or a marketing class from a business department is recommended.

PE 5890 Laboratory Procedures in Exercise Science (3) Provide students with laboratory experience in the use of instrumentation and procedures commonly employed to assess human performance, physical fitness, and health status in modern laboratories of applied exercise physiology, sports physiology, biomechanics, and contemporary health screening facilities. Prerequisites: PE 5830.

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PE 5900 Introduction to Research in Kinesiology (3) Overview and planning for graduate studies with an introduction and study of the major methods, tools, and laboratory and statistical techniques employed in research in physical education, including the development of a research prospectus.

PE 5950 Assessment in Physical Education (3) Apply tests, measurements, and statistical analysis in the evaluation physical fitness, psychomotor skills, cognitive knowledge, and affective behaviors in physical education. students will assess the efficacy of their teaching and programs using applied, systematic observation tools, and solid assessment strategies.

PE 5910 Analysis of Movement (3) Provides students with an understanding of the scientific analysis of human movement from a qualitative perspective. We will examine the physiological, structural and mechanical bases from human movement, with examples drawn from everyday life, sports, and rehabilitation.

PE 5930 Exercise Metabolism (3) An in-depth study of metabolic responses to acute and chronic exercise through lecture, discussion, reading and discussion or research literature. Prerequisites: PE 5830 or equivalent.

PE 5940 Body Composition (3) Theories of body composition presented through lecture, discussion, and practical experience of assessment techniques. Prerequisites: PE 5830 or equivalent.

PE 6190 Trends and Issues in Kinesiology (3) Directed reading and special investigation of selected problems. Identification, analysis, and discussion of on-the-job problems.

PE 6600 Seminar in Kinesiology (3) Directed readings for the purpose of discussion and evaluation of selected problems in the area of sports medicine.

PE 6900 Readings in Physical Education (1-5) Guided study in the literature of special and related fields in the area of physical education. May be repeated for a maximum of 6 semester hours. Prerequisite: PE 5900.

PE 6950 Professional Seminar in Physical Education (3) Capstone course focused on applying of learning outcomes from the masters of kinesiology physical education curriculum. Demonstration of content knowledge, pedagogical content knowledge, and methods of systematic inquiry, as well as plans for continued professional development will be a major part of the culminating experience. Prerequisites: Completion of 30 hours of required coursework within the Master of Science in Kinesiology, Pedagogy program.

PE 6960 Research Problems (2) Special investigation of an approved problem in the major field. Prerequisite: PE 5900.

PE 6980 Internship (2-6) Practical experience in sports administration, sports business management, sports communication, fitness/wellness, or pedagogy in a school, business or hospital. May be repeated for a maximum of 6 semester hours. Prerequisites: PE 5850 for Fitness/Wellness specialization; PE 5750 for Athletic and Sports Administration specialization; and department consent.

PE 6990 Thesis (6) Special investigation of an approved problem in physical education resulting in a formal thesis. A prospectus is required. Prerequisite: PE 5900.

PHOT - Photography

PHOT 4214 Independent Studies (1-3) A mentored course for student initiated research and discovery on advanced technical, aesthetic, or conceptual issues in photography. The student identifies the topic, and writes a detailed proposal of the purpose and outcomes of the project. This course is designed to provide an investigation of content not available through normal course offerings, and maybe repeated for a maximum of 6 semester hours. Prerequisites: Minimum 2.5 GPA, written contract/proposal with objectives and written department consent.

PHOT 4215 Critique of Contemporary Photography (3) This course surveys the modern development of photography beginning with 1900 to contemporary imaging styles, photographers, and systems. Course

includes on-line discussion, written assignments, and critique concerning the comparative analysis of various periods, schools of thought, and particular individuals. Prerequisite: PHOT 2215.

PHOT 4230 Business Management for Photographers (3) Explore the reality of owning and/or running a successful photographic business built on strong management principles, ethical standards, and other professional practices. Student assignments, reading materials, and group discussions will focus on producing individual business plans and supportive material for projected photography specialty areas. An additional fee is associated with the course. Prerequisite: Senior status.

PHOT 4240 Investigative Photography (3) This course explores the myth that a visual image reveals meaning located in the subject represented. The idea of photographic truth is considered within concrete examples such as forensic, documentary, and scientific applications. Photography, as a recorder of light, simultaneously investigates reality and investigates the method of investigating that reality. This leads to novel seeing, producing a vision of things previously unseen, or abstract. An additional fee is associated with this course. Prerequisites: PHOT 1210, PHOT 1211, and PHOT 2220.

PHOT 4250 Advanced Portrait Photography (3) This course further develops the student's skills in portrait photography involving both studio and location. An emphasis is placed on sophisticated lighting techniques and conceptual approaches used to communicate essential aspects of personality and identity. An additional fee is associated with this course. Prerequisites: PHOT 1210, PHOT 1211, and PHOT 2250.

PHOT 4260 Photography, Advertising, and Society (3) This is an exploration of the use, context, and meaning of photography within advertising, mass media, and society. In addition to creating images, students will investigate how images in advertising and mass media are used and consumed by society. Effects on image meaning created by varying conceptual approaches, as well as the manipulation of the elements and principles of design are considered. An additional fee is associated with this course. Prerequisite: PHOT 3280 or consent of instructor.

PHOT 4270 Portfolio (3) Culminating experience in photography providing for the creation and production of portfolio to reflect personal career goals. An additional fee is associated with this course. Prerequisite: PHOT 3216 or consent of the instructor.

PHOT 5200 Special Problems in Photography (1-6) Individualized research or experience in Photography/Imaging. Prerequisites: PHOT 1210, PHOT 1211.

PHOT 5220 Readings in Photographic Imaging (3) Students will conduct literature searches and address contemporary concepts and methodologies. Students will engage in a rigorous group critique process to develop a mature body of work, which combines experimental and analytical learning methods. The student will develop aesthetic and technical strategies for the production and presentation of photographic images. Prerequisite: Admission into the MS in Technology Program.

PHOT 5230 Creative Project and Exhibition in Photography (3) This course is considered to be the culminating experience in the program, involving the development of an independent creative project leading to new work. This course is taken the last semester of a student's program and may be repeated until all requirements are met. Prerequisite: Admission into the MS in Technology program.

PHOT 5260 Contemporary Digital Imaging Systems (3:1 lecture, 2 lab) This lecture and laboratory course gives an in-depth look at the tools and techniques of digital imaging systems. Students pursue research projects in both the aesthetic and technical aspects of electronic photographic imaging. The student's final project is self-defined. Prerequisite: Admission into the MS in Technology Program.

PHYS - Physics

PHYS 4212 Analytical Mechanics II (3) Using a vector analysis, a study is made of kinematics; motion of a particle; kinetics of rigid bodies; work and energy; impulse and momentum; impact. Prerequisites: PHYS 3211 and MATH 2153.

PHYS 4312 Electricity and Magnetism (3) Electric and magnetic fields scalar and vector potentials; conductors and dielectrics; Coulomb's law, Ampere's law, Gauss' law; Laplace's equation; Maxwell's equations. Prerequisites: PHYS 2122 and MATH 2153.

PHYS 4411 Thermodynamics (3) Properties of gases, kinetic theory of gases; laws of thermodynamics; entropy and introduction to statistical thermodynamics. Prerequisites: PHYS 2122 and MATH 2153 or concurrently.

PHYS 4512 Introduction to Quantum Mechanics (3) Experimental basis; fundamental postulates; Schrödinger wave equation; superposition of states; calculation of energy, position, momentum; hydrogen atom; identical particles; perturbation theory. Prerequisites: PHYS 3511 and MATH 2153.

PHYS 4513 Solid State Physics (3) Crystal structure and diffraction; thermal, electrical, and magnetic properties; band theory of solids; Brillouin zones. Prerequisites: PHYS 3512; PHYS 3080 concurrently.

PHYS 4711 Atomic and Nuclear Physics (3) Designed to use introductory quantum concepts and techniques as applied to the analysis of atoms and nuclei. Prerequisite: PHYS 3512.

PHYS 4911 Special Problems in Physics (1-3) Individual work under supervision of a staff member. Problems may be undertaken in any phase of physics. May be repeated for a maximum of 6 semester hours.

PHYS 5010 Current Theories and Practices in Physics (3-5) Designed for teachers. Content varies but typically covers aspects of mechanics, heat, sound, electricity and magnetism, optics, or modern physics. May be repeated for a maximum of 10 semester hours. Prerequisite: Consent.

PHYS 5951 Physics Research for Teachers (1-5) Individual work on a physics research project under the supervision of a physics staff member. Project will terminate in a written and oral presentation. May be repeated for a maximum of 10 semester hours. Prerequisite: Consent.

POLS - Political Science

POLS 4511 Public Policy (3) The course examines the public policy making process as well as the forces that shape US policy in the context of globalization. Consent from instructor must be obtained to take this course for graduate credit.

POLS 4520 Principles of International Development (3) Problems of development in the developing nations of the world and the concepts and theories for their comparative analysis.

POLS 4521 Culture and Politics of the Middle East (3) The influence of culture on the politics, political systems and issues of the Middle East.

POLS 4530 International Law (3) An examination of its nature, history, philosophies, and basic rules as found in treaties, court decisions, customs, and other sources.

POLS 4531 American Foreign Policy (3) The foreign policy of the United States with specific focus on the policy authority of the American President, the Congress, the Courts. United States' foreign policies toward Russia, Europe, and the Middle East are also considered.

POLS 4532 International Relations of East Asia (3) Study of contemporary regional politics of East Asia focusing on political culture, nationalism, and the foreign policies of the United States, Russia, China, and Japan as they relate to security issues in East Asia.

POLS 4550 The European Union (3) An examination of the theory, history, politics and institutions of the European Union with special emphasis on the socioeconomic factors that influenced the formation and subsequent expansions of the E.U., particularly the regional differences and concerns over sovereignty.

POLS 4552 Legislative Politics (3) The major functions, roles, powers, processes and development of the national and state legislatures. Special attention is given to legislative elections, leadership and decision-making.

POLS 4555 The American Presidency (3) The constitutional origins of the presidency, its powers, selection process, and the presidents' relations with the public, the media, political parties, and the other major institutions of government. Particular emphasis is on the presidency as an institution of leadership.

POLS 4570 Public Administration and Public Policy (3) The theories, functions, and structure of the public administration in the United States with special attention given to the policy process and the bureaucracy's role in it.

POLS 4571 Municipal Administration (3) Principles of municipal administration as they operate in the United States under the various forms of municipal governments.

POLS 4580 American Constitutional Law (3) An examination of the powers, structure, and limitations of the three major institutions of the U.S. political system, as interpreted by the Supreme Court. The Court's decisions regarding political parties, voting rights, reapportionment, campaigns and elections, as well as its decisions involving central but implied political concepts (separation of powers and federalism) will also be examined.

POLS 4581 Civil Rights and Liberties (3) Except for the First Amendment, this course examines individual rights and liberties found within and outside of the Constitution.

POLS 4583 First Amendment (3) This course examines First Amendment controversies, including flag burning, obscenity, libel, hate speech, free press vs. fair trial, and freedom of and from religion.

POLS 4590 Special Projects in Political Science (1-6) Study, interpretation, and discussion of special topics and problems in political science. May be repeated for a maximum of 6 semester hours. Prerequisite: Instructor consent.

POLS 4591 Internship in Political Science (1-6) Practical experience with a governmental or political unit. Supervision by professional of unit and by member of University faculty. May be repeated for a maximum of 6 semester hours. Prerequisite: Department consent.

POLS 4592 Problems in National, State or Local Government (1-3) Special problems in government, selected by student and instructor. May be repeated for a maximum of 3 semester hours. Prerequisite: Instructor consent.

POLS 5590 Readings in Political Science (1-6) Selected readings designed to strengthen weak points in student's program as recommended by the student's adviser. May be repeated for a maximum of 6 semester hours.

PSY - Psychology

PSY 4130 Sensation and Perception (3) Relationship between sensory occurrences and the experiences of the person. Prerequisites: PSY 1100 and junior status.

PSY 4150 Cognitive Psychology (3) An overview of current theories of processes involved in human thinking with emphasis on models of memory, information processing, language and mental representations. Prerequisites: PSY 1100 and junior status.

PSY 4180 Seminar in Psychology (1-3) Selected issues not covered in theory-practicum courses. May be repeated for a maximum of 6 semester hours. Prerequisites: PSY 1100 and junior status.

PSY 4200 Psychology of Exceptional Children (2) The identification, care, treatment, and guidance of exceptional children. Prerequisites: EDCL 2240, PSY 1100 and junior status.

 **PSY 4230 Psychology of Adolescence (3)** Developmental factors and problems common to the period from puberty to adulthood with emphasis upon conditions leading to optimal development. Prerequisites: PSY 1100 or 2240; and junior status.

PSY 4240 Psychology of Aging (3) Introduces psychological problems of aged population including: physical functioning, age changes in perception, memory, learning, problem solving, personality, environmental influences, death and dying. Prerequisites: PSY 1100 and junior status.

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PSY 4310 Theories of Personality (3) Major theories of personality, past and present. Prerequisite: PSY 1100.

PSY 4320 Psychology of Women (2) An overview of the theories of personality as applied to women, biological determinants of feminine behavior, the dynamics of sex-role development, and the psychological implications of traditional versus modern roles for women.

PSY 4330 Multicultural Psychology (3) This knowledge-based course is an introduction to cultural and minority status issues in psychology and the role of multicultural issues in mainstream research.

PSY 4440 Abnormal Psychology (3) A descriptive course dealing with the etiology, diagnosis, and treatment of mental disorders of functional and organic origin. Prerequisite: PSY 1100.

PSY 4500 Introduction to Psychological Measurement (3) An introduction to the basic psychometric theory, concepts, and procedures; familiarization with the major instruments in the field. Course includes scheduled laboratory. Prerequisites: PSY 2110 and junior status or instructor consent.

PSY 4520 Statistics for the Behavioral Sciences (3) Basic statistical methods. The techniques used to analyze frequency distributions, correlations, and tests of significance. Course includes scheduled laboratory. May not be taken for graduate credit by students in the MS in Psychology program.

PSY 4600 Industrial Psychology (3) Psychological principles and methods applied to industrial and organizational settings, with emphasis on research design, workplace procedures, and statistical techniques. Professional development activities. Prerequisite: PSY 1100.

PSY 4730 Cognitive-Behavioral Interventions (3) Description of contemporary cognitive and behavioral treatment procedures for children and adults. Prerequisites: PSY 2130.

PSY 4740 Assessment and Interventions with Law Offenders (3) History and philosophy of penology, theories of criminal personality, and rehabilitation procedures; course will include theory and practical work experience. Prerequisite: PSY 4701, or CJ 1000 or SOC 3890.

PSY 5000 Special Projects in Psychology (1-3) Individual or group study of problems in special areas of need or interest. May be repeated for a maximum of 3 semester hours. Prerequisite: Department consent.

PSY 5010 Thesis Preparation Seminar I (1) Introduction to the process and requirements for completing a thesis in the Psychology department. Prerequisite: Admission to the MS in Psychology program.

PSY 5020 Thesis Preparation Seminar II (1) Develop skills needed to complete a thesis in the Psychology Department, focusing on preparing a thesis prospectus. Prerequisite: PSY 5010.

PSY 5030 Graduate Thesis Process and Mentorship (1) Develop mentor relationships with psychology faculty and explore strategies for thesis completion in order to facilitate a successful thesis process. Prerequisite: PSY 5010.

PSY 5130 Psychology of Learning (3) Description and analysis of contemporary theories of learning and behavior. Prerequisites: PSY 2130 and PSY 2120 or equivalent.

PSY 5140 Biological Bases of Behavior (3) Survey of recent research in fields of biology, physiology, pharmacology, and medicine that influences the psychological aspects of human behavior. Prerequisite: PSY 3130.

PSY 5150 Ethics and Professional Issues in Psychology (3) Introduces the student to ethical issues in psychology. Explores dilemmas and professional issues in practice, and ethical concerns in research, education/training, consultation, and supervision. Prerequisite: Instructor consent.

PSY 5220 Advanced Child Psychology (3) Development of the child with emphasis on the scientific viewpoint and theoretical conceptualization of child behavior. Prerequisite: EDCL 2240 or PSY 2220.

PSY 5310 Personality (3) Addresses contemporary theory and research in personality, while considering how personality concepts can be applied to human behavior. Prerequisites: PSY 4310 and full admission to psychology graduate program or instructor consent.

PSY 5340 Social Bases of Behavior (3) Includes contemporary theory and research in several areas of social psychology (e.g., social cognition, social influence, aggression, social exchange and systems theory). Application to clinical settings is of special interest. Prerequisite: 15 semester hours of psychology or instructor consent.

PSY 5410 Adult Psychopathology (3) Discusses etiology, course, and treatment of psychiatric and neurological disorders. Includes the language modern psychodiagnosis. Phenomenologic principles, mental status examination, and DSM-IVTR are covered. Prerequisite: PSY 4440.

PSY 5420 Behavioral Medicine (3) Discuss bio-behavioral aspects of health-related conditions and the application of principles of behavior used in the prevention, treatment, and rehabilitation of biomedical disorders. Prerequisite: PSY 5130.

PSY 5460 Introduction to Psychotherapy (3) Designed to provide the student with an academic background from which to understand the dimensions, systems, and methods. Prerequisites: PSY 5310 and admission to the MS in Psychology program or instructor consent.

PSY 5520 Advanced Statistics for the Behavioral Sciences (3) Inferential statistics, probability, and tests of the significance of difference will be introduced. Prerequisite: PSY 4520 or PSY 2120.

PSY 5530 Personality Assessment (3) Making tentative diagnoses based on case histories, interviews, behavior observations and test data, including selecting, administering, scoring, and interpreting tests. Prerequisites: PSY 5310, PSY 5520, and Admission to the MS in Psychology program or instructor consent.

PSY 5560 Individual Intelligence Testing (4: 3 lecture, 1 lab) Administration, scoring, and interpretation of major individual intelligence scales. Students may rent kits and purchase protocols from the department. Students must provide their own examinees. Prerequisite: Instructor consent.

PSY 5570 Behavioral Assessment (3) Conceptual and philosophical foundations of behavioral assessment, reliability and validity, targeting, observational recording procedures, and self-report measures are presented. Multibehavior-multimethod procedures are addressed. Prerequisite: PSY 2130 or equivalent.

PSY 5580 Clinical Neuropsychology (3) An introduction to adult clinical neuropsychology that includes history, techniques, practical applications, neurobehavioral anatomy, neuropathology, syndrome identification and training, credentialing, and forensic practice issues. Prerequisite: PSY 5560.

PSY 5970 Practicum in Psychology (3) Supervised practice in psychological testing, personality assessment and treatment. May be repeated for a maximum of 6 semester hours. Prerequisite: PSY 5330 and department chair consent.

PSY 5990 Thesis (3) Special investigation of an approved problem in the area of psychology resulting in a formal thesis. A prospectus is required. May be repeated for a maximum of 6 semester hours. Prerequisite: PSY 5520.

REL - Religious Studies

REL 4410 Modern Religious Thought (3) Selected contemporary international works of influential writers. Topics may include peace and justice, feminist criticism, minority issues, globalization, nationalistic religions, and sports as a religion. Prerequisite: One course in religious studies.

REL 4520 Legal Issues and Religions (3) A survey of historic and recent legal issues dealing with the relationship between religion (church) and the state. Prerequisite: One course in Religious Studies or Director consent.

REL 4900 Special Topics: Religions and Work (3) Study of special topics in religions and work. May be repeated.

SAFE - Safety

SAFE 4000 Ergonomics in Safety and Health (3) An introduction into the role and application of ergonomics in a comprehensive safety program. Prerequisite: SAFE 3000 or equivalent or graduate status.

SAFE 4010 Accident Investigation (3) Fundamentals and techniques of investigating accidents. Prerequisite: SAFE 3000 or SAFE 3120 or graduate status.

SAFE 4015 School Safety, Security and Crisis Management (3) Provides school personnel with current information addressing school safety and security needs, including an analysis of threat identification, violence prevention, safety plans, and crisis response.

SAFE 4020 Legal Aspects of Safety and Health (3) An investigation of the legal problems confronting the safety and health specialist. Prerequisite: SAFE 3000 or graduate status.

SAFE 4035 Safety Program Management (3) Examination of theory and practices of safety and health management. Includes planning programs, contemporary safety and health management practices, and programmatic impact of organizational theory.

SAFE 4140 Safety and Health Laboratory (3) A lab course using instrumentation commonly used in the evaluation of the workroom environment and equipment for safety. Prerequisites: SAFE 3120 and SAFE 3430, or equivalent or graduate status.

SAFE 4150 Noise Measurements (2) Physics of sound, measurement and control of noise. Laboratory required. Prerequisites: One year of college physics or equivalent.

SAFE 4160 Industrial Ventilation for Environmental Safety and Health (3) Industrial ventilation systems designed to control health and safety hazards in the work environment with emphasis given to the design of local exhaust systems. Prerequisite: SAFE 3120 or equivalent or graduate status.

SAFE 4215 Transportation and Storage of Hazardous Materials (3) A study of the state-of-the-art of safe methods for the transportation and storage of hazardous materials. Prerequisite: SAFE 3000 or equivalent or graduate status.

SAFE 4250 Traffic Engineering (3) Planning, design and operation of effective and efficient traffic movement systems. Various types of traffic studies, traffic control techniques and devices, traffic flow patterns, street lighting and street and parking are presented and discussed. Students participate in field studies.

SAFE 4260 Management of Fleet Safety Programs (3) The role and responsibilities transportation officials have in the administration and operation of a motor fleet safety program.

SAFE 4300 Agricultural Safety (3) The history of and need for agricultural safety, operating guidelines for machines and chemical handling and application. A review of occupational health laws and how they relate to the agricultural workforce. Prerequisites: Junior status and AGRI 1200 or AGRI 3200.

SAFE 4425 Safety and Health Legislation and Standards (3) A comprehensive study of legislation and standards designed to protect the worker. Prerequisite: SAFE 3000 or graduate status.

SAFE 4430 Workers Compensation Legislation (3) An overview of the principles and statutes that govern workers compensation as they apply to the industrial setting. Prerequisite: SAFE 3000 or graduate status.

SAFE 4435 Environmental Compliance (3) Comprehensive study of federal and state environmental legislation and standards to protect the health and safety of citizens.

SAFE 4440 Environmental Air Quality and Pollution Prevention (3) Comprehensive study of environmental air quality and pollution prevention techniques.

SAFE 4445 Water Quality and Waste Water Management (3) Comprehensive study of water quality, waste management and pollution prevention techniques.

SAFE 4510 Loss Control (3) Provides a background in loss control by investigating professional safety management. Emphasis is placed on incident recall, management's role in loss control, total job observation, total job analysis, and supervisory training. Techniques of implementing a total loss control program are explored. Prerequisite: SAFE 3000 or graduate status.

SAFE 4520 Safety and Risk Analysis (3) Identification of safety risks and analytical treatment of those risks in various work settings. Prerequisite: SAFE 3000 or equivalent or graduate status.

SAFE 4560 System Safety (3) Techniques and concepts of hazard control within the constraints of operational effectiveness, time, and cost attained through the specific application of management and scientific principles throughout all phases of a system life cycle. Prerequisite: SAFE 3000 or equivalent or graduate status.

SAFE 4700 Special Security Problems (3) An overview of security as applied to contemporary situations in business, industry, and government.

SAFE 4710 Security Technology (3) A survey of security detection, including electromechanical and electronic systems. Future applications of technology are discussed. Prerequisites: college level math course.

SAFE 4720 Personnel and Information Security (3) Methods used in screening personnel and safeguarding information.

SAFE 4800 Water and Sprinkler Systems Analysis (3) Water supply, how to determine quantity, and basic fire service water requirements. An in-depth study of the design, installation, operations and maintenance of sprinkler systems that use water. Prerequisite: Math 1111 or equivalent.

SAFE 4810 Fire Extinguishing and Alarm Systems (3) Basic types of extinguishing systems, other than sprinkler systems, and their use. Fire alarm systems, their use, installation and components.

SAFE 4830 Fire Investigation (3) Fire investigation techniques with emphasis on fire causation, equipment, evidence, and reporting. Prerequisite: SAFE 1800 or equivalent or graduate status.

SAFE 4850 Industrial Fire Protection (3) The recognition, control or elimination of fire hazards in industrial settings. Prerequisites: CHEM 1104 or Math 1111, or graduate status or instructor consent.

SAFE 4900 Directed Studies (1-6) Individual or group study of problems in special areas of interest. May be repeated for a maximum of 6 semester hours.

SAFE 4910 Special Projects in Safety Sciences (1-3) Individual or group study of problems in special areas of interest. May be repeated for a maximum of 6 semester hours.

SAFE 4940 Statistical Analysis for Risk Management (3) Mathematical and statistical methods designed for the efficient collection and rational interpretation of data by individuals responsible for analysis in a variety of settings. Prerequisite: High school algebra or equivalent.

SAFE 4950 Food Safety (3) Comprehensive study of food safety, ion of food hazards, risk analysis and systems for food safety and risk prevention.

SAFE 5000 Safety Management (3) Fundamental study of safety management laws, regulations, record keeping principles, and methodology. Relationship between safety measures, quality, competitiveness, design strategy for safety excellence.

SAFE 5010 Organization, Administration, and Supervision of Safety Programs (3) Management styles and their effects upon safety and health programs.

SAFE 5015 Emergency Planning and Operations (3) The role and responsibilities of private and public officials in the development of emergency plans to reduce the human and material losses in time of an emergency.

SAFE 5020 Societal Impact of Occupational Disasters (3) This course evaluates the impact of occupational disasters on the local communities both human and the environmental and in appropriate situations the impact some events had on the State, Nation and entire planet. Specific occupational disasters to be evaluated include well known (Bhopal India, Hawks Nest Incident, BP Oil Spill, Libby Montana Asbestos Disaster) as well as less-well known disasters.

SAFE 5120 Principles of Industrial Hygiene (3) This course surveys the role and responsibilities of the industrial hygienist; the application of hygiene methods to the recognition, anticipation, evaluation, and control of health and safety hazards arising in or from the workplace.

SAFE 5125 Advanced Industrial Hygiene (3) This course surveys the roles and responsibilities of the industrial hygienist; the application of industrial hygiene methods to the recognition, anticipation, evaluation, and control of health and safety hazards arising in or from the workplace.

SAFE 5130 Industrial Environmental Monitoring (3) Fundamentals of sample collection, precision and reliability of measurements, and methods for detecting and measuring trace contaminants in air and water.

SAFE 5170 Industrial Toxicology (3) Chemical composition of cells, chemical processes of life, and the effects thereon of selected corrosive and toxic substances. Prerequisite: CHEM 1604 or equivalent.

SAFE 5180 Principles of Epidemiology (3) Introduction to the nature and scope of epidemiology. Principles and application of epidemiological methods in the investigation of environmental hazards.

SAFE 5220 Management of Safe Transportation Systems (3) Safety and management considerations specific to the five modes of transportation: water, rail, motor vehicle, air, and pipe. Development and importance of each mode; intermodalism.

SAFE 5230 Traffic Safety Program Management (3) The process of preparing a traffic safety program plan, arranging for its implementation and monitoring the program administration of identified countermeasures.

SAFE 5430 Occupational Hazard Management (3) The examination of the management of hazards in the industrial environment. Industry standards affecting the management of hazards will be reviewed.

SAFE 5450 Sustainability and Safety (3) Comprehensive study of sustainability, green jobs, and safety.

SAFE 5530 Loss Control Management (3) Development, management and evaluation of a comprehensive loss control program for business, industry, and government.

SAFE 5710 History of Security (3) The security of humans from primitive to modern times.

SAFE 5740 Commercial and Institutional Security (3) Security applications in commerce and institutions.

SAFE 5760 Security Statutes and Codes (3) Examination of state and federal statutes, ordinances as they relate to the field of security.

SAFE 5800 Managing Fire Risk (3) An integration of decision analysis and quantitative risk assessment with a defined step approach for quantifying the performance success of fire protection systems.

SAFE 5940 Current Literature and Research in Safety (3) Current research in the area of safety, research techniques and design in proposal and other technical writing.

SAFE 5950 Readings in Safety Sciences (1-6) Readings in the student's field of interest or in related areas designed to enhance knowledge and/or skills. May be repeated for a maximum of 6 semester hours. Prerequisite: 9 semester hours of graduate credit.

SAFE 6920 Seminar in Safety Sciences (1) A seminar designed to investigate a broad spectrum of current problems and innovations in the field of safety. Consideration of criteria for the identification of problems and a critical analysis of present practices toward improving the quality and management of safety programs. May be repeated for a maximum of 2 semester hours.

SAFE 6930 Individual Research Problems (3) Independent study and investigation of a pertinent problem confronting the safety science and technology professional that will culminate in a research paper. Prerequisite: SAFE 5940 or equivalent.

SAFE 6940 Internship in Safety Sciences (1-6) Internships are based on student needs and educational goals. Actual work experiences in education, government, industry or business are provided. May be repeated for a maximum of 6 semester hours for each degree program. Prerequisite: Department consent.

SAFE 6950 Thesis (3) An extensive investigation into a selected problem on an original research topic, culminating in a thesis. May be repeated for a maximum of 6 semester hours for each degree program. Prerequisite: SAFE 5940 or equivalent.

SOC - Sociology

SOC 4805 Environment and Society (3) Examination of the social debates around the environmental including wilderness, natural resource use, agriculture, recreation, environmentalism, and green production and consumption.

SOC 4815 Special Projects in Sociology (1-6) Study, interpretation, and discussion of special topics and problems in Sociology. May be repeated for a maximum of 6 semester hours.

SOC 4835 Populations Trends and Analysis (3) Examination of population trends including fertility, mortality, and migration and theories about population growth, aging, and urbanization. Students will conduct hands-on statistical analysis. Prerequisite: SOC 2805 or graduate standing.

SOC 4846 Corrections and Preventions (3) Views and methods of dealing with criminals and juvenile delinquents; types of correctional systems and prevention programs. Prerequisite: Six semester hours of Sociology, graduate status, or instructor consent.

SOC 4850 Work and the Modern Society (3) Inquiry into modern society and its cultures, institutions, elites and classes as they are affected by work dynamics in the industrial and corporate arenas.

SOC 4860 Sociological Thought (3) Assessment of current sociological thought as it is reflected by outstanding scholars in the field. Prerequisites: SOC 2845 or SOC 2850 and 3 additional semester hours of sociology.

SOC 4855 Gender and Sexuality (3) Explores impact of gender stratification and roles on the attitudes and behavior of women and men, gender and social institutions, theories of gender, and sexuality. Prerequisite: Six semester hours of Sociology, graduate status, or instructor consent.

SOC 4875 Medical Sociology (3) Social factors and institutional settings for physical and mental health care; public needs and medical services; research in medical Sociology.

SOC 4880 Sociology of Law (3) The development of legal institutions; law as a system of social control; law and social change. Prerequisite: 6 semester hours of Sociology, graduate status, or instructor consent.

SOC 4885 Religion and Society (3) The structure and function of religion in society; social sources of religions; religion and the individual.

SOC 4890 Social Survey Research (3) Major concepts in social survey research design, measurement, sampling, and data collection techniques. Quantitative analysis of survey data and micro-computer applications. Only offered Fall semester. Prerequisite: SOC 2805, graduate status, or instructor consent.

SOC 4894 Sociology of Aging (3) Seminar examining the process of aging in relation to demographic, economic, psychological and sociologic implications with an emphasis on sociological principles and perspectives. Prerequisite: Junior, senior, or graduate status.

SOC 5800 Seminar in Inclusion and Marginality in Communities (3) Experiences of relative "outsider-ness" lived by "strangers," "exiles," "immigrants," "refugees," "ethnic minorities," the "homeless," and so on, are among the most sociologically intriguing experiences of our post-modern society. This course utilizes core sociological theories and concepts to inquire into various forms of marginality and the types of world views and behaviors they produce. It is designed to (1) help students develop a "cultural insider" view on positions of marginality and (2) enable students to assess, rethink, and revise sociological theories and concepts as they are applied to positions of social marginality. Prerequisite: Graduate Standing.

SOC 5805 Applied Social Research (3) This course is a guide to conduction social research with the intent to apply the results to immediate practice context such as social agencies, public social services, and non-profit organizations. Prerequisites: Graduate standing or permission of the Graduate Program Coordinator.

SOC 5810 Qualitative Research (3) Advanced, applied course in qualitative research methods focusing on interpretive data collection strategies and analysis.

SOC 5815 Evaluation Research (3) Applied course in social research procedures for assessment of conceptualization and design, implementation, and utility of social intervention programs.

SOC 5820 Management and Administration in Older Adult Settings (3) Survey of major issues including the long-term care continuum, regulations, state boards and LNHA licensure, care models, basic health care law, and Human Resources in health care.

SOC 5840 Theory to Practice (3) Seminar focusing on the application of concepts, theory and research to solve real-life questions and problems and improve the outcomes of individuals, communities, families, organizations, and other social entities. Professional practitioners employ a variety of analytical and methodological tools to engage the dynamic processes of social research. The goal of this course is to professionally socialize graduate students into the practice of sociology and social gerontology, and help them gain a broad understanding of the knowledge and skills required of the professional practitioner. Students demonstrate their ability to apply theory to practice through classroom discussion, course and community engagement, clinical/community and environmental field projects, and the completion and presentation of a comprehensive applied project. Prerequisite: Graduate standing or permission of the Graduate Program Coordinator.

SOC 5845 Readings in Social Gerontology (1-3) Directed readings in social gerontology. May be repeated for a maximum of 6 semester hours. Prerequisite: Social Gerontology coordinator consent.

SOC 5855 Social Policy and Organization (3) The course will examine the diverse controversies as it relates to issues such as social security, welfare, education, health care, women's reproductive health. The course will explore the policy process from emergence to institutionalization and the passage across space and time. The importance of cross-national, comparative and institutional analysis will be emphasized. The course also gives primary attention to sociological approaches to organizations. It will examine the development of sociological thought about the origins and modern analysis of organizations. An attempt would be made to recognize and take into account the contribution of other social sciences and management theory in our analysis of organizations. Prerequisite: Six semester hours of Sociology, graduate status, or instructor consent.

SOC 5860 Advanced Topics in Sociology (3) Selected topics of contemporary interest in Sociology; variable content. May be repeated for a maximum of 6 semester hours.

SOC 5870 Seminar in Race, Class, Gender (3) Exploration of the dynamics related to gender, race/ethnicity, class, and sexuality. Focus on those topics and the intersections between the various identities/statuses, particularly in families. Prerequisite: Graduate standing.

SOC 5880 Seminar in Sociological Theory (3) Explores major debates in contemporary sociological theory including modernity/postmodernity, power, structure/agency and the cultural turn.

SOC 5885 Directed Readings in Sociology (3) Directed readings in Sociology.

SOC 6880 Internship (6) Supervised practical application of skills under the direction of the department and a supervising agency. Prerequisite: 18 hours of graduate Sociology credit must include three credit hours of research methods.

SOC 6890 Thesis (6) Research leading to the completion of a thesis. Prerequisite: 18 hours of graduate Sociology credit must include three credit hours of research methods.

SOT - School of Technology

SOT 4000 Special Projects in Technology (1-3) Investigation of contemporary problems and issues in technology by selected individuals or groups. May be repeated for a maximum of 6 semester hours.

SOT 4570 Computer Graphics (3) Computer-generated presentation graphics utilizing a variety of software programs on numerous hardware configurations. Experiences will include production of laser prints, ink-jet prints, transparencies, color slides, and plots.

SOT 5000 Special Problems in Technology (2-6) Meets individual student needs for additional research and/or laboratory experiences in the development of technical knowledge and skills in the areas of manufacturing and construction. May be repeated for a maximum of 6 semester hours.

SOT 5010 Applied Research for Technology (3) Research investigation of a technical problem. The course will culminate in a research report. May be repeated to a maximum of 6 semester hours per degree program.

SOT 5022 Internship in Applied Sciences (1-6) Provides experience for students in cooperating industries. Students rotate assignment. Written reports are required. May be repeated for a maximum of 6 semester hours. Prerequisites: Graduate adviser consent and Technology Internship coordinator consent; graduate GPA 3.0 or above; minimum of one semester graduate work completed.

SOT 5290 Thesis (3) A special investigation of selected problems in Industrial Management which culminates in the completion of a thesis. Must be repeated for a total of 6 semester hours. Prerequisite: Graduate status.

SOWK - Social Work

SOWK 4610 Special Topics in Social Work (3) Selected Topics of contemporary interest in social work or specialized fields of practice; variable content. May be repeated for a maximum of 9 semester hours. Prerequisite: SOWK 3601 or concurrently, or graduate status, or instructor consent.

SOWK 4620 Social Services and Policy with Older Adults (3) Development of public policy and social service programming. Present and potential utility of individual, group and community intervention modalities as they relate to both the private troubles and public issues of aging. Prerequisite: SOWK 3601 or concurrently, or graduate status, or instructor consent.

THEA - Theatre

THEA 4300 Professional Practices (1-6) Extended, supervised experiences in any phase of theatre production. Credit allowed will depend upon the nature and scope of the assignment. May be repeated for a maximum of 10 semester hours. Prerequisite: Instructor consent.

THEA 4310 Principles of Theatre Management (3) An in-depth examination of the business theories and practices in the modern educational, community, and professional theatre. Box office and publicity work are required.

THEA 4400 Literature and History of the Theatre I (3) Works and writers for the stage from the beginning to 1700. The development of theatrical modes and presentation and their influences upon the drama of each period.

THEA 4420 Literature and History of the Theatre II (3) Works, writers for the stage from 1700 to the present. Development of theatrical modes, presentation and their influences upon the drama of each period.

THEA 4430 American Musical Theatre History (3) History, literature and production of the American Musical.

THEA 4500 Advanced Acting (3) An intensified study of characterization centering around the study of difficult roles, and the adaptation of acting techniques to various styles of acting. May be repeated for a maximum of 6 credit hours. Prerequisite: THEA 1500.

THEA 4510 Period Acting Styles (3) Examines the craft, methodology, resources and practice of acting in non-realistic (classical and contemporary) dramatic literature. Emphasis on analysis of stylistic determinants in dramatic literature. May be repeated up to 6 hours.

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THEA 4600 Advanced Technical Theatre (3) Advanced techniques in scenery construction and painting, plastics, and selection of stage equipment. Laboratory exercises will be required. Prerequisite: THEA 1600.

THEA 4610 Advanced Stage Lighting and Sound (3) Extensive investigation of stage lighting history and practices in the modern theatre and the study and use of live and recorded sound as a theatrical art. Prerequisite: THEA 1600.

THEA 4710 Advanced Directing (3) Extensive examination of special directing problems with comedy, tragedy, period drama, and the musical show in arena and proscenium theatres. May be repeated for a maximum of six credit hours. Prerequisite: THEA 3700.

THEA 4800 Playwriting (1-3) Dramatic writing, dramatic theory, style dialogue exercises, characterization, with opportunity for the production of student plays. May be repeated for a maximum of 3 semester hours.

THEA 4900 Repertory Theatre (3) Practical experience in theatre through participation in a summer repertory season of plays as an actor, a technician, or management personnel. May be repeated for a maximum of 6 semester hours. Prerequisite: Department consent.

THEA 5310 Modern Theatrical Styles (3) The origin and development of modern production practices with special attention to their use in the contemporary theatre.

THEA 5400 Development of the American Theatre (3) Plays and playwrights of the American theatre and of the evolution of the physical theatre, acting, staging, and production practices.

THEA 5410 Contemporary Theatre and Drama (3) Twentieth century plays, playwrights, and theatre artists with particular emphasis on the period since 1960.

THEA 5420 Dramatic Theory and Criticism (3) Dramatic theory and criticism of the Western World from Aristotle to modern critics and theorists.

THEA 5900 Seminar in Theatre (1-3) Studies in a specialized area of theatre, with emphasis on individual research. May be repeated for a maximum of 12 semester hours.

THEA 5910 Thesis (1-5) Special Investigation of an approved problem in theatre resulting in a formal thesis. Prerequisites: 15 hours of graduate credit. May be repeated for a maximum of 5 semester hours.

THEA 5920 Theatre Architecture (2) Analysis of and practice in modern theatre architectural design.

THEA 5990 Introduction to Graduate Study in Theatre (3) Recent theatre research and research methods, professional organizations, and employment.

THEA 6900 Readings in Theatre (1-3) Guided study in the literature of special and related fields of theatre. May be repeated for a maximum of 12 semester hours.

TMD - Technology Management Doctoral

TMD 6015 Legal Aspects of Technology and Innovation (3) This course is a study of legal aspects of managing technology, innovation, and technological policy analysis for United States and international organizations. Prerequisites: Permission of the Program Coordinator.

TMD 6315 Advanced Legal Aspects of Construction (3) An advanced course in legal aspects of the construction process. Prerequisite: INDM 5015.

TMD 6525 Manufacturing Economy (3) Managerial related economic factors pertaining to a manufacturing enterprise and the influence of these factors on manufacturing in a global society. Prerequisites: ITEC 6800 and admission in the Ph.D. in Technology Management program.

TMD 7320 Ethics and Professional Issues of the Construction Process (3) Develops the ability to think critically and systematically about the issues of relevance to any practicing professional in construction. Prerequisite: INDM 5015.

TMD 7550 Current Issues in Manufacturing (3) Issues and trends in manufacturing and their implications and impact on manufacturing in a global society. Prerequisites: ITEC 6800 and admission in the Ph.D. in Technology Management program.

TMD 8590 Internship (1-6) Practicum designed to provide direct, supervised experiences for doctoral students, usually in the areas of the technical specialization. The experiences are tailored to provide an opportunity to test and experiment with regard to industry, research organizations, government agencies, and other appropriate experiential ventures associated with technology utilization, transfer, and innovation. The area in which the internship is taken will be designated on the student's transcript, i.e., Internship: Quality Systems. No more than 6 hours may count toward meeting degree requirements. Prerequisite: Admission to candidacy in the Ph.D. in Technology Management program.

TMD 8920 Field Research Projects (1-3) Provides opportunity for doctoral students to test a theory or hypothesis in technology or management. Field research projects will be designed, conducted, and results evaluated. Prerequisite: Admission to candidacy in the Ph.D. in Technology Management program.

TMD 8990 Dissertation (1-18) A requirement for all doctoral students. Offered by arrangement with the chairperson of the student's dissertation committee. Credit registration must have 9 hours of the 18 hours from Indiana State University and 9 from University of Central Missouri. Prerequisite: Admission to candidacy in the PhD in Technology Management program.

T&OE - Technology and Occupational Education

T&OE 4000 Special Projects in Technology and Occupational Education (1-3) Investigation of contemporary problems and issues in technology and occupational education by selected individuals or groups. May be repeated for a maximum of 6 semester hours. Prerequisites: Written contract/proposal with objectives and written department consent.

T&OE 4090 Special Problems in Technology and Occupational Education (1-3) Meets student needs for additional research and/or laboratory experience in the development of technical knowledge and skills in the areas of technology and occupational education. May be repeated for a maximum of 6 semester hours. Prerequisites: Written contract/proposal with objectives and written department consent.

T&OE 5110 Development of the Industrial Education Program (3)

Objectives and changes in philosophy and their significance; interpretation of technology education, vocational, industrial, and technical education in the modern school.

T&OE 5140 Organization and Administration of Industrial Education (3)

Organizing and administering various types of industrial schools and classes. Federal laws, state administration and local practices will be considered.

T&OE 5170 Financing Career Education (2) Analyze and develop a financial plan for obtaining, managing and administering vocational resources.

TOUR - Tourism

TOUR 4730 Tourism Marketing (3) An examination of the procedures involved in planning, developing, and implementing a tourism and recreation marketing campaign. Only offered summer semester.

Prerequisites: HM 1800 or REC 1100 or TOUR 1900.

WGS - Women, Gender and Sexuality

WGS 4810 Special Projects in Women, Gender and Sexuality (1-6)

Individual study or one-time courses focused on specialized issues in Women, Gender and Sexuality.

WGS 5250 Feminist Theory and Method (3) Exploration of the various feminist approaches to knowledge, both theoretical and methodological.

WGS 5450 Seminar in Gender and Sexuality (3) Advanced seminar exploring how gender and sexuality have served as a central conceptual platform for societal meaning and debates, raising questions about institutionalized norms, power, identity, bodies and knowledge. Introduces feminist and queer theories/methodologies.

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